IV. COMMUNITY UTILITIES AND FACILITIES

A. Water, Sewer, and Electricity

The efficient use of community water and sewer services, and electricity is vital to the health and welfare of regional residents. The placement and use of these services (and of the transportation network) often determine the character and development patterns of a town. The provision of services is inherently linked to population, population density and economic growth. Developers often look more favorably to sites that are situated within convenient reach of public services. Likewise, population growth is more likely to occur in areas where service costs can be shared by larger numbers of users to reduce the cost to individuals. Therefore, towns should carefully plan the placement of service lines to correspond to the areas in which they would most like to see development occur.

1. Electrical Transmission Lines

Electric transmission service in the Region is provided by the Vermont Electric Power Company (VELCO). (Electricity producers are discussed in the Energy Chapter.) Electricity, like water and sewer, is an important service for present and future development. The provision of electric utility services enables developers to plan for building structures and developing land at significant cost reductions and increased efficiencies. It is therefore important to place transmission lines and substations in areas that have been designated as desirable for growth.

Transmission lines transport electricity from various generators to customers through switching stations and substations. The larger network of transmission lines and stations are referred to as "the grid." According to VELCO and Central Vermont Public Service (CVPS), the portion of the grid that connects southern Vermont, southwestern New Hampshire and northeast Massachusetts is their top area of concern for power failures during periods of peak electricity demand. Therefore, they are currently proposing to build new capacity along the Vermont Yankee to Coolidge Substation (Cavendish) transmission line. This proposed "Southern Loop" transmission upgrade project will address their reliability concerns in this region and beyond. The Department of Public Service's 2005 Vermont Electric Plan indicates that growth in electricity demand in the four southern counties in Vermont is not pronounced except in a few isolated areas. (The 2005 Vermont Electric Plan is currently being updated, however the *approved* 2005 Plan is cited in this section.)

The 2005 Vermont Electric Plan also encourages customers to use energy efficient appliances and take measures to reduce their electricity use during peak demand periods, as a way to reduce the demand; thereby, deferring costly transmission line upgrades and building new power plant capacity. Other demand side management efforts include encouraging "green buildings," siting new houses to maximize solar advantage, decentralized energy production such as generating electricity for individual residential or commercial buildings, or through energy conservation measures. (See the Energy Chapter for conservation strategies.)

Power generating facilities and electrical transmission facilities are approved by the Public Service Board under 30 V.S.A. §248 (Section 248). Projects subject to Section 248 review, including net-metered private wind turbines, are exempt from local regulations. However, the impacted municipality and regional planning commission may participate as interveners in the proceedings. Under Section 248 review process, projects are evaluated to determine if they serve the general public good and if they are consistent with the Regional Plan.

2. Community Water and Sewer Service

Currently, Cavendish, Chester, Ludlow, Springfield, and Windsor utilize public water and wastewater facilities (see **Table 4.1** for municipal wastewater facilities, and **Table 4.2** for municipal water supply systems). All of these towns are currently operating below their capacities and have sufficient excess

Table 4.1 Wastewater Treatment Facilities in Southern Windsor County**

Town	Facility Capacity (MGD*)	Avg. Daily Flow (MGD*)	% of Design Capacity	Sludge Treatment or Disposal Technique	Effluent Disposal Location	Upgrades Proposed or in Progress
Andover	N/A					
Baltimore	N/A					
Cavendish[1]	0.150	0.074	49.3%	Trucked to Glens Falls, NY WWTF, incinerated	Black River	Permit exp. 6/30/2011
Chester[2]	0.175	0.080; seasonal var.	46%	Trucked to Glens Falls, NY WWTF, incinerated.	Williams River	$1.1 mil. upgrade completed. Permit exp. 3/31/2009.
Ludlow[3]	1.050	0.381	36%	Trucked to Glens Falls, NY WWTF, where it is incinerated	Black River	Granted permit to design capacity. Permit expires 9/30/2011.
Springfield[4]	2.20 permitted; 2.4, actual	1.30	59% permitted; 54%, actual	Composted and provided for public use.	Black River	Operating under exp. permit until CSO is completed.
Windsor[5] Main WWTF, includes W.A.S.T.E. pipeline from Mt. Ascutney Resort	1.13	0.429	38%	Spread on the Redick Farm on Rte 5 in Windsor	CT River	Permit expires 6/30/2010
Windsor[6] Weston Hgts WWTF	0.015	0.008	53%	Spread on Redick Farm on Rte 5 in Windsor	CT River	Permit expires 9/30/2011

*Million Gallons per Day; Source: Town Managers or Town Wastewater System Operators, July/August 2008.
The State requires that stormwater drains and sewer systems be separate or progress be made toward separating them with the eventual goal of eliminating the mixing of stormwater and sewer.; however, there is no set time limit to be universally completed.
1 Separate stormwater system from main sewer lines. May be a small amount of residential sump pumps that still feed into sewer system.
2 Separate stormwater system from main sewer lines. Town continues to refurbish manhole covers to prevent stormwater intrusion.
3 Separate stormwater system from main sewer lines. Most sump pumps feeding into sewer have been discontinued.
4 Town continues ahead with stormwater completion scheduled to be finished Summer 2009.
5 Separation project complete; possibly a few roofs still draining into the sewer system.
6 Separate stormwater system from main sewer lines.
**Note: Towns of Reading, West Windsor and Weathersfield not applicable.

wastewater capacity to meet their needs for the foreseeable future. Chester completed a $1.1 million upgrade of its wastewater treatment facility in 2007. Ludlow recently received a permit to increase its wastewater permit to the design capacity of its facility. Springfield completed system upgrades in 2004, expanding its facility from 2.2 to 2.4 million gallons per day and improving phosphorus treatment. Springfield also expanded its infrastructure along VT Route 11 to the Southern State Correctional Facility. Since a pressure reduction valve was necessary to tap into a force line, it is unlikely that many of the properties along the line will connect to it; therefore, it is not seen as a contributor to sprawl. Springfield's public water system is currently operating under a temporary permit, and the Town is actively working to address low pressure problem areas. Springfield is under a 1272 Order from VT DEC to separate their stormwater and sewer infrastructure; the town is almost complete with the separation project, currently working on the final construction contract. There are no other plans in the Region to increase capacity or to extend infrastructure for wastewater facilities.

Table 4.2 Municipally Owned Public Water Supplies in Southern Windsor County [6]

Town/System Name	Source Name/Type	Population Served[1]	Average Flow MGD)	Capacity [2] (MGD)	Capacity Used
Cavendish & Proctorsville Villages	Well in Cavendish Village [5, 6]	700 – 900 (Seasonal variation)	0.045	0.140	32%
Chester Village	Jeffery Well (Primary) Canal Street Well Pierce Brook Reservoir Tank	1,200	0.154	0.864 [4]	18%
Ludlow Village	Springs and Galleries off Rte 100 South; Little League Field Well [3]	1,000 (800 Units)	0.240	1.000	24%
Springfield	Wells off Fairgrounds Rd.	8,000	0.800	2.100	38%[7]
Windsor	Wells near Lake Runnemede	2,500	0.696	1.500	46%

*Million Gallons per Day; Sources: Vermont Department of Health; Water System Operators, August 2008
Note: All have Source Protection Areas
1 Estimate of population served from best available data.
2 Estimate of capacity from best available data. This is the estimated capacity if fully utilized and is not necessarily the capacity that is, or has been, utilized by the operator.
3 Secondary well; emergency/backup supply only
4 Includes primary well (425 GPM) plus 1 million gallons of storage.
5 Second well drilled in close proximity to primary well. Primary well accesses gravel packed vein of water, while secondary well taps deeper bedrock vein. Town is currently seeking permits for approval. Wells in Proctorsville have been decommissioned or are no longer in use due to saline contamination.
6 Installation of new filtration equipment to be completed in 2009 will reduce levels of manganese and iron in water supply
7 Demand has steadily decreased from historical high due to reduced number of industrial shops and installation of low-flow fixtures.

Weathersfield and Windsor are considering an extension of Windsor's municipal water supply system and connecting with the privately-owned community water system that serves Country Estates Mobile Home Park in Ascutney.

Avoiding scattered development is a primary goal of both Acts 200 and 250. The Vermont Agency of Natural Resources (ANR) has defined "Smart Growth" in Vermont as "land development that preserves and enhances our natural resource heritage, traditional compact

community settlement patterns, and a working rural landscape by integrating economic, environmental, and community goals." Carefully planned infrastructure investments can encourage smart growth and discourage scattered development, but an extension of these services along rural highway corridors might allow for unwanted strip development. Local zoning provisions can restrict strip development in these situations. Without more public infrastructure funding opportunities, small communities are limited in encouraging dense, mixed-use development in villages not currently served by water and wastewater facilities.

The identification of areas suitable for growth and development is closely linked to the existence of municipal water and wastewater service. Regional centers listed in the Land Use chapter of this plan were chosen largely because of their proximity to existing services, or potential for the efficient creation of new or expanded systems. These centers represent the Region's highest priorities for directing growth through the creation of additional municipal water and wastewater capacity. (See the Land Use chapter for more on smart growth, growth centers, and sprawl.)

3. Private Water and Sewer Systems

Areas in the Region are served by a number of private water systems (see **Table 4.3**). There is also a privately owned water line in the village of Ascutney serving roughly 160 units. The town of Windsor provides wastewater service to Ascutney Mountain Resort through a line owned by the resort, and connected to the municipal system. Several Windsor residents living along Rte. 44 are also connected to this system. The Village of Brownsville currently is served by individual septic systems and a few of the systems have failed in recent years. The Windsor / Ascutney Mountain Resort wastewater system could potentially be expanded to support future growth designated in the West Windsor Town Plan. Monitoring to ensure the efficiency of these systems is important for the protection of the water supply, which is essential to the health and welfare of the Region.

Table 4.3 Non-Municipal Public Water Supply Systems in the Region

Town	Community Water Systems (C) [1]	Non-transient Non-community Water Systems (NTNC) [2]	Transient Non-community Water Systems (NC) [3]	Total
Andover	0	0	1	1
Baltimore	0	0	0	0
Cavendish	0	0	3	3
Chester	0	0	1	1
Ludlow	11	1	10	22
Reading	0	1	0	1
Springfield	1	0	3	4
Weathersfield	1	1	10	12
West Windsor	1	1	0	2
Windsor	3	1	0	4

Source: Vermont Water Supply Division; SDWIS Program, August 2008; Note: All have Source Protection Areas.
1. For example, mobile home parks, condominiums or prisons with residents leasing month-to-month or owning

2. For example, schools or factories; and 3. For example, campgrounds or lodging

In addition to municipal and private water and wastewater systems, the Region is also served by privately owned individual wells and on-site septic systems. In 2002, state Potable Water Supply and Wastewater Regulations (10 V.S.A. Chapter 64) were amended by the Vermont Legislature. As of July 1, 2007, the ANR has universal jurisdiction over on-site septic and potable water permits. ANR developed new rules on September 29, 2007, which allow for innovative or alternative systems (Subchapter 10 of the *Wastewater System and Potable Water Supply Rules*).

Under the new state regulations, towns can no longer issue septic permits, but they may still require the connection to a municipal wastewater system, collect connection and usage fees, require pre-treatment before discharge into the municipal system, request copies of any water or wastewater plans submitted to the state, and require notification before a new system is covered up. Town health officers can still enforce existing local permits, require the abatement of health hazards, and report failed systems to the state. Towns may seek designation to administer the state rules locally.

De-centralized septic systems may allow for greater densities where municipal wastewater systems are not available. A decentralized system is where a cluster of structures share a common wastewater system for either on-site or off-site disposal. *Wastewater Solutions for Vermont Communities* (Vermont Department of Housing and Community Affairs, January 2008) is a good guidance document for solving community wastewater problems. In some cases, the establishment of a public or community water system serving village lots with on-site septic systems may facilitate increased densities.

Monitoring to ensure the efficiency of these systems is important for the protection of the water supply, which is essential to the health and welfare of the Region.

Please see the Natural Resources chapter for a discussion on the nature and importance of groundwater, threats of contamination, Source Protection Areas, regulations, an update on on-site wastewater systems, and other water related issues.

B. Solid Waste Facilities

Until its dissolution on June 30, 2007, the New Hampshire/Vermont Solid Waste Project was a bi-state agency serving a total of 29 towns in New Hampshire and Vermont. The Project created two districts which were formally organized in 1981. Two facilities were constructed in New Hampshire, including a waste to energy facility in 1987 and an ash monofill in 1988. At that time, the Project contracted with Wheelabrator Claremont, Inc., to incinerate solid waste from its member towns' residential, institutional, and commercial sources. All of the towns in the Region were served by these facilities, and are now part of the Southern Windsor/Windham Counties Solid Waste Management District (District). See the District's website at www.vtsolidwastedistrict.org for more information. (See **Table 4.4** for a listing of the facilities serving the Region' towns).

In June 2007, the District signed a three-year contract with Casella Waste Management, Inc. d/b/a Gobin Disposal Systems for solid waste transportation, disposal, and recycling services. The agreement may continue for two additional one-year terms.

Table 4.4 Solid Waste Facilities in the Region

Town	Location of Transfer Station	Location of Recycling Facility
Andover	Springfield	At Springfield Transfer Station
Baltimore	Springfield	At Springfield Transfer Station
Cavendish	Transfer Station in Cavendish Village on Rte 131	At Cavendish Transfer Station
Chester	Springfield	At Springfield Transfer Station
Ludlow	Transfer Station on Rte 100 South about one mile from Village	At Ludlow Transfer Station
Reading	Weathersfield	At Weathersfield Transfer Station
Springfield	Transfer Station on Fairground Rd. in Springfield	At Springfield Transfer Station
Weathersfield	Transfer Station on Rte 106 about one mile north of Rte 131	At Weathersfield Transfer Station
West Windsor	Weathersfield	At Weathersfield Transfer Station
Windsor	Fast Trash on Central St. - Operated by private businesses for a fee.	Windsor Recycling Center 15 Central St

Source: SW/WCSWMD, August 2007
Note: Ludlow Village residents have curbside pick-up

The passage of Act 78 by the Vermont legislature in 1987 marked a significant change in the way Vermont communities deal with solid waste disposal. This revision to state solid waste law recognized the environmental and economic impacts of landfilling and incinerating an ever-increasing waste stream, and articulated policies encouraging reduction, reuse, and efficient disposal of solid waste. State law also defines a role for regional planning commissions in solid waste planning, conditioning certification of solid waste facilities on conformance with a regional plan.

The ANR is required to prepare and maintain a State Solid Waste Management Plan, establishing statewide goals. In addition, all Vermont municipalities, either individually or as part of a solid waste district or an intermunicipal association, are required by Vermont law to adopt a Solid Waste Implementation Plan (SWIP). The SWIP documents town or district waste management facilities and articulates how solid waste will be managed over the subsequent five years. All SWIPs must be in compliance or consistent with the State goals, as well as in accordance with any municipal or regional plan, prepared and adopted pursuant to 24 V.S.A. Chapter 117.

In 1993, in order to conform to Act 78, the District adopted a Comprehensive Solid Waste Management Plan. On June 2, 2008, the District received pre-approval from ANR of it's revised SWIP. The District held two public hearings and adopted the SWIP in 2008.

1. Household Hazardous Waste Collections

Household hazardous waste collections are sponsored by the District twice a year. The District contracts with a company to collect materials that are banned from landfills and incinerators. The one-day events are open to residents and businesses; only the latter are charged for participating. Much more household hazardous waste could be diverted from the waste stream if the District had a year-round, permitted facility capable of accepting it.

In order to ensure that solid waste management in the Region protects the environment, is economically efficient, and safeguards the health of the Region's residents, the goals, policies, and recommendations at the end of this chapter are adopted.

C. Community Health and Safety Resources

The health and safety of residents are of primary importance within any community. The provision of adequate services and facilities, including hospitals, ambulances, clinics, elderly care, convalescent homes, senior citizen centers, psychiatric care, police and fire protection, and detention facilities, helps to ensure a safe and healthy social environment.

1. Hospitals

Health care for the Region is provided through a variety of facilities and services. Currently, the Region hosts two hospitals: Springfield Hospital and Mt. Ascutney Hospital. Springfield Hospital is affiliated with the Health Center at Bellows Falls, and provides a full-range of inpatient and outpatient care, including 24-hour emergency services, birthing center, adult day care and specialty clinics. The inpatient psychiatric center in Bellows Falls has 12 beds, and Springfield Hospital has 57 beds. Mount Ascutney Hospital, located in Windsor, is affiliated with Dartmouth Hitchcock Medical Center (DHMC), and provides a variety of services, including a 24-hour emergency medical facility, acute care, rehabilitation services and specialty clinics. Mount Ascutney Hospital provides 33 beds. In addition, several hospitals in New Hampshire provide service to the Region, including Alice Peck Day Hospital in Lebanon, Valley Regional Hospital in Claremont, and DHMC in Lebanon. There are medical clinics in Chester, Springfield, Cavendish, and Ludlow. Residents may also commute to additional facilities in Vermont, such as the Mountain Valley Health Center in Londonderry and Rutland Regional Medical Center. Residents must travel to DHMC, Cheshire Medical Center in Keene, NH, or other hospitals outside of the region for specialized care, such as dialysis or radiation treatments.

2. Nursing Homes and Assisted Living

The Vermont Health Care Association currently lists four nursing homes, three residential care facilities, and three assisted or independent living facilities in the Region as members (see **Table 4.5**). The largest nursing home, Springfield Health and Rehab Center, is located in Springfield and provides care with 102 beds. Other nursing homes include Mt. Ascutney Health Center in Windsor with 35 beds, Gill Odd Fellows Home in Ludlow with 56 beds, and Cedar Hill Health Care Center in Windsor with 39 beds. At the same site, Cedar Hill

also offers 15 rooms in the Cedar Hill Victorian House residential facility and 20 apartments in the Village at Cedar Hill assisted living facility. Residents can transition as needed depending on their health care needs. Historic Homes of Runnemeade, formerly Stoughton House, consists of three facilities: Stoughton House, which is assisted living and consists of 26 beds; Evarts House, which is supported living and consists of 12 rooms and was renovated in 1998; and Cox House, which consists of six independent apartments, renovated in 2000. There is a high demand for more elderly care and housing facilities in the Region, and that need is expected to grow during the next several years (see the Housing chapter for more information).

Table 4.5 Nursing Homes, Residential and Assisted Living Facilities in the Region

Facility Name	Location	Services	Number of Beds	Demand
Gill Odd Fellows Home	Ludlow	Nursing	56	High
Springfield Health & Rehab Center	Springfield	Nursing	102	High
Brookwood	North Springfield	Residential	15	High
Cedar Hill Health Care Center	Windsor	Nursing	39	High
Cedar Hill Victorian House	Windsor	Residential	15	High
Village at Cedar Hill	Windsor	Assisted Living	20	High
Stoughton House	Windsor	Assisted Living	26	High
Evarts House	Windsor	Residential	12	High
Cox House	Windsor	Independent Living	6	High

Source: SWCRPC, Staff at the above facilities, 2008

The State of Vermont has "aging in place" policies enabling Vermonters to stay in their homes and communities as long as they wish, instead of moving to a nursing home or assisted living facility. However, significant investment in public transportation, home care and other services is necessary to provide for elders and persons with disabilities to age in place safely and comfortably. According to a report developed by the Vermont Department of Aging and Independent Living in 2005, current transportation funding levels are not adequate to support "aging in place" (*Vermont Elders and Persons with Disabilities Transportation Program Review*).

3. Correctional Facilities

Two correctional facilities are located in the Region: Southeast State Correctional Facility in Windsor and Southern State Correctional Facility in Springfield. The Southeast State Correctional Facility previously housed female inmates, with capacity for 114, and is located on approximately 946 acres of land in Windsor. The Vermont Department of Corrections recently moved all female inmates to the Northwest State Correctional Facility in Swanton facility, and is utilizing the Windsor facility now as a work camp. The Southern State Correctional Facility, a medium security prison, was built in 2003 off VT Route 11 near the I-91 Exit 7 interchange in Springfield. It currently houses approximately 347 male inmates (99% full).

See the Emergency Planning and Management chapter for emergency services in the Region.

D. Communications Facilities

Communications facilities are an essential service for most residents and businesses in Vermont. Countless economic, social, and cultural benefits are available to communities that possess free and open access to people and ideas in other parts of the world. With technological advances, the Region's communication facilities have expanded in recent years to include, not just radio, cable television and land-based telephone services, but also mobile telephones, high-speed internet and satellite television. Developing the necessary communications infrastructure and access to these services, such as high-speed internet, is an integral component of economic development and land use planning. It is challenging to plan for voice, video and data communications due to the rapid advances in these technologies.

1. Telecommunications

a. Land-Line Telephone Services

Land-line telephones are the traditional telecommunication method for most homes in Vermont. Ninety-eight percent (98%) of Vermonter households have telephone service (FCC, Telephone Penetration by Income by State, 2003). While cellular telephones and email are now very common, land-line phones continue to provide critical functions, including 911 emergency services and health care information networks. In this Region, these services are provided by four providers: Comcast, VTel, TDS and FairPoint. In 2008, FairPoint Communications, Inc. purchased Verizon land-line telephone operations.

b. Wireless Communication Facilities

The maintenance of a modern and accessible wireless communications and telecommunications network is considered by many to be essential to the public welfare. Many more Vermonters have cellular phones now than in 2003 when this plan was last written. In 2000, there were 109.5 million wireless subscribers in the United States, and 207.9 million in 2005 (Semi-Annual Wireless Survey, CTIA – The Wireless Association). There are currently 2,099 wireless telecommunications towers in New England (an increase from 207 towers in 2003), 51 in Vermont (42 in 2003), and 11 in our Region (three in 2003).

Public safety agencies, such as emergency medical services, fire, and police departments, rely on wireless communications and telecommunications to provide essential services. Telecommuting, or working at home, can lessen traffic and motor vehicle pollution, extend the life of the existing regional and national highway infrastructure, and save traveling costs for workers. However, because telecommuting allows people to live farther from employment centers, it may also influence local development.

At the same time, the network infrastructure must be developed in an efficient, safe, and thoughtful manner. Possible impacts upon scenic and cultural resources, aesthetics, and public health should all be considered during the planning process. These concerns have become even more urgent as wireless telecommunications facilities steadily increase in number to provide seamless service to customers.

(1) Telecommunications Act of 1996

Congress enacted the Telecommunications Act of 1996, which called for the rapid deployment of advanced telecommunications and information technologies and services. The Act significantly limited communities' traditional zoning and health authorities over the siting of towers, giving the FCC almost sole power to regulate a variety of environmental siting issues including public health concerns.

There is no FCC requirement that the system be seamless, yet this is the industry's goal. Wireless telecommunication facilities require near "line of sight" access from the user to a tower to avoid disconnected calls. In addition, the new technology, PCS and SMRS in particular, operate at a low frequency with a range of only one and half to two miles. Our Region's topography dictates that these facilities are located at close intervals, resulting in more locations.

Some people express concerns regarding the health risks of electromagnetic fields and radio frequency radiation (RFR), also called radio frequency emissions, at the levels set by the Federal Communications Commission (FCC) in its standards. However, communities can not regulate RFR emissions unless they exceed federal standards set by the FCC. Facility operators and service providers must comply with the standards set by the FCC.

(2) Local and Regional Planning

Thoughtful local and regional planning, which includes viewshed analysis, should be done for the inevitable siting and development of future wireless communications facilities. The Vermont League of Cities and Towns has prepared a Model Wireless Telecommunications Facilities Bylaw. Contact the RPC office if your town would like a copy. The RPC can also assist towns in understanding the limitations of the Telecommunications Act of 1996 and how Act 250 applies, identifying which ridge lines and viewsheds to preserve, determining alternative locations and designs that could mitigate negative impacts, and outlining provisions for the removal of a facility when it is no longer needed. 24 V.S.A. § 4412(9) authorizes local administrative review for telecommunication facilities with no or de minimis impacts.

2. Interoperable Communications for Emergency Services

During emergency response operations, first responders need to communicate among different organizational structures and levels of government. First responders include a variety of disciplines from all levels of government, including but not limited to police, fire, EMS, state hazardous materials team, corrections, conservation officers and others. The current emergency communication infrastructure does not allow for the necessary inter-disciplinary voice and data communications to take place. Challenges to this include the state's mountainous terrain, incompatible radio equipment and frequencies, different dispatch centers and reporting procedures, and other obstacles. Vermont Communications ("VCOMM") is a diverse group of local, state and federal agencies and private community professionals, convened by the Vermont Department of Public Safety to develop a shared interoperable radio communications system for all first responders within Vermont. The VCOMM system established an interoperable network with consistent radio channels for

town emergency services to communicate with other municipalities, as well as increasing the mobile coverage of radio networks throughout the state.

3. Television, Videoconferencing and Other Media

While television and radio are largely used for entertainment purposes, they are a key part of the communications system in the Region. Both play a role in accessing information and emergency broadcasting. Cable television is available in at least a portion of eight towns in the Region (see Table 3.6). There are two satellite television providers that can serve any location as long as the site allows for adequate satellite reception. Local public access television channels include Springfield Area Public Access television (SAPA TV), Ludlow-Cavendish area public access television (LPC TV) and Windsor On-Air.

Numerous commercial radio stations serve this area, but only one station broadcasts from this region. Vermont Public Radio broadcasts on eight stations statewide, one of which – 89.5 WVPR – broadcasts from the summit of Mount Ascutney in Windsor.

Videoconferencing networks enable cost-effective communication and distance learning opportunities. Vermont Interactive Television (VIT) is used by educational institutions, governments, non-profit organizations and businesses for a variety of purposes, including public hearings, classes, public informational meetings, training sessions, candidate interviews and other uses. VIT is available at 15 sites throughout the state, including in the Howard Dean Education Center in Springfield.

Newspapers that serve this Region include the Eagle Times, The Message, Vermont Standard, Springfield Reporter, Weekly Flee, Valley News, Rutland Herald and Windsor Observer.

4. Internet Services

Many Vermonters and most workplaces in the Region now rely on the Internet and email to access information and communicate daily. It becomes evident how much our economy relies on these technologies when occasional widespread power outages severely restrict office work.

High-speed internet has become an important part of economic development, since much of the data and communications exchanges in today's business climate involve large amounts of information. Dial-up internet services are not fast enough to support data exchanges at current or future levels. High-speed internet includes:

- Broadband – High-speed Internet and communication networks provided by a wide band of frequencies (FCC: at least 200Kbps in each direction);
- Digital Subscriber Line ("DSL") – Technologies that extends the ability of copper telephone lines to carry high-speed data and communications;
- Satellite – High-speed satellite internet services are generally not as fast as DSL; however, are available on any site with a clear view of the southern sky; and
- Wireless Fidelity ("WiFi") – Technology that uses radio waves to provide high-speed wireless internet and communications network connections.

The Region is served by a variety of providers, including VTel, Comcast, AT&T Broadband, TDS, FairPoint, and satellite internet services, such as Hughes Net and WildBlue. **Table 4.6** lists these providers by town; however, these services may be available only in portions of a town. For example, DSL is available in the village of Ascutney but not in some other parts of Weathersfield.

Table 4.6 Utility Service Providers

Utility Type	Service Providers	Andover	Baltimore	Cavendish	Chester	Ludlow	Reading	Springfield	Weathersfield	West Windsor	Windsor
Telephone	Comcast				X	X				X*	X
	VTel	X			X			X	X		
	TDS		X	X		X			X		
	FairPoint			X			X		X	X	X
Cable	TDS			X							
	Comcast			X	X	X	X	X	X	X*	X
Electric	Ludlow Electric			X		X					
	CVPS	X	X		X	X	X	X	X	X	X
Local Access	SAPA				X			X	X		
	LPCTV			X		X					
	Windsor On-air									X	X
High Speed Internet	VTel*	X			X			X	X		
	Comcast				X*	X			X*	X*	X
	AT&T Broadband										X
	TDS		X	X		X			X		
	FairPoint			X			X*		X*	X*	X

Source: Based on information provided by service providers compiled by SWCRPC, 2008. *Services may not be available in all areas

To successfully encourage business growth, high-speed internet is critical. High-speed internet is generally available in the most villages in the Region. The provision of these services is also critical in rural areas for accessing information and enabling distance learning. This is especially true for rural schools and for workforce training programs or distance learning programs.

E. Educational Resources

Educational opportunities available in the Region include child care facilities; elementary, middle, and high schools; vocational and technical schools, as well as access to colleges and universities; continuing education programs; and libraries and cultural opportunities (**Appendix A – Map 4**). Many factors should be considered in the analysis of schools and their ability to serve as adequate facilities for providing educational opportunities to area residents. Program and policy issues for public schools are generally addressed by local school or school district boards. Examples of facility issues and concerns which are relative to local planning for public schools include providing an appropriate size and number of classrooms for the number of students, the provision of transportation service for students, safety features, the need for specialized classrooms, sufficient funding to meet the requirements of State mandates for educational facilities, and the provision of suitable recreational facilities to meet student needs.

The towns of Springfield, Windsor, Ludlow, and Chester have high school facilities. Ludlow and Chester have union high schools which serve additional students from other towns outside of their respective town boundaries. High school students from Andover, Baltimore, Cavendish, Reading, Weathersfield, and West Windsor attend schools that are located outside of their town boundaries. Reading's high school students attend the Woodstock Union High School. Windsor Junior/Senior High School, the State Street School in Windsor, and Weathersfield and Reading Elementary School have all expanded their facilities. Almost all of the schools in the Region currently have sufficient capacity to meet anticipated needs for the foreseeable future. **Tables 4.7** and **4.8** show school enrollment trends over the past 20 years in the Region.

The River Valley Technical Center is located in the Howard Dean Education Center in Springfield. It serves over 450 students for at least one period of course work per day and provides services for 600-1,000 adults. Services include a job training program which is contracted through Vermont Technical College. Also locating in the Howard Dean Education Center is the Community College of Vermont's Springfield Office, VT Interactive TV, and UVM Extension.

Table 4.7 – School Enrollment 2003-2007 (Grades K-6)

Town	2003-04	2004-05	2005-06	2006-07
Andover/Chester	285	272	293	296
Cavendish	101	102	103	114
Ludlow	163	147	119	118
Reading	58	50	50	48
Springfield/Baltimore	826	902	903	899
Weathersfield	88	88	91	107
West Windsor	71	70	60	57
Windsor	271	285	236	247
Region Total	**1,863**	**1,916**	**1,855**	**1,886**

Source: Vermont Department of Education School Report, 2007

Table 4.87 – School Enrollment 2003-2007 (Grades 7-12)

Town	2003-04	2004-05	2005-06	2006-07
Andover/Chester/Cavendish (Green Mountain Union High School)	425	441	428	416
Ludlow (Black River Union School)	260	241	235	212
Springfield/Baltimore	596	572	546	539
Weathersfield Middle School (4-8)	176	150	129	121
Windsor	455	395	381	383
Region Total	**1,912**	**1,799**	**1,719**	**1,671**

Source: Vermont Department of Education School Report, 2007

The Vermont Legislature has enacted several educational funding programs seeking to provide all students with an equal opportunity for education regardless of municipal tax base. First introduced in 1997 under Act 60, the current program, Act 68, sets statewide residential and non-residential tax rates providing base level funding per pupil in all school districts. Each district may then request additional funding from local taxpayers. This program remains controversial as overall costs and tax rates continue to rise. According to

the Vermont Department of Education, per pupil spending in Fiscal Year 2007 ranged from $9,000 to $12,000.

F. Child Care

High quality child care services provide important benefits to a community and the Region. The availability of affordable, high quality child care contributes to early childhood development, enables parents of young children to enter or remain in the workforce, enhances the productivity of working parents, and contributes to the expansion of the local and regional economies. In addition, facilities that are located near residential clusters, schools, the workplace, or public transportation may reduce automobile trips and congestion.

Chapter 117 of the Vermont State Statutes now includes as a specific purpose to be furthered by municipal and regional planning: "To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and child care workforce development."

The State of Vermont Child Development Division maintains a list of all registered home care providers and all licensed child care centers in the State. This list does not include informal arrangements. In general, the State simply regulates child care-providers requiring they meet the basic standards for children's health and safety. Many programs achieve a higher standard through accreditation by a national program. In our Region there are currently no listed state licensed facilities in the smallest, rural towns of Andover and Baltimore and as expected the more populated towns provide more services, such as Springfield with 19 homes and 12 centers listed. For a current listing of licensed providers and registered homes by town, visit www.brightfutures.dcf.state.vt.us.

Child care expenses can deter some families from seeking safe and convenient services. The Child Care Subsidy Program, which is based on gross monthly income and family size, is a program established by the Vermont Agency of Human Services, and can assist some low-income families with the cost of child care. There are also some tax credits available for both businesses and employees and employer child care subsidies, but many are under utilized. For example, an employer may offer Dependent Care Assistance Programs which provide child care subsidies, reserve slots at child care centers, and incentives to build onsite child care.

WATER, SEWER AND ELECTRICITY GOALS

1. To encourage technologies that will lessen dependence on fossil fuels.

2. To promote coordination and cooperation among local, state and federal efforts related to the provision of community facilities and services.

3. To achieve the provision of user-demand electricity at a reasonable rate in a safe, effective, and efficient manner.

4. To direct the placement of transmission lines to support designated village, commercial and industrial development.

5. To achieve the development, expansion and upgrade of efficient and environmentally sound public water and sewer systems within designated village, commercial and industrial areas.

6. To ensure that public well systems, private wells and septic systems are located most efficiently relative to current and proposed land use patterns and water conservation techniques.

WATER, SEWER AND ELECTRICITY POLICIES

1. Location and expansion of utilities and facilities should occur in areas best able to serve the public interest with the fewest negative side effects.

2. Expansion of utilities and facilities should result from a cooperative effort between municipalities, the RPC, and other related organizations.

3. Local efforts to address long-term utility and facility needs in a capital improvement plan, program, or budget should be supported.

4. Local communities should monitor and assess proposed development that will utilize public services, to ensure that new development does not exceed the capacity of existing or proposed community utility and facility infrastructure. (See 24 V.S.A. §3625 Allocation of Sewage Capacity.)

5. Extensions of service infrastructure should take place in areas proposed for development by town plans and local bylaws.

6. Multipurpose use of existing utility corridors and placement of new lines or extensions in existing corridors is encouraged wherever possible.

7. Towns are encouraged to consider the location of substations, utility lines and poles in their town plans.
8. Town efforts to minimize the aesthetic impacts of utility/facility development should be supported.

9. Town efforts to maintain, upgrade, and expand water/sewer distribution lines and sewage treatment facilities so that they meet or exceed federal, state and local standards should be supported.

10. The implementation of techniques to increase the operational life, efficiency and effectiveness of wastewater treatment facilities and water supply systems should be encouraged.

11. Consideration should be given to the impacts of water withdrawal and hydroelectric activity on water quality, as related to the assimilation of sewage effluent and the carrying capacity of the streams.

12. The quality of municipal and public drinking water supplies should be protected.

13. Towns are encouraged to extend water and sewer mains only in areas where future development is expected and supported by the land use designations of town and regional plans.

14. Water conservation techniques should be used in new development, and in the rehabilitation of existing development, to lengthen the life of wastewater treatment facilities and slow the depletion of groundwater resources.

15. Encourage energy conservation to reduce demand for energy production and transmission capacity.

16. Careful facility siting, landscaping and other mitigation techniques should be employed to minimize aesthetic impacts of transmission line projects.

WATER, SEWER AND ELECTRICITY RECOMMENDATIONS

1. Support the location and upgrade of utilities in conformance with the Energy Chapter of the Regional Plan and town plans.

2. Assist towns that wish to upgrade wastewater treatment facilities and adopt other techniques that will decrease the concentrations of phosphorous and other chemicals detrimental to surface waters.

3. Assist towns in the development or update of existing capital budget and improvement programs and facilities, and capacity allocation bylaws that reflect municipal policies on growth and development.

4. Encourage continual cooperation among local groups to evaluate water quality downstream of wastewater treatment facilities for conformance with state standards.
5. Where appropriate, coordinate with economic development organizations for towns wishing to extend water and sewer services beyond current boundaries, provided such extensions will meet federal, state, and local standards.

6. Work with local communities to ensure that sludge management throughout the area is in conformance with the Solid Waste section of this chapter.

SOLID WASTE FACILITIES GOALS

1. Reduce the volume of solid waste generated by homes, businesses, and public institutions in the Region.

2. Conform to the intent, goals, and requirements of 10 V.S.A. §6601 et. seq. (Act 78).

3. Reduce the environmental and financial costs associated with waste disposal for regional businesses and residents.

4. Explore new and existing methods of reusing solid waste and sludge that are economically and environmentally sound.

SOLID WASTE FACILITIES POLICIES

1. Promote efforts within or among the Region's towns to reduce waste production, reuse, or recycle; the hierarchy, as described in the Vermont Solid Waste Management Plan, of "reduce, reuse, recycle" should form the basis for all solid waste planning in the Region.

2. Support composting and land application of sludge in the Region provided that they do not pose a risk to human health, or have negative impacts on aesthetics or the natural environment.

3. When measuring the economic viability of solid waste reduction or recycling programs, avoided costs of solid waste production and disposal, and of environmental cleanup, should be considered as economic benefits.

SOLID WASTE FACILITIES RECOMMENDATIONS

1. Support and coordinate efforts at the federal, state, regional, and local levels to guide the effective management of septage and sludge material.

2. Pursue Zero Waste policies throughout the Region.

COMMUNITY HEALTH AND SAFETY RESOURCES GOALS

1. To ensure that adequate services and facilities exist in the Region to promote a safe and healthy social environment.

2. To maintain Enhanced 911 service as designed and provided by the Vermont Enhanced 911 Board.

3. To ensure that existing or proposed correctional facilities are sited, maintained, and managed in a manner which ensures the safety and security of local residents.

COMMUNITY HEALTH AND SAFETY RESOURCES POLICIES

1. Participation in the Vermont Enhanced 911 program by all towns in the Region is encouraged.

2. Expansion or creation of health and safety facilities is encouraged, as necessary, to meet the current and future demand.

3. Municipalities are encouraged to establish and adopt capital improvement programs and budgets as authorized under 24 V.S.A. §4426, to address identified needs for health and safety facilities and services.

4. Town, inter-organizational, regional, state, and federal cooperation is encouraged in the development of service areas and standards for health and safety facilities and services.

5. Where towns have identified needs, the expansion or development of elderly care facilities should be supported.

6. The Commission should cooperate with and encourage towns to fully consider the potential costs and benefits of regional or multi-community facilities and service delivery.

7. New nursing homes and assisted living facilities should be located within or adjacent to villages or along public transportation routes in order to provide efficient access to services for residents.

COMMUNITY HEALTH AND SAFETY RESOURCES RECOMMENDATIONS

1. Support the creation of overlay districts for lands occupied by correctional facilities to focus on regional issues such as lighting, traffic and security.

2. Analyze the geographic and age/sex cohort distribution of the population to determine the need for the expansion or development of elderly care facilities.

3. Assist towns in obtaining administrative and financial assistance from the Vermont Enhanced 911 Board for ongoing system maintenance.

4. Promote town and regional assessments of the impact of existing and potential development on public health and safety facilities and services prior to new development.

COMMUNICATION FACILITIES GOALS

1. Provide a robust, modern communications network for all residents, institutions and businesses in the Region, while minimizing the economic, environmental, health, aesthetic, and cultural costs of its development.

COMMUNICATION FACILITIES POLICIES

1. Encourage reduced rates on advanced telecommunications services, equipment and user training for libraries, educational and health care facilities. Support local access to diverse life-long distance learning opportunities and low-cost public-use computers connected to high-speed internet services.

2. Promote the development of broadband communication networks Region-wide.

3. New wireless communications facilities should be sited, constructed or modified as necessary to meet the Region's changing needs or changes in technology.

4. New or expanded wireless communications services must collocate on existing facilities or be sited on existing structures, where feasible, and shall minimize negative visual impacts.

5. Communications facilities, whether at new or existing sites, must demonstrate that that the facility complies with the applicable FCC emissions standards in order to protect public health and safety.

6. New communications facilities must minimize impacts on wildlife habitat and corridors, wetlands, rivers, streams, ridgelines and other natural, scenic, and aesthetic resources, and should comply with the following standards:
   - Protect view corridors from highways, residential areas, historic districts, public use areas, and outdoor recreation areas such as hiking trails, rivers, lakes, and ponds should be paramount in the design and siting permitted.
   - All new wireless communications facilities sited on a ridge should be located below the ridge so that the tops of any such facility are below the site lines of persons using the highways or in the residential areas and historic districts. At a minimum, the tops of such facilities must not exceed the elevation of the immediate ridge.
   - New access roads should be designed for minimal ground disturbance and clearing, follow the land contours, and avoid open land to minimize visual and ecological impact.
   - If new wireless communications facilities are added to existing wireless communications facilities on peaks or ridges, such existing facilities should be retrofitted or maintained in a manner to minimize any negative visual impact.
   - At the site of wireless communications facilities, the existing vegetation and

tree cover should be maintained to the maximum extent possible.

- Prior to the application hearing, a demonstration of the visual impact of the tower must take place to inform the public (by simulating the silhouette of the facility by raising a dark colored balloon to the height of the top of the proposed facility, or other reasonable simulation).

7. Decommissioned wireless communications facilities or portions of facilities must be removed and the site restored and reclaimed to its original condition. All roads and accesses to the site which are no longer needed should be reclaimed and restored.

8. Permits for communications facilities should require a performance bond or other financial security ensuring the reclamation and restoration of the site should the facility be abandoned or rendered obsolete by technological advances. The performance bond should take inflation into account as many years may elapse between construction and removal of the facility.

9. Promote the necessary infrastructure enabling interoperable communications to support emergency services.

10. Encourage increased access for residents to state and local public meetings and hearings through Vermont Interactive Television and public access television stations.

COMMUNICATION FACILITIES RECOMMENDATIONS

1. The RPC should increase access to public information in user-friendly electronic formats.

2. The RPC should seek, with the cooperation and assistance of the wireless communications providers and facilities owners and operators, to design a regional wireless communications facilities siting system, which would serve the Region.

3. The RPC should assist local planning boards and other town officials with developing and incorporating wireless communications policies and elements into their local town plans and zoning regulations or ordinances.

4. The RPC and its member towns should encourage the development and use of alternative technologies to serve the industry. These include, but are not limited to, "stealth" designs for wireless communications facilities or complete coverage of such facilities within existing buildings and structures, and satellite technology, which would reduce the need for new, and allow for the removal of existing, wireless communications facilities.

5. The RPC should study and address regional issues of siting, impacts, and standing regarding wireless communications facilities with all stakeholders.

6. All wireless communication facilities within the Region should be inventoried, located, and mapped by the RPC.

7. Utilize all available local media to seek public input in regional and town planning initiatives.

EDUCATIONAL RESOURCES GOALS

1. To provide equal access to high-quality public education for all students in the Region.

2. To ensure the provision of educational services in adequate facilities, at a reasonable cost, to meet or exceed state standards.

3. To ensure that schools are sited, developed, and maintained at a rate consistent with student population growth and are consistent with land use goals.

EDUCATIONAL RESOURCES POLICIES

1. Expansion or creation of academic, vocational, recreational, and cultural education facilities and resources to meet the needs of all residents will be supported, where communities show need and/or where existing facilities are inadequate.

2. The state is encouraged to provide greater financial and facilities assessment assistance to local and union school districts to meet state requirements for facilities and programs.

3. Factors such as school capacity, and travel time and distance for students should be used in determining the location of new school sites/facilities.

4. Efforts to evaluate the impacts of new development on local school systems, and to mitigate the impacts of such development should be supported.

EDUCATIONAL RESOURCES RECOMMENDATIONS

1. Coordinate efforts to expand, create and enhance educational facilities, programs and resources.

2. Provide the latest Census information related to school-age population to local communities.

3. Work with local communities to investigate the desirability of and locations for regional educational facilities.

CHILD CARE GOALS

1. Encourage a town-wide approach to funding child care, including maintaining an inventory of all child care programs in the town and their capacity, consider property tax abatement for family child care providers, conduct a child care needs assessment, address barriers to increasing child care capacity created by zoning bylaws.

2. Consider use of federal and state funds to assist with the development of child care infrastructure, such as Community Development Block Grant or U.S. Department of Agriculture Rural Development Community Facilities Grants, to assist in addressing child care infrastructure needs.

3. Provide opportunities for child care providers to enhance their programs, ensuring a well trained, educated, paid and benefited child care workforce.

CHILD CARE POLICIES

1. Town plans should assess future local needs and supplies of child care services, including whether local barriers exist for the provision of these services.

2. Member towns should periodically review land use regulations to identify mechanisms to promote the development of child care services in appropriate locations convenient to local services and densely populated areas.

3. Employers, schools, and community organizations should collaborate where feasible to ensure the availability of high quality, affordable child care services.

CHILD CARE RECOMMENDATIONS

1. Assist in an inventory of publicly owned buildings throughout the Region to evaluate and prioritize those suitable as a potential child care facility.

2. Assist towns interested in child care service availability needs assessment.

3. Work with realtors, developers, and regional development corporations to maintain an inventory of space available and suitable for child care businesses.