

# 2008 CENTRAL VERMONT REGIONAL PLAN

## UTILITIES, FACILITIES AND SERVICES ELEMENT

### WITH PROPOSED AMENDMENTS 7/2/15

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Public and private utilities, facilities, and services play a critical role in providing for the health, safety, and welfare of Central Vermont's citizens. All of us depend, in one way or another, upon water distribution systems, solid waste and sewage disposal, police and fire protection, health services, schools, parks, and electric power and information technology.

The location, condition and availability of services and facilities can have a profound influence on growth and development in a region. Homes, businesses, and industry tend to concentrate where utilities and facilities are readily available, while areas remote from infrastructure and services are more costly and difficult to develop (they often contain important natural resources as well). Hence, communities and regions, through the thoughtful placement of infrastructure, may direct growth to the most suitable location, or away from areas where change may have undesirable impacts.

The condition and scale of utilities also needs to be considered. Where facilities are over-sized and under-utilized they may encourage unplanned growth, or operate inefficiently and at unnecessary financial expense to residents. For systems that are at capacity and/or outdated, further development may cause environmental damage. Failure to upgrade urban systems may stall new growth or push it away from growth-designated areas. Communities and regions can avoid the above scenarios through the appropriate timing and sizing of infrastructure improvements<sup>1</sup>.

<sup>1</sup> This text contains selected amendments to the 2008 Central Vermont Regional Plan. Comprehensive data updates have not been conducted for the purposes of amendment. Some statistics and figures (those labeled with "2008 Data") may not represent the most current data.

## UTILITIES

### **Electric Power**

It goes without saying that electric power is a vital component of life in modern America. When our sources of power are lost, even temporarily, as a result of weather conditions or technical difficulty, the result may be chaos and hardship. Perishables perish, business and industry halts, and the rhythms of domestic life are profoundly interrupted.

As the Region grows, so does its demand for reliable and affordable electricity, but existing sources of electric power are limited and the costs of developing new ones are dear. Neither is electricity completely benign in its impacts. Its generation, transmission, and distribution raise issues of environmental protection, public health, land use and aesthetics. Fortunately, studies have shown that kilowatt-hours can be saved at an expenditure of far less than it takes to generate them; furthermore, conserving electricity creates jobs, conserves natural resources, curbs pollution, and expands opportunities for self-reliance too.

Vermont has become a leader in the move towards energy independence and is undertaking an ambitious renewable energy program that could at least put it on a path toward obtaining 90% of its energy from renewable sources by 2050.

These facts did not escape the Department of Public Service (DPS) as it prepared its Comprehensive Energy Plan as directed by Executive order # 79. A fundamental theme of the DPS plan is its promotion of "least cost integrated planning" as "a way for electric utilities to plan for a portfolio of supply resources, demand-side management programs, and transmission and distribution improvements that will enable the company to serve its customers at the lowest life-cycle cost, including environmental and economic costs."

Regional electric markets have restructured, and electricity is now sold in a regionally competitive market. Recent narrowing between Vermont retail electric rates and New England rates is due in part to low natural gas prices driving costs down elsewhere in the region. However, challenges remain to carry out transmission upgrades needed in the years ahead and to ensure that long-term electricity needs are met in a cost-effective and environmentally-sustainable manner.

CVRPC's desire to ensure that energy generation, distribution and transmission facilities are located, designed and sized to support the Region's economic and life-style demands with minimal adverse impact, supports, and is supported by, the concept of "least cost integrated planning" and its attendant objectives.

The activities and choices of the area's utility companies can have direct and indirect impacts on land use (both locally and elsewhere). Locally, distribution line extensions can spur residential, commercial and industrial growth. Decisions regarding future power sources will also have regional or even global impacts.

### **Electric Utilities**

Five different utility companies provide power to Central Vermont's homes and businesses. As of 2009, the majority of the electric power they provided came from Vermont Yankee, Hydro-Quebec, and the Ryegate and McNeil wood generating systems. Residential users demand about half of this power. (Further analysis of energy uses and sources can be found in the Energy Element.)

Green Mountain Power (GMP) is the Region's largest utility, serving a population of about 26,000 in Central Vermont. GMP's customers are located primarily in the more populous valley areas such as Barre, Montpelier, and many of the Region's villages. GMP is continually expanding and upgrading their facilities to meet new growth. According to Vermont Public Service, GMP's output in 2005 was 2,007 million kWh<sup>2</sup>.

The Washington Electric Cooperative Inc. (WEC) provides electricity to more rural areas throughout Central Vermont. Its service territory covers a larger area in Central Vermont than any other utility with 10,170 customers. Due to the rural nature of WEC's service area, residential users account for an unusually high percentage of total demand. In 2005, WEC's output was about 69 million kWh<sup>2</sup>.

The Cooperative is committed to the concept of least cost integrated planning as evidenced by its recent initiatives including programs to identify and install electrical efficiency measures in homes demonstrating high and moderate electricity use, such as: dairy farms, schools, small businesses, and new construction, as well as its

recently released Interim Integrated Resource Plan. WEC is a member-owned utility run by a 9-person board elected by co-op members.

Central Vermont Public Service Corporation provides electric power to about 500 customers in Roxbury and Northfield and serves 123,048 residential customers and 17,851 commercial customers in total with output in 2005 of 2,300 million Kwh<sup>3</sup>. Its facilities in Central Vermont include distribution lines only.

A small number of Central Vermonthers residing in the Towns of Calais and Woodbury are serviced by the Hardwick Electric Department. This utility serves about 4,300 residential customers and 307 commercial customers total with a 2005 output of 32 million KWh<sup>3</sup>. The department is planning to expand its customer base in both of these towns.

The Northfield Electric Department serves about 1900 customers in Northfield and part of Roxbury with service to 1,646 residential customers and 254 commercial customers and a 2005 output of 27 million kWh<sup>3</sup>.

The Vermont Electric Power Company, Inc. (VELCO) provides the bulk of electrical transmission network (voltages 115 kv and above) for the entire state of Vermont. VELCO serves 14,705 residential customers and 547 commercial customers and 50 industrial costumers throughout the state. In the Central Vermont region VELCO has a 115 kv transmission line which leads from Wilder, Vermont, connecting with substations in Williamstown, Barre, Berlin, and Middlesex before continuing on to Essex with a 1999 output of 1238 million kWh. VELCO also maintains a 230 kv line extending from its Williamstown substation to Comerford, New Hampshire<sup>3</sup>.

To reinforce its transmission system VEC installed a static compensator in Essex. Velco in recent years has also increased the voltage the major transmission line between Cavendish and West Rutland to serve the growing electrical load. It is company policy, according to management, to use existing transmission corridors to accommodate expansion "wherever possible."

## **Wastewater Systems**

The proper treatment of wastewater is essential to a safe, healthy environment. To-

[3 2008 Data](#)

day, we do a better job treating waste than ever before. Treatment plants built in the 60's and 70's reduced the impacts of effluent reaching our streams and rivers, including biological oxygen demand and microbe levels. In general, our surface waters are cleaner now than they were 40 years ago. Improved on-site septic system technology, regulation, and monitoring has had a beneficial impact on our environment too.

There is, however, much room for improvement. The volume of waste treatment byproducts (effluent and sludge) grows with the population. Disposal of these substances poses its own unique set of problems and issues. Though improvements have been made, combined sewer and storm water systems are still releasing raw sewage to receiving waters during heavy rains. In addition, there remain, in spite of new laws, many unregulated or "grand-fathered" on-site systems polluting our environment.

It is important then, that we provide for the safe and efficient treatment of sewage for current and future residents. As communities in Central Vermont plan for the future, wastewater treatment and disposal will continue to be a critical factor, particularly when considering encouraging higher residential densities or in permitting commercial or industrial uses.

## **Public Systems**

There are eight municipal wastewater treatment facilities in the Central Vermont region that serve over 10,000 households and scores of businesses and industries (see Service Area Map). They range in size from the Montpelier Wastewater Treatment Facility with a design of 4 million gallons per day (mgd), to a .045 mgd capacity facility in Marshfield. All provide secondary treatment of effluent. All discharge treated effluent is released into class C receiving waters of the Winooski River or its tributaries. Combined, they retain over 4 mgd of reserve capacity. A more detailed analysis of each of the region's sewage treatment plants and their implications for future growth and development is shown in Table 1, followed by a brief summary of the individual systems.

The Barre Wastewater Treatment Facility serves the City and parts of the Town of Barre. It serves a population base of about 16,000. As of 2011, the town had an

allocation of 1.5 million gallons per day. There is remaining capacity in the system serve more than 4,000 additional homes. Through an intermunicipal agreement, Barre Town has discretion over if and where new connections will occur within its allocation. The wastewater treatment facility is limited to a maximum discharge of 7,306 pounds of phosphorus annually based on the Lake Champlain Phosphorus TMDL (total maximum daily load) established in 2002. Recent upgrades to the treatment plant have greatly improved the plant's effectiveness at phosphorus removal. The plant currently discharges 4.5 pounds per day or 22% of the maximum allowed

The Marshfield Wastewater Treatment Facility serves 100 residences, 5 commercial establishments, and 6 "other" users in the Village of Marshfield. The majority of the system was constructed in 2003. Increasing development of the Village sewer system might allow additional development outside of the Village limits; however, this is not the intent of the Village Trustees at this time.

The Montpelier Wastewater Treatment Facility serves a population of 8,300 in the Montpelier/Berlin area. The City has partially removed combined sewer lines, which previously discharged raw sewage during times of heavy runoff or rain, into the Winooski and North Branch Rivers. Berlin and Middlesex own parts of the distribution & collec-

Table 1: Wastewater Treatment Facilities (WWTF) (Source: VT DEC, Local Operators; MGD = million gallons per day)

Municipality	Facility Design Capacity (MGD)	Average Monthly Flow (MGD)	Percent of Design Hydraulic Capacity Remaining	Sludge Treatment	Sludge Disposal Location
Barre City (also serves parts of Barre Town)	4.000	2.911	27%	Anaerobic digestion	Landfill
Cabot	0.050	0.026	48%	Thickening only	Land application on sites certified to other permittees
Marshfield Village	0.045	0.020	56%	Lagoon system - no digestion	Landfill
Montpelier (also serves parts of Berlin and Middlesex)	3.970	1.778	55%	Anaerobic digestion	Landfill
Northfield	1.000	0.563	44%	Aerated storage/dewatering	Landfill
Plainfield (also serves parts of Marshfield)	0.125	0.058	54%	Aerated storage/dewatering	Barre or Montpelier WWTF
Waterbury	0.510	0.181	65%	Lagoon system - no digestion	Land application on sites certified to other permittees
Williamstown	0.150	0.070	53%	Lagoon system - no digestion	Multiple WWTFs

tion system in their respective municipalities and have responsibility for determining new connections to those lines.

The Plainfield Wastewater Treatment Facility serves the village area, Goddard College and some homes that extend beyond the boundaries of the village into Marshfield. It was replaced in 1999 and is approximately halfway through its expected service life. The costs for sludge hauling and disposal have been increasing rapidly, adding significantly to operating costs. The facility is not allocating any additional connections to adjacent areas in Marshfield

Waterbury Wastewater Treatment Facility serves the extent of the incorporated village, including 800 connections and an approximate population of 1,760. The plant has much excess capacity, particularly as flows are down 30-40% from pre-Tropical Storm Irene levels with the scaling back of state workers at the State Office Complex. Substantial upgrades are planned to replace aging collection lines which will coincide with an upcoming Main St. road reconstruction project. The plant has been upgraded to improve its effectiveness at phosphorous removal.

The Williamstown Wastewater Treatment Facility serves about 1200 residents in the village area and could accommodate a little under 100 additional average single family residences. Originally constructed in 1969, the facility is due for major upgrades to address aging components, energy efficiency measures and phosphorous removal. Town voters have approved borrowing \$1.7 million for the refurbishment using grants and loans from USDA Rural Development.

The Northfield Wastewater Treatment Facility provides water to 4,000 residents in Northfield and has remaining capacity. A large share of the plant's current flow is dedicated to Norwich University. In 2004 the facility was upgraded, automated, and phosphorous removal incorporated in the process. The stormwater and wastewater collection system is still combined, which allows storm flows to the Wastewater Treatment Facility. The Town is planning to separate the system-

Cabot Village Wastewater Treatment Facility serves 173 connections in and adjacent to the village. Developing an allocation policy for remaining capacity, capital budget for system repairs, emergency preparedness and energy efficiency are currently local priorities for the system.

A community septic system has been developed for the village of Warren serving 65

connections, including municipal buildings and the Pitcher Inn. The construction project financing for Warren combined EPA demonstration grant funds and traditional grant/loan funds (See Table 2).

Most municipal systems in the region are operating under hydraulic capacity. It should not be inferred, however, that the differ-

*Warren Community Septic System. The historic settlement pattern of Warren Village, with houses concentrated at high densities along the Mad River and Freeman Brook, had led to serious problems for continued on-site water and wastewater disposal. The town underwent detailed studies to identify a cost-effective combination of onsite individual and offsite cluster systems tailored to the localized need and conditions which resulted in permits for the first municipal alternative system in the state. The decentralized wastewater management program in Warren included upgrading individual, onsite systems; building an innovative system at the elementary school; and building a small cluster system and large cluster system to which residences can connect.*

ence between design flow and current average flow represents available capacity. Other factors, such as capacity already allocated and/or being held in reserve, the amount of phosphorous in the treated effluent, and local decisions regarding how close to the theoretical limit the plant should operate, all affect the potential to use any remaining capacity. Generally when a facility is operating at 80 percent capacity regularly, the plant may be required to upgrade.

The needs to address aging wastewater treatment systems are significant. Nearly all municipalities with aging wastewater treatment systems need assistance in managing their assets. Many systems must implement improvements to either maintain or attain compliance with state clean water standards to protect public health and the environment. While operators of the Region's larger systems report that their effluent contains well-under the current maximums for phosphorous content, some facilities may be required to meet phosphorous reductions as part of the Lake Champlain Total Maximum Daily Load currently underway. Upgrades to address this issue have increased the level of complexity and automation in some of the Region's facilities, creating considerations for staff capacity to manage these systems.

Lack of wastewater infrastructure has been cited as obstacles to promoting denser development and redevelopment in some of the Region's more rural villages. While new, centralized systems are a cost-prohibitive option, flexible or alternative wastewater solutions such as decentralized treatment systems may be a viable option for



rural communities. Decentralized systems can include conventional or advanced on-site septic tank systems with dispersal trenches that serve individual homes and businesses, larger septic systems that serve a cluster of buildings on one or more properties or a sewer system that connects to a neighborhood or community treatment unit.

The decentralized option can be used in a more targeted way so that communities are able to envision their

land use and environmental protection goals first, and then develop wastewater management solutions to best serve those goals. As decision-making related to

*Active public involvement in the needs assessment planning process led to the collection of better information regarding onsite systems, site conditions, and potential effects on drinking water supplies and surface waters. In the long run, this involvement led to public support for proposed solutions in Warren, including passing a local bond vote.*

wastewater solutions can be very complex, forming an advisory body or local wastewater committee can be an important first step for a community in understanding the problem to be addressed and planning for local action.

### **Sub-surface Disposal and Private Systems**

Central Vermont is highly dependent upon on-site, underground septic disposal, as about half of our population lives in rural areas outside of the service territories of the above-described systems. Vermont's Indirect Discharge Permit Program regulates land-based systems with design capacities equal to or exceeding 6,500 gallons per day. There are 19 of these larger sub-surface discharge systems in the Region (see Table 2), including a municipally-owned community septic system in Warren and systems serving the Middle and High Schools in Duxbury. These systems are predominantly located in the Mad River Valley towns and are otherwise serving resort-related condominiums or facilities.

Most on-site septic systems require specific soils and site characteristics to enable the effective treatment of wastes. Where soils are impermeable, too permeable, shallow, or wet, or where slopes are steep, conventional septic systems are problematic and potentially hazardous. Accordingly, non-sewered areas displaying such site limitations have generally not been recommended for development.

Table 2: Sub-surface Discharge Systems (> 6,500 gallons per day) (Source: VT DEC, MGD = million gallons per day)

<b>Private (Design Capacity &gt; 6,500 GPD)</b>	<b>Town</b>	<b>Design Capacity (MGD)</b>	<b>Average Monthly Flow (MGD)</b>	<b>Type of Connections</b>
Harwood Union High School	Duxbury	0.02	0.004	High School
Crossett Brook Middle School	Duxbury	0.009	0.001	Middle School
Sandy Pines Mobile Home park	E. Montpelier	0.01	*	Mobile Home Park
Mad River Glen Ski Area	Fayston	0.012	*	Ski Area Development
Mountain Lodge at Sugarbush North	Fayston	0.018	0.004	Mountain Lodge
Mad River Green	Waitsfield	0.012	*	Shopping Center
Butternut Condominiums	Waitsfield	0.015	*	Condominiums & 3-lot Subdivision
Lincoln Peak WWTF Sugarbush	Warren	0.23	0.57	Ski Area Development
Southface I Condominiums	Warren	0.015	*	Condominiums
Southface II Condominiums	Warren	0.007	*	Condominiums
Club Sugarbush	Warren	0.018	0.004	Condominiums
Sugarbush Inn and Sugarbush One	Warren	0.0015	*	Inn, Conference Center, Condos
Sterling Ridge	Warren	0.007	*	Condominiums
South Village Condominiums	Warren	0.033	0.005	Condominiums
The Bridges Resort #3-#28	Warren	0.009	*	Resort Units
The Bridges Resort #29-54	Warren	0.012	*	Resort Units
The Bridges Resort #55-#74	Warren	0.007	*	Resort Units
The Bridges Resort #75-#102	Warren	0.008	*	Resort Units
Warren Community Septic	Warren	0.020	0.009	Public buildings and Single Family Homes

Restricting such areas, however, intensifies development pressure on those soils that can accommodate septic systems. Unfortunately, prime agricultural land contains such soils. Clustered subdivisions with community septic systems may help overcome site limitations and simultaneously protect resource lands. Historically, many communities in Central Vermont enacted health or zoning bylaws to regulate the installment and engineering of new septic systems.

In 2002, Vermont adopted new Wastewater System and Potable Water Supply rules in order to allow for more flexibility in the design of on-site systems, assure more

consistency in the standards for permitting systems.

The new rules provided that all local ordinances and/or bylaws regulating water and wastewater would be superseded as of July 1, 2007, creating “universal jurisdiction” over permits for the Vermont DEC Waste Water Management Division. However, while municipalities may no longer adopt or administer local regulations, they may prohibit construction under a zoning permit unless and until a wastewater and potable water supply permit is issued by the State.

The innovative systems allowed under the new technical standards may allow historically “un-developable” land to be developed. As such, towns should consider the impacts on land use patterns and associated uses, and plan accordingly.

## WATER SUPPLY SYSTEMS

Water is among the most basic of human needs. A clean and plentiful supply of water is essential to our very survival. We need water in our homes to cook, clean, drink and flush waste. Water is critical to our ability to fight fires. Our farms, businesses and industries depend on a plentiful water supply for their operations, as well.

### **Public Water Systems**

Most of Central Vermont's residences and businesses receive their water from public supply systems. Defined by the Department of Health as those systems that have ten or more connections and/or serve twenty or more people, public water supply systems are regulated by that same agency to ensure their compliance with state drinking water standards. In total, there are 15 community water systems (including those operated by fire districts) serving portions of 13 municipalities (some communities have more than one system) and 12 school water supply systems. Most of these systems (87%) rely on groundwater as their source, although the largest systems (Barre City and Montpelier) are supplied by surface waters.

Municipally-owned community water systems in the Region are displayed below in Table 3. These systems serve populations ranging from approximately 134

(Websterville Fire District in Barre Town) to 8,700 people (Montpelier Water System).

Table 3: Municipal Water Systems (Source: VT DEC, local operators; MGD = million gallons per day, \* = data not available at this time)

Municipality/System Name	Source Name/Type	Population Served	Average Demand (MGD)	Capacity (MGD)	Percent of Capacity Used
Barre City/Barre City Water System	Dix Reservoir Upper Orange Reservoir Lower Orange Reservoir	4,150	1.6	6	27%
Barre Town/Barre Town Water System	East Barre Town Well Graniteville FD Sources Dix Reservoir (Barre City)	1,220	0.08	*	*
Barre Town/ Websterville Fire District	Barclay Quarry	134	0.029	*	*
Barre Town/Graniteville Fire District	North Reservoir (Springs & infiltration galleries) South Reservoir (Spring & well) Former Rock of Ages Reservoir (Spring) Gale Reservoir (Infiltration galleries)	700	0.072	*	*
Cabot/Cabot Town Water System	Danville Hill Well (primary), Bondville Hill well (secondary)	104	0.05	*	*
Calais/East Calais Fire District	Spring 1 Bowen Spring	200	0.012	*	*
Marshfield/Marshfield Village Water System	Well Site #7	350	0.025	0.05	50%
Montpelier/Montpelier Water System	Berlin Pond	8,700	1	2	50%
Northfield/Northfield Water Dept.	Wells #1-3	4,000	0.72	1.4	50%
Plainfield/Plainfield Water System (serves Goddard College)	Fowler Springs 1-4 Perry Spring Hood Wellfield - Points 1-5		0.04	0.16	25%
Waitsfield/Waitsfield Water Supply	Well R-1	*	*	*	*
Washington/Washington Fire District	Well	170	0.011	0.022	50%
Waterbury/Waterbury Village Water System	Tyler Brook, Merriam Brook Wells 1-4 John Gibbs Spring, Grace Spring, Gibbs Mill Spring Merriam Spring Upper, Merriam Spring Lower, C.H.Stevens Spring	2,403	0.30	0.40	75%
Williamstown/ Williamstown Water Dept	Wells B1 & B2	985	0.077	*	*
Worcester/Worcester Fire District	Well	350	0.008	0.035	23%

The newest system to come online will be the Berlin Municipal Water System, a planned \$5.5 million community water system intended to supply drinking water and fire protection to the Fire Department, Elementary School and commercial and residential areas in Berlin Corners. The system will draw from wells drilled into bed-rock and consist of 32,000 ft of distribution mains, 40 fire hydrants, a 400,000 gallon water storage tank and a well pumping station. The system will make municipal water connection available in previously undeveloped areas on the rural urban fringe and it will be important to orient local planning and policies for desired growth.

Currently, five of the municipally-owned water systems are structured as fire districts. Fire districts in Vermont are all political entities (municipal corporations) established by acts of their respective towns under the authority of state law. Historically, fire districts have arisen and been established to meet public needs in a part of a town that the town itself declined to assume. In the past, the need for fire-fighting services often prompted the establishment of a fire district, but more recently the needs for public drinking water or wastewater treatment have been the catalyst.

Reasons for a community to form a fire district or to take over private systems as such include eligibility for various state and federal funding programs and municipal financing rates and terms that are not available to privately owned systems. Disadvantages include the extensive time commitment required from members and the high level of technical, managerial and financial skills required by volunteers to operate a water system.

The Region's newest fire district was formed in 2010 by a small group of volunteers in East Montpelier. East Montpelier Fire District #1 is exploring the possibility of taking over a private water company's operations servicing East Montpelier Village and the immediate vicinity. While a moratorium on new connections has been imposed by the State, transfer of ownership to the fire district could potentially alleviate that issue and support growth in the Village. Funding has remained a primary barrier to transfer of ownership.

Many water and wastewater systems operate under direction of the legislative body and a few communities in the Region operate their water and wastewater utilities under the authority of a separate water and wastewater commission. These include

Waterbury, Plainfield and Northfield, where powers to determine operational budgets and user fees have been delegated by the Selectboard or the voters to the commission.

In the past, conflicts have arisen between municipalities regarding the shared use of a supply owned and operated by one municipality. The City of Montpelier has advocated for tax-sharing agreements where its system is providing water (and wastewater) service to adjacent communities. Inter-municipal conflicts have also surfaced where one municipality's source of water is located in or near an adjacent municipality, and thus is potentially affected by activities beyond the control of its users.

The physical components of the municipally-owned water systems range in age from newly installed to approximately 95 years. The most common problem facing communities that have or seek to have public community water systems is obtaining funding to acquire or upgrade water supply facilities. One of the largest needs for water systems is for distribution and transmission infrastructure. This critical portion of infrastructure is often overlooked as it is mainly below ground, however this component accounts for most of a typical system's capital value. Managing hundreds, sometimes thousands, of assets with the staff capacity of most local utilities is a challenge in Vermont and the Region.

A strategy the State is employing to help address ongoing issues of system depreciation is an Asset Management approach geared towards changing the way water and wastewater utilities in Vermont think about their financial management and to aid in making decisions for how to most efficiently use limited resources. This program provides technical assistance to help local operators inventory and develop a prioritized list of water infrastructure improvement projects. A pilot Asset Management project was conducted in collaboration by the Vermont Agency of Natural Resources and the Village of Waterbury in 2012. The end result was a database of over 2,700 assets and their associated condition, lo-

*What is Asset Management? The Environmental Protection Agency (EPA) defines asset management as "a process for maintaining a desired level of customer service at the best appropriate cost". It is designed to aid water and wastewater systems in making decisions for how to most efficiently use their limited resources. An asset management program is developed to minimize the total cost of asset ownership by helping to determine when to repair, rehabilitate or replace the asset.*

cation and cost. This is a huge advantage to the Village of Waterbury both from a maintenance standpoint and from a financial standpoint.

The average life of the asset, along with its replacement costs are taken into account when making these choices. Managing hundreds, sometimes thousands, of assets is a daunting task. Many systems will simply wait for an asset to fail before it is replaced. This is not always the best method. Unexpected failures can lead to large debts for a small system. The development of an asset management program will inform the system when certain repairs or maintenance are needed and assist in developing a long-term funding strategy for larger assets. Issues related to aging systems combined with a loss of knowledge from personnel retirements, and public resistance to rate increases, results in a growing need to make every dollar count.

Another issue some water systems in the Region struggle with are source yield and the need to identify additional reliable sources. Some systems that provide fire protection are under strain as they weren't necessarily designed with adequate distribution systems/pipes for use in fire protection.

In addition to the municipal systems- there are another 121 systems in the Region that meet the state's definition of a public water supply system serving facilities like campgrounds, recreation areas, mobile home parks, commercial areas, general stores and private schools.. While almost every town in the Region has at least one of these systems, the highest numbers of them are found in the towns with ski-resort related development and in the Town of Berlin, which contains a large commercial and industrial center and has attracted considerable development during the past 40 years. Outside of the service territories of public and private systems, water is generally obtained from on-site wells or springs.

### **Drinking Water Source Protection**

Each public water system has an accompanying source protection area. The Vermont Water Supply Rule defines a Source Protection Area as: *... a surface and sub-surface area from or through which contaminants are reasonably likely to reach a Public water system source.*

All public community and non-transient, non-community water systems must have

approved Source Protection Plans. These Plans address the actions the public water system will perform to minimize the contaminant risks to their drinking water supply source. Threats to groundwater and wells in the region include agricultural runoff, nearby salt storage areas, road salting, underground or above-ground storage tanks, contaminated runoff from paved areas, flood events, and failing septic systems. Specifically identified threats in local operating permits for municipally-owned systems primarily include roadways and impervious surfaces within 200 feet of the water source. Two communities respectively identify a nearby sewage treatment line and an adjacent excavating operation as potential threats to drinking water sources.

Within these source protection areas, the VT Dept. of Environmental Conservation reviews Act 250 and wastewater facility applications. VT DEC also requires that towns develop a plan for protecting source areas. Towns are not required to regulate land uses within source protection areas, but some communities in the Region choose to do so.

## FACILITIES & SERVICES

### **Solid Waste**

The proper management and disposal of solid waste is an important challenge facing the region today. Everyone in Central Vermont generates waste, often without ~~its~~ thinking about its ultimate destination or impact. In 2012, the Vermont Legislature passed the Universal Recycling Law (also known as Act 148), which made significant changes to solid waste management throughout the State. The Universal Recycling Law was prompted by Vermont's stagnant diversion rate.

In 1987, Vermont's first robust Solid Waste Law (Act 78) encouraged communities to create a new hierarchy of goals for solid waste management: source and waste reduction, followed by re-use, recycling, and lastly, disposal. This law succeeded in increasing the waste diversion rate in Vermont to between 30-36%, but by the mid-2000s, that rate had stagnated. This prompted Vermont to pass the Universal Re-



cycling Law.

The Universal Recycling Law has several key components.

- Banning the disposal of certain solid waste
- Requiring parallel collection at facilities and curbside pickup
- Allowing ANR to monitor rate structures to ensure transparency
- Creating a food recovery hierarchy
- Phasing in food scrap diversion
- Incentivizing variable rate pricing ("Pay as You Throw") for municipalities
- Requiring recycling containers wherever there are trash cans in public buildings and on public land

This law will change a great deal about the treatment of solid waste in Vermont, and the Region is no exception.

### **Solid Waste Districts**

Three Solid Waste Districts and one Alliance operate within our Region. The Central Vermont Solid Waste Management District (CVSWMD) is our primary waste entity. CVSWD serves Barre City, Barre Town, Berlin, Calais, East Montpelier, Middlesex, Montpelier, Orange, Plainfield, Washington, Williamstown, and Woodbury. Marshfield and Cabot are served by the Northeast Kingdom Waste Management District. The Town of Worcester is the sole town in our Region participating in the Lamoille Solid Waste Management District. Finally, the Mad River Resource Management Alliance (MRRMA), was formed in 1994 and operates with assistance from CVRPC. MRRMA is responsible for the solid waste planning for Duxbury, Fayston, Moretown, Roxbury, Waitsfield, Warren, and Waterbury.

In 2006, CVSWMD adopted a policy/goal of working to achieve "zero waste" in the Region. CVSWMD believed that "by setting an extreme target for waste reduction, new levels of innovation and efficiency (will be) unleashed." That goal is now supported by the Universal Recycling Law. The economic and social benefits of a zero waste goal are indisputable. The District argues that a zero waste goal can help create new businesses and jobs through waste-based economic development,

strengthen existing businesses, and protect public health and the environment. It is estimated that landfilling/incineration creates one (1) job per 10,000 lbs of material, while composting creates four (4), sorting and processing of recyclables creates 10, remanufacturing 25, and reuse business between 28 and 296)

## **Landfills**

In Central Vermont, residents currently generate about 40,000 tons of waste per year, Only about one third of this gets diverted from the waste stream through recycling, reuse, or composting. The rest must be disposed of through land filling (or incineration).

In their 2007 Solid Waste Implementation Plan, the Central Vermont Solid Waste Management District, estimates that between two and three million dollars is spent annually on the disposal of approximately 40,000 tons of trash.

Of this, most goes to a landfill in Coventry, In the past, solid waste has been disposed of at landfills in Moretown, Williamstown and Washington, but these facilities have been closed.

## **Recycling and Transfer Facilities**

Recycling of appropriate components of the waste stream is one method available to reduce the burdens on disposal facilities. Available data indicate that source separation of recyclables produces a more acceptable market product. In addition, source separation keeps the management of solid waste closer to the point of generation, thus encouraging consumers to participate more fully in the management of their solid waste.

Recycling of clear glass, tin and aluminum cans, newspaper, and #2 plastic jugs was made mandatory for households, businesses, schools and municipalities in the CVSWMD in 1995. The Universal Recycling Law added new items to the list of mandatory recyclables, with the law being implemented in phases. After July 1, 2015, all of the above products, as well as all clean paper and cardboard, are prohibited from landfills. Leaf and yard debris and clean wood waste are prohibited af-

ter July 1, 2016, and haulers must provide services for those materials.

Food scraps are banned from landfills as well, with the ban being implemented between 2014 (for the largest food scrap generators) and 2020. This ban is discussed further in the "Composting" section.

Private waste haulers offer curbside collection of trash to approximately 90% of the households in the region. These materials are brought to private processing facilities. There are several public and private facilities for public recycling drop-off depots. These centers run the gamut between once a week drop off sites to full time transfer stations.

All transfer facilities perform the same two functions: desired materials are separated from a mixed waste stream, and are processed for further management. Such facilities are generally more cost-effective if operated on the regional rather than local level. Recycling is currently collected at the same transfer facilities throughout the Region that process trash. The recyclables are generally sorted at the Material Recovery Facility (MRF) in Chittenden County. CVSWMD is exploring a public drop-off facility for leaf and yard waste, clean wood materials, asphalt shingles and dry-wall, household hazardous waste, and other materials.

There is a need for facilities for less common recyclables. The MRRMA operates a textiles recycling program at the Moretown Town Office. This program diverts clean clothing, linens, plush toys and shoes from landfills. The CVSWMD operates an Additional Recyclables Collection Center (ARCC) in Barre, which collects "hard to recycle" objects such as prescription bottles, batteries, product packaging, textiles/clothing, electronics, books, sports equipment, and energy bar wrappers.

In our technology-based society, electronic waste is also a growing problem as various devices wear out and must be disposed of. E-waste is illegal in landfills, and the state requires that all electronics manufacturers who sell electronics in Vermont must help pay for their disposal. This makes e-waste disposal free for Vermont residents, as well as small businesses, schools and charities. Several facilities and businesses collect e-waste throughout the Region. Many towns also collect cell phones and rechargeable batteries at government buildings.

## **Composting**

It is estimated that about 40% of the waste we generate is food and yard waste. Currently most of this is landfilled. The State of Vermont Waste Composition Study (2013) found that 28% of residential Municipal Solid Waste (MSW) disposed (after recycling and composting) and about 18% of industrial, commercial, and institutional (ICI) materials disposed were organic material.

Composting is a natural process of decomposition of organic materials. It is the biological process that allows leaves and grass clippings to degrade. Composting of the organic component of the solid waste stream could produce an end product that both saves landfill space and provides a useful soil amendment. Source separated organics can be managed locally to produce a compost that benefits local gardeners, farmers and plant nurseries.

The Universal Recycling Law made composting mandatory for all residents and businesses in Central Vermont. The law is implemented on the following timeline:

- July 1, 2014: Generators who produce 2 tons or more per week must divert their food scraps if there is a certified facility within 20 miles.
- July 1, 2015: Generators who produce 1 tons or more per week must divert their food scraps if there is a certified facility within 20 miles.
- July 1, 2016: Generators who produce 1/2 tons or more per week must divert their food scraps if there is a certified facility within 20 miles.
- July 1, 2017: Generators who produce 1/3 tons or more per week must divert their food scraps if there is a certified facility within 20 miles.
- July 1, 2017: Haulers must offer services for food scraps for all customers.
- By 2020, all food scraps must be diverted from all businesses and households, regardless of generation rate or distance to a certified facility. Haulers must also accept food scraps from customers.

Vermont Compost Company has facilities in Montpelier and East Montpelier for large-scale source-separated composting. The company receives organic materials and processes them in large quantities to make compost and potting soil, which is then sold in eight states and online. The CVSWMD anticipates the need for a new composting facility in the Region in the coming years. This facility will be needed to process the increased organic waste stream that will be created by the elimination of yard waste from landfills.

The CVSWMD is quite active in promoting composting. In addition to producing and distributing the booklet "The Dirt on Composting", the District operates a "Business Organics" and a "School Composting" program. The Business Organics Program works with restaurants and other commercial food waste generators to divert food waste from landfills to composting (as of FY14, over 1,396 tons). The CVSWMD School Composting Program works with school cafeterias and provides other resources for schools, including guidelines for setting up a "Green Team" or environmental clubs to coordinate waste reduction actions such as composting (done on-site or with local farmers or commercial composters), holding clothing or book swaps, conducting waste audits, or taking leadership roles to address environmental issues. The District also promotes household and school level composting of organic waste by providing plans for building compost bins selling pre-made compost bins and "Green Cones." Green Cones are in-ground digesters that facilitate the fast decomposition of animal byproducts such as meat and bones.

The MRRMA also encourages composting by selling compost bins and kitchen collectors for food scraps. Food scraps from the MRRMA's coverage area are collected by Grow Compost, located in Moretown. In 2014, 126.5 tons of food scraps were composted at that facility. The Highfields Center for Composting provides composting services for the Northeast Kingdom Waste Management District and the Lamoille Regional Solid Waste Management District. The Center runs a pilot project called "Close the Loop!" in both Districts. This project offers composting education and food scrap pickup to residents in both Districts.

## **Re-use**

In current society we tend to throw away unwanted or unneeded objects. Many such objects are suitable for other uses or desired by other individuals for their original use. By matching would-be discarded products with those in need of them, we may conserve resources and save valuable landfill space and product production resources. The Re-Store in Barre provides an outlet for used office supplies, furniture, household goods and knick-knacks for art projects. The Region also has a variety of used clothing stores and a Salvation Army, which resell clothing and furniture. CVSWMD also helps facilitate several events throughout the year, such as "Drop-n-Swaps," coat drives, ski and skate sales,

assistive technology exchanges and “Wheels for Warmth,” a program that sells donated snow tires for a low cost and donates the money to Capstone Community Action.

### **Business and Household Hazardous Waste Collection Facilities**

Although most solid waste is relatively benign, a percentage is hazardous in nature. In fact about 1% of the landfilled material (or about 400 tons in Central Vermont) falls into this category. The disposal of even small quantities of certain types of solid waste, including unregulated hazardous wastes may pose a risk to both human health and the environment.

Unregulated hazardous waste is comprised of two categories; household hazardous waste (HHW) and conditionally exempt generator (CEG) hazardous waste. Even though household hazardous waste exhibits characteristics of hazardous waste, they are exempted from State hazardous waste regulations and, for management purposes, are considered a solid waste. CEG hazardous waste is exempt from most regulations, provided that less than 220 pounds of hazardous waste (or 2.2 pounds of acutely hazardous waste) are generated per month.

The Region's growing population is projected to generate quantities of household and business hazardous waste that will need proper management and disposal. With the likelihood of fewer landfills and solid waste processing and disposal facilities, it is important that both present and future generations be provided with the following: information on reducing the use of hazardous chemicals whenever possible; opportunities for diverting hazardous waste from the municipal waste stream through hazardous waste collection programs; and programs for hazardous waste screening at landfills and other solid waste facilities.

The Central Vermont Solid Waste District, the Mad River Resource Management Alliance, the Northeast Kingdom Waste Management District and the Lamoille Regional Solid Waste Management District put on a variety of special one-day events for household hazardous waste collection. Household hazardous waste includes things such as batteries and fluorescent bulbs. CVSWMD also accepts liquid latex and oil paints at the Additional Recyclables Collection Center, which is open year-round.

## **Product Stewardship/Extended Producer Responsibility (EPR)**

Product Stewardship, also known as Extended Producer Responsibility (EPR), is a system in which producers are responsible for their products when they are no longer in use. The system attempts to encourage producers to create product disposal methods that are more environmentally friendly and easier to dispose. Common industries that use EPR are tires and paints.

In Vermont, there are five EPR programs: paint, electronics, batteries, fluorescent lamps and thermostats, and auto switches. There are several businesses that offer options for recycling paint in Central Vermont. A Montpelier paint store, True Colors, offers opportunities for latex paint recycling by reprocessing and reselling latex paint. Additionally, PaintCare, a national non-profit organization that runs paint stewardship programs, has many locations for drop-off in Central Vermont, including the CVSWMD ARCC. PaintCare collects paint and then remixes and resells the paint.

At this time, there is no EPR program for tires. There is one facility for recycling tires in the Region: Budzyn Tire in Barre, and "Wheels for Warmth" is a tire re-use program. However, CVSWMD indicates that there is a significant need for more tire stewardship programs. Wal-Mart and Shaw's grocery stores both independently recycle the packaging from their products. Additionally, they offer plastic bag recycling collection in their stores. Compact fluorescent bulbs (CFLs) are recyclable at many hardware stores throughout the Region. CFLs are also accepted at the ARCC and at HHW events held around the Region.

## **Communications**

Our era is often referred to as "the age of communication." Innovations in the way we process and transmit information have made the world a smaller place. Communication networks are rapidly linking the Region's residents, businesses, and governments with the rest of the world. While Central Vermont's existing communication facilities seem adequate to meet current needs, the maintenance and continued development of communications systems can help keep Central Vermont informed

and competitive. Many businesses and individuals seek out areas where high speed internet connections and cellular service are available to locate their businesses and buy a house. Ultimately though, such systems may make our current working and living patterns obsolete, as they change the elements of our lifestyle, such as the distinctions between home, the work place, and the marketplace.

## **Radio**

Central Vermont is home to seven radio stations. WNCS and WSKI broadcast out of Montpelier; Waterbury is home to WDEV and WGLY; WDEV-FM in Warren, Goddard College's WGDR, and WSNO - WORK in Barre round out the field. The Region is also served by Vermont Public radio and several commercial stations broadcasting from locations outside Central Vermont, as well as HAM operators.

## **Newspaper**

The Barre-Montpelier Times Argus, and the Burlington Free Press are the primary daily newspapers serving the Region and its residents. These publications cover international, national, regional and local news. Weekly papers, covering local and/or sub regional events include; The Valley Reporter (Waitsfield, Warren, Moretown, Fayston and Duxbury), The Hardwick Gazette (Woodbury, Cabot, Calais and Marshfield), the Northfield News (Northfield and vicinity), and the Washington World (all of Central Vermont). In addition, several community papers exist in the region.

## **Television**

Most residents of Central Vermont are within receiving distance of signals from affiliates of the major commercial networks (ABC and CBS stations broadcast from Burlington and Plattsburgh, New York is home to an NBC affiliate). In addition, Vermont ETV, a public station, broadcasts from Colchester. Cable television is now available to over three-quarters of the Region's population<sup>2</sup>. Under Public Service Board rules, cable television companies offer local access for community programs.

Vermont Interactive Television operates out of Vermont Technical College in



Randolph, feeding additional sites across the State, including Montpelier and Waterbury. This system allows people in distant locations to have visual and audio contact with each other for conferences, meetings and classes. This technology not only facilitates communication, but saves energy and reduces fossil fuel consumption as it obviates the need for long distance travel.

### **Voice Communication**

Most of Central Vermont is served by FairPoint Telephone Company or a subsidiary of Fairpoint, the Telephone Operating Company of Vermont LLC. The Mad River Valley, where Waitsfield Telecom operates, and Northfield & Roxbury served by TDS Telecom, are outside of Fairpoint's service territory.

Vermont's telecommunications market has grown more competitive in the last ten years with the entrance of competitive local exchange carriers (CLECs), explosive growth of mobile wireless telephone service, and telephone service being offered from cable providers. In urban and suburban areas such as Chittenden County, this influx of competition has resulted in greater choice of services for businesses and residents.

Competition, however, is less abundant in rural areas. Incumbent local exchange carriers (ILECs) are very often the only wireline provider in the state's costliest to serve areas and act as the carrier of last resort. These two trends put great financial stress on ILECs, as they try to maintain an aging network for a dwindling number of customers.

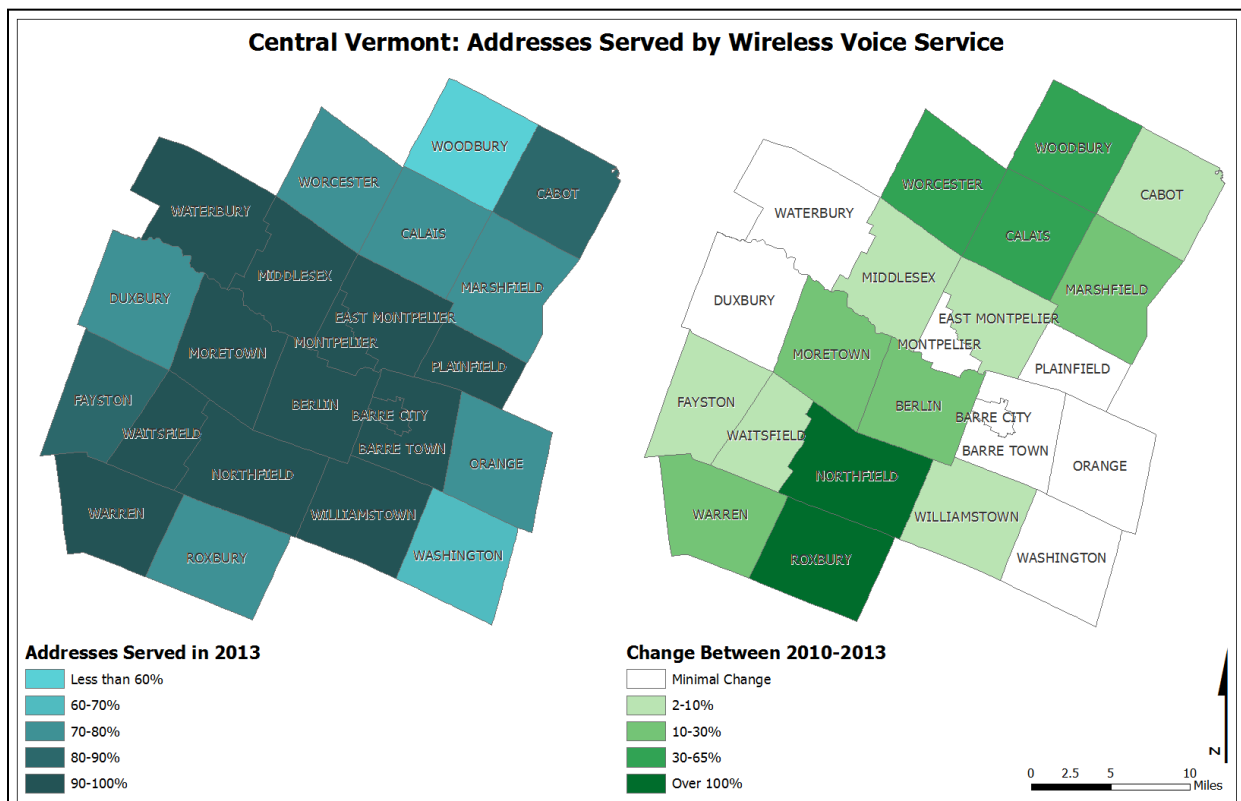
Technological changes are also affecting the voice market. Voice over Internet protocol (VoIP) is poised to replace circuit switched technology with a voice system that rides over data networks. In some rural communities, this may mean abandoning traditional wireline service altogether in favor of a wireless solution. Voice over Internet protocol (VoIP) has allowed a greater number of competitors to enter the market for voice service, such as cable and Internet content companies. More importantly VoIP has challenged the distinction between "telecommunications service" (previously referred to as a "basic service") and an "information service" (or "enhanced service").

Mobile wireless voice service is becoming more available. Vermonters' use and reliance on mobile voice technology has increased since the publication of the last telecommunications plan. Twenty nine percent of Vermont households are wireless-only households.

As of 2013, thirteen of Central Vermont's twenty-three communities have between 90-100% of addresses served by a wireless voice provider according to voice tests that were conducted throughout the state (displayed in Figure 1). Mobile data for smartphones or mobile hotspots is also typically available from these carriers in the same service areas that voice is available.

The Towns of Woodbury and Washington remain the least-served with less than 60% of Woodbury's addresses receiving coverage and between 60-70% of Washington's addresses. In recent years coverage has more than doubled in the Towns of Northfield and Roxbury and also increased significant in the Towns of Worcester, Calais and Woodbury.

Figure 1: Addresses Served by Wireless Voice Service (BroadbandVT.org)



## Wireless Telecommunication Facilities

Wireless communication through broad band technologies has become a part of everyday life and a service relied upon by business, emergency services, and the public. Clearly, the ability to communicate to almost anyone, from almost anywhere, at almost anytime brings added convenience and security to our lives.

Throughout Central Vermont, we are seeing continuing applications for the installation of wireless telecommunication facilities. This is partly because the demand for wireless services is growing and partly because of changes in technology.

While Central Vermonters want and expect good cellular service, they also expect the placement and design of new facilities to be guided by a respect for the integrity of the Region's landscape and compliance with microwave emissions standards. As such, it is im-

*The 2014 Vermont Telecommunications Plan highlights the fact that technology is evolving very fast and that changes over the last 10 years have blurred the line between what is an essential service and what is not. For example, the 2004 Telecommunications Plan survey indicated that an overwhelming majority of Vermont households (77%) had not even considered the idea of giving up their traditional landline service in favor of wireless service. Today, 29.9% of Vermont adults live in wireless-only households, and that number continues to increase as service expands and becomes more reliable.*

portant to balance aesthetics, signal quality, health, business and personal needs when deciding whether and where to build new towers and other facilities.

The Federal Telecommunications Act of 1996 does not allow local governments to prohibit the construction of wireless facilities on a town-wide (or city-wide) basis, or to make regulatory barriers so onerous as to effectively block service. However, municipalities did retain the right to place reasonable requirements and restrictions upon such facilities in order to protect community character and the environment, and encourage the efficient use of resources. In 2007, the Vermont Legislature created 30 V.S.A. § 248a. Section 248a provided telecommunications carriers seeking to construct telecommunications facilities the option of obtaining a CPG as an alternative to local zoning and Act 250 environmental review. Applicants using the Section 248a process are not obligated to adhere to zoning ordinances of the host town.

During the 2014 legislative session, the General Assembly crafted new provisions relating to town participation in 248a proceedings. Criteria is applied in the review of projects requiring the Public Service Board to give *substantial deference* to the land conservation measures in the plans of affected municipalities and the recommendations of the municipal legislative bodies and the municipal and regional planning commission regarding the municipal and regional plans, respectively, unless there is *good cause* to find otherwise.

Communities planning for the appropriate siting of wireless facilities have to ask themselves many questions as they proceed. Would they rather have several small scale, less visible, facilities closer to the population or a few large, highly visible sites in less populated spots? Are there certain locations that are so environmentally or visually sensitive that they should be "off-limits"? What areas are providers most interested in serving? Through careful planning and clear language in the duly adopted municipal plan, cities and towns can ensure good service without compromising their character or the welfare of their residents.

### **Broadband and Internet Services**

Internet services have become an integral part of everyday life relied upon by business, emergency services, and the public. Clearly, the ability to communicate to almost anyone, from almost anywhere, at almost any time brings added convenience and security to our lives. Broadband is an oft-referenced essential telecommunication technology that refers to high speed internet access. Central Vermont has several internet providers, and high speed connections are now available to most residents in highly populated areas. Although service has improved beyond dial-up for many Central Vermont residents and businesses, the nature of "adequate" service is an evolving concept that will continue to present challenges for the region. As the broadband networks supporting the global and national economies are improved to meet demands for greater speed, residents and businesses in Central Vermont will need service that is adequate for them to participate. Broadband was originally defined as data communications at speeds faster than a dial-up connection, which is typically 56kbps or less.

Although the majority of the Central Vermont Region is served by Broadband in

Regional Broadband Plan. In 2011 CVRPC established a regional technology and innovation team with representation from a variety of sectors including business, education, libraries, government, media, health care and human services. Input from this teams shaped the goals, strategies and actions found in the region-wide commonalities and sector analysis sections of a completed Regional Broadband Plan. Five themes that were present included: the availability and affordability of broadband, the role of broadband in local government, telecommuting, digital literacy, and economic impact of broadband. For more detailed information, refer to the 2012 Regional Broadband Plan.

some capacity, primarily through cable and DSL (digital subscriber line via a telephone provider), the maps of cable, DSL, and fixed wireless service (WISP) provided online by BroadbandVT.org show Roxbury, Washington, and Woodbury as the most underserved towns in our region. This is a concern for residents of those locales and an impediment to economic development and energy saving activities such as telecommuting. With large portions of the towns without access to Broadband service or with access at less than 25% of residences, these areas should be targeted for increased connectivity and access. Residents of rural areas generally have less competitive choice, but new options are coming online. Those in remote parts of the Region will be best served with fixed and mobile wireless services.

Fortunately, the State has recognized the importance of this issue and continues to take steps to identify gaps and develop solutions. The Vermont Telecommunications Authority (VTA) is supported by Legislative appropriations and has been involved on an ongoing basis in three types of projects: broadband expansion, cellular service infrastructure and fiber optic infrastructure. Several commercial service providers are also investing significantly in their own broadband and/or cell service expansion projects. BroadbandVT.org, is an active cooperative effort that has developed a variety of maps that show elements of broadband and cellular coverage. BroadbandVT.org partners include the Vermont Center for Geographic Information (VCGI), VTA, Vermont Department of Public Service (DPS), and the Center for Rural Studies of the University of Vermont.

### **Landline High Speed Internet Access Expansion (DSL)**

All incumbent local exchange carriers (phone companies) offer high speed Internet access. FairPoint, Vermont's largest incumbent carrier, offers DSL service to an estimated 92% of the service locations in its territory. The other independent phone companies offer DSL within their entire service territories. Most offer service at

speeds of 4/1 or higher. Notable is the widespread DSL availability in the Mad River Valley provided by Waitsfield Telecom.

### **Cable Internet Access**

All cable providers in Vermont offer broadband service. All cable providers offer speeds of at least 4/1 Mbps and in most cases much faster speeds. Prices for broadband service are generally competitive with DSL, but cable offers higher speeds. In Central Vermont cable is available primarily in or in the vicinity to the Region's downtowns and larger villages.

### **Wireless Internet Service Providers (WISPs, or Fixed wireless)**

Vermont consumers are served by several Wireless Internet Service Providers. These companies offer fixed wireless broadband service to residents within range of their facilities. Recent expansions include the development of the Cloud Alliance broadband network which, in partnership with the VTA and Central Vermont Economic Development Corporation, provided for new service to homes and businesses in Woodbury and Cabot and improved the speed of broadband service in Plainfield, Marshfield, East Montpelier and Calais. Vermont Telephone Company (VTel) also began a project in 2011 to bring wireless broadband service to Vermont using federal Rural Utilities Service (RUS) broadband stimulus grant. Wireless open world's (WOW) 4G/LTE network will reach Vermont's presently underserved and unserved areas.

### **Mobile Wireless Data Service**

Vermonters are served by all of the major wireless network providers, but AT&T Mobility and Verizon Wireless have the deepest facilities-based penetration in Vermont. VTel recently launched a wireless service, which is anticipated to be operational statewide. Vermonters may also choose service from a variety of pre-paid service providers and resellers of national service. As discussed more fully in the Voice portion of this chapter, mobile carriers are continuously expanding coverage and up-

grading facilities to bring 4G/LTE service to existing coverage areas.

Vermont needs its wireline networks at this time. For rural residents and small businesses, wireline service is a necessity. Residents in rural areas may not have adequate cell coverage. DSL is also the best available broadband option in Vermont's most rural areas. Concerns over E-911 and the reliability of wireless service in a power outage are valid and should be carefully considered before the state accepts wireless services as a substitute for wireline services.

### **Fiber Optic**

The VTA has developed fiber optic infrastructure to support broadband service and provide backhaul for cell sites wireline transmission from the cell site to the carrier's network. Its largest project to date is the funding of the Vermont Fiber Connect project, an initiative of the federal Broadband Technology Opportunities Program (BTOP) stimulus. The project connects over 340 community anchor institutions in the project area, encompassing seven of Vermont's fourteen counties. Vermont Fiber Connect serves Montpelier, Barre City and immediate surrounding areas in the Region. Fiber optic technology is also advancing rapidly. While older fiber in the State is becoming outdated and getting costly to maintain and run, it is still much better than any improvements in copper and wireless technology currently in place.

### **Emergency/Health Services**

The availability of emergency services and health care facilities helps to ensure the personal safety and physical well being of Central Vermonters. As the Region grows, changes, and ages, new and increasing pressures will be brought to bear on service providers and existing facilities. While the cost of providing such services soars, public funding supplies are not keeping pace. Obviously then, it will take innovative thinking and action to address the Region's long term emergency and health care needs.

The Enhanced 911 Board operates nine 911 call answering points, known as public safety answer points or PSAP's. One of the nine PSAP's is located at the Montpelier

Police Department. During 2001, 5,251 calls were answered for Central Vermont communities by the PSAP's. This represented 3% of the total calls made statewide. In 2002, the number of calls from Central Vermont increased to 9,557, or 6% of all statewide calls. It should be noted, however, that statewide calls were down by 8% in 2002<sup>4</sup>.

### **Fire Protection**

Central Vermont is protected by over 20 local fire departments. Most of these are based in village or urban areas and staffed by volunteer crews. In some instances, the demands on local fire departments are beginning to outstrip their capabilities. Sprawling development patterns make response more difficult and time consuming. In addition, many departments are faced with a shortage of trained volunteers and less than state-of-the-art equipment.

All of the Region's fire companies are members of mutual aid systems. These associations provide for back-up assistance from neighboring member companies, when needed.

### **Police Protection**

Although not immune to crime, Central Vermont has historically enjoyed low crime rates. The Region's crime rate of the 1990's has declined sharply in the more serious crimes (Part I crimes such as homicide, aggravated assault, etc) and less significantly in lesser crimes (Part II crimes such as forgery, vandalism, simple assault, etc.) since the high in 1993. The Part I crime rate dropped by 23% from a region-wide rate per 1,000 population of 33.42 in 1990 to 26.01 in 2001 while the statewide rate decreased by 35% from 45.64 to 29.90. The Part II crime rate for the Region increased from 70.46 in 1990 to a high of 85.60 in 1993. However, the 2001 rate dropped to 78.10, a decline of 9% from 1993. The statewide rate in 1990 was 83.33 and in 2001 was 82.57, a slight decrease from 1990, but a decrease of 10% from its peak of 91.03 in 1997. Our ability to maintain lower crime rates will depend on maintaining adequate police services at the local and regional level<sup>4</sup>.

#### [4 2008 Data](#)



Barre City, Barre Town, Berlin, Montpelier, Northfield and Waterbury maintain municipal police squads. The Washington and Orange County Sheriff's Departments, located in Montpelier and Chelsea respectively, provide contractual law enforcement services to some of Central Vermont's smaller communities. The Vermont State Police (with headquarters in Waterbury and barracks in Middlesex) provides primary police service to those towns without municipal squads or contracts with County departments, and backup assistance to all others. In addition, the State Police patrols Interstate 89.

Table 4: Emergency Resources by Municipality in Central Vermont (Town Plan Data<sup>5</sup>)

Town	Police Force	Fire Protection	EMT
Barre City	Full Time	Full Time	Full Time
Barre Town	Full Time	Hourly	Full Time
Berlin	Full Time	Mutual Aid with Volunteers	Contracted from Barre
Cabot	State and Sheriff Contract	Volunteer	Volunteer
Calais	State and Sheriff Contract	Volunteer	Volunteer
Duxbury	State and Sheriff Contract	Mutual Aid	Mutual Aid
East Montpelier	State and Sheriff Contract	Full Time with Volunteers	Full Time
Fayston	State and Sheriff Contract	Mutual Aid with Volunteers	Mutual Aid, Volunteer
Marshfield	State and Sheriff Contract	Mutual Aid with Volunteers	Mutual Aid, Volunteer
Middlesex	State Contract	Mutual Aid	Contracted from Montpelier and Waterbury
Montpelier	Full Time	Full Time with Volunteers	Full Time
Moretown	State and Sheriff Contract	Mutual Aid with Volunteers	Purchased from Montpelier
Northfield	Full Time	Volunteer	Partially Volunteer
Orange	State Contract	Mutual Aid	Mutual Aid
Plainfield	State Contract	Volunteer	Volunteer
Roxbury	State Contract	Mutual Aid, Volunteer	Volunteer
Waitsfield	State and Sheriff Contract	Mutual Aid, Volunteer	Volunteer
Warren	State Contract	Volunteer	Volunteer
Washington	Sheriff Contract	Volunteer	Contracted from Barre
Waterbury	Full Time	Volunteer	Volunteer
Williamstown	State and Sheriff Contract	Volunteer	Full Time
Woodbury	State and Sheriff Contract	Volunteer	Mutual Aid
Worcester	State Contract	Mutual Aid with Volunteers	Volunteer
Data from town plans <sup>5</sup>			

## 5 2008 Data

Police departments responding to CVRPC's survey cited increasing crime and lack of manpower as the greatest problem for the foreseeable future.

### **Ambulance/Emergency Medical Services**

Some 17 ambulance and emergency medical squads operate in and around Central Vermont, providing first aid and medical transport to injured persons. Most of these operate with volunteer crews and are funded at least in part by donations and user/member fees. Lack of volunteers and members are cited by several squads as major concerns for the future.

### **Medical Facilities**

The Central Vermont Medical Center (CVMC), located at Berlin Corners, is the Region's most significant medical complex. With 122 beds and a service area which includes all of Washington County and portions of neighboring counties, CVMC is truly a regional facility. A wide range of medical specialties and procedures including; emergency care, x-rays, rehabilitation, pre-natal and maternity care, pediatrics, physical therapy, mental health care, and cardiology, are available at CVMC. Some unusual and complex problems, however, may require more sophisticated treatment and/or equipment at tertiary care hospitals.

The Vermont State Complex in Waterbury, while now largely converted to state offices, still provides mental health care for some patients<sup>6</sup>. In addition, the Washington and Orange County Mental Health Agencies provide mental health counseling, adult day programs, and substances abuse services to those in need.

The Region's elderly population is expected to grow for at least the next several decades. Accordingly, elder care facilities and services will become increasingly important. Central Vermont hosts five nursing homes boasting more than 500 beds in total. In addition, there are several facilities which provide at home nursing and health care options.

Finally, Central Vermont is home to several health care clinics including Planned

Parenthood of Northern New England (Barre and Waterbury), private facilities, and complexes of physicians.

Health care costs continue to rise at a rate faster than the rate of inflation. Consequently, access to adequate health care services has become an impossibility to many. It is the position of CVRPC that health care should be everyone's right.

## **Emergency Planning**

Emergency planning is an important aspect of planning that is critical to every municipality in Central Vermont and the Region as a whole. The goal of emergency planning is to work toward the development of disaster-resistant communities; through land use planning that reduces the impacts of disasters on persons and property. Municipalities can utilize tools, such as town plans and zoning regulations, to implement sound land use practices that consider the consequences of disasters, whether they be naturally occurring or man-made. In order for a municipality or the Region to understand the types and extent of potential disasters, an assessment of all known risks from potential natural and man-made disasters needs to be completed. These identified risks can then be used to develop land use practices that will protect a community from disaster, based on mitigation, preparedness, response, and recovery.

Naturally occurring disasters, which are the most common form of disaster in Central Vermont, are those events that result from environmental conditions. These disasters vary in frequency and magnitude, but always pose a threat to the Region. In Central Vermont, the most common types of natural disasters include: floods, winter storms, hurricanes, landslides, wildfires, earthquakes, and even tornadoes. Although some of these disasters may seem unlikely in Central Vermont, it is critical to plan for them, so that the impacts from their occurrence can be mitigated if they do indeed hit the Region. However, those disaster events that occur more frequently in Central Vermont, mainly floods and storms, should be given priority in the planning process.

Between 1996 and 2006, the National Climatic Data Center reported 267 major storm events in the Central Vermont Region, all of which resulted in the loss of life or property. In total, these storm events cost Central Vermont \$21.083 million in

property damage and resulted in 5 deaths. Based on this data, it is evident that Central Vermont is vulnerable to major storms and the damage resulting from them.

Man-made disasters are those events that are caused by humans, usually involving accidents with hazardous materials. Man-made disasters can occur either on-site, such as factory malfunction, or in transit, such as an accident involving a truck carrying hazardous materials. Although these types of events occur less frequently in Central Vermont than natural disasters, they can be extremely dangerous and a threat to public health. Title III of the Superfund Amendment Reauthorization Act (SARA), Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. 11001 et seq. (1986) gives a municipality the legal right to know what chemicals are being used, stored, made, or transported through the community. During a community's risk assessment, this information regarding the presence of chemicals can be gathered from businesses.

Mitigation is any action that reduces or eliminates long-term risk to people and property from disasters and their impacts. It involves an ongoing effort at the individual, local, State, and Federal level and is aimed at reducing the impact of disasters on families, homes, communities, and economies. Mitigation includes compliance with the National Flood Insurance Program (NFIP). Municipalities must be in compliance with this program in order for property owners to receive flood insurance to offset some of the costs of major flood events. All 23 municipalities in Central Vermont are in compliance, however, FEMA is currently updating Flood Hazard Maps and regulatory standards – actions that will require amending local bylaws in many cases, if eligibility is to be maintained. CVRPC has been assisting out communities in responding to these new mandates.

Municipalities in Central Vermont have a variety of tools and programs to assist them with mitigation activities. The Federal Emergency Management Agency (FEMA), through Vermont Emergency Management (VEM), administers the Hazard Mitigation Grant Program (HMGP).

This program allocates funding to municipalities, following a Presidential-declared disaster, to implement mitigation projects. In addition, the Vermont Local Roads Program, administered through St. Michael's College, assists municipalities in setting the proper standards for planning roads, culverts, bridges, and access to local

roads. Finally, the Central Vermont Regional Planning Commission is currently in the process of developing a Regional Pre-Disaster Mitigation Plan which will address vulnerabilities and relevant mitigation projects throughout Central Vermont. Depending on the availability of funds, local appendices covering specific concerns and projects for each municipality will be developed in consultation with local officials.

Preparedness is the process of inventorying and organizing the people and tools available for responding to an emergency event. A municipality's Rapid Response Plan (RRP) is the first step towards emergency preparedness. An RRP, which identifies key emergency personnel, contact numbers, locations, tasks, and an evacuation plan, is a guide for use in the early stages of disaster response. Although RRP's are not required, all municipalities in Central Vermont are strongly encouraged to have one in place and to update it annually. The Local Emergency Planning Committee (LEPC) is comprised of one emergency coordinator from each municipality. The LEPC is responsible for developing a disaster response plan for the Region, including training and exercises. Currently, not every municipality in Central Vermont has a representative on the LEPC; only Barre City, Barre Town, Middlesex, and Northfield do. However, all local leaders and emergency personnel are encouraged to participate in the Committee<sup>7</sup>.

Response is a time sensitive reaction to an emergency event designed to save lives, save property, and stabilize the situation. Response to an event includes warning, evacuating, rescuing, sheltering, informing, and providing medical care to the public.

Recovery is the effort to restore the infrastructure and the social and economic aspects of communities after a disaster occurs. In the case of severe events in which the President of the United States declares a disaster; Federal funds will become available to assist impacted communities with recovery efforts.

## **Emergency Management**

Emergency management in Central Vermont is handled at the local level. It is led by a municipality's emergency managers and emergency personnel who are either professional or volunteer-based depending on the community. Emergency management

[7 2008 Data](#)

deals with the emergency events that occur on a regular basis, such as fire, injury, accidents, and crime. It is very important to the social and economic stability of Central Vermont and should be a high priority in the Region. Due to limited emergency resources and the geographic extent of certain towns, emergency management is sometimes coordinated among municipalities. This is especially true with ambulance and rescue services in Central Vermont.

As a result of towns lacking sufficient resources to meet FEMA requirements to prepare for disasters, VEM looked to the regional planning commissions to contribute educational information, training, and emergency expertise. In 1999, VEM contracted with the regional planning commissions to administer the Local Emergency Management Program (LEMP). This required the regional planning commissions to work with local municipalities on emergency planning, mitigation, education, exercises, and response.

## CRIME AND SAFETY

Central Vermont is a relatively safe place to live where neighbors tend to look out for each other, and conflicts between members of the community are the exception rather than the rule. Vermont's crime rates are considerably below national averages and there wasn't a dramatic increase in those rates during the 1990's. It continues to be in the best interest of the Region and its residents to maintain and improve upon this enviable position.

At first glance, crime may not seem like an issue that bears much relation to land use planning. However, these issues do share many of the same peripheral concerns. Population growth tends to increase the opportunity for both interpersonal and land use conflicts. In addition, crime prevention experts and land use planners are both interested in many of the same "quality of life" issues, including: livable wage, the availability of meaningful jobs, access to education and training, access to transportation, community stability and vitality, recreational opportunities and even the aesthetic quality of the places where people live. It is widely accepted that vibrant, pleasant, well-planned communities can avoid many of the socio-economic conditions that lead to conflict. Conversely, low crime rates are essential to the creation and maintenance of these kinds of places. To the extent that this relation-

ship exists, it can be said that this Plan deals with the issue of crime prevention by default in the policies and programs espoused in its required elements. However, CVRPC believes the connection between land use planning and community conflict is important enough to merit direct attention.

Crime prevention is only one piece of the puzzle, however. The others may be found in the answer to the question "What happens after a crime has been committed?" The components of the answer involve the exploration of such concepts as justice, punishment, rehabilitation, restoration, and re-integration.

The traditional justice model is founded on the concept of retribution. The offender is generally punished for his or her offense by jail time, fines, or probation. The sentence is intended to be both the punishment and the rehabilitation with the prospect of returning to jail serving as the incentive to reform behavior. The offender has little or no contact with the victim of the crime and no requirements (or opportunity) to make amends directly. Some crime experts argue that this traditional justice model is responsible for over-crowded prisons, high recidivism rates, and an unsatisfactory outcome for crime victims.

Corrections agencies around the country, however, (including Vermont's Department of Corrections, DOC) are beginning to operate under a new paradigm that stresses "restorative" over "retributive" solutions for non-violent crimes. This new model (called the "Restorative Justice Program" and authorized in Vermont Statute Title 3 Section 163) is intended to make offenders answer directly to those they have wronged and begin to make amends to their victims and the community. Often this approach can maximize public resources by having offenders perform community services instead of serving costly prison sentences. In addition, it can reduce court loads and the associated expense to the taxpayers. However, there is the danger of the cost of delivering justice in this format being shifted from the State to the municipality.

Under the "restorative" model, justice for non-violent crimes may be prescribed by those closest to the offender and the victim through the establishment and operation of community reparative boards and/or restorative justice centers. Such an approach could work hand in hand with other local initiatives, such as neighborhood watch programs and "reintegration panels." While community-based justice would be in keeping with CVRPC's commitment to "bottom up" public processes, valid con-

cerns exist over impartiality, over-zealousness, and personal vendettas whenever small town dramas play out. Consequently, the community restorative justice model demands protection against abuse. In addition, financial incentives to municipalities are an integral part of the success of the community restorative justice model. The costs usually borne by the State should not be passed on to the municipalities.

Obviously, this model is not applicable to violent or serious crime. In such instances the need to protect the public from further harm requires that offenders be incarcerated even as it is becoming increasingly difficult to house the prison population.

## EDUCATIONAL FACILITIES AND SERVICES

A commitment to education is the hallmark of an enlightened society. A well-educated citizenry contributes to the societal, economic, and cultural well being of a place. Education expands the horizon of individuals, families, communities, and nations. It is the laboratory in which new ideas develop, ideas that may one day mold the future, or correct the mistakes of the past. Further, education should be a life-long process, not a luxury of youth.

While the link between education and regional planning is not particularly obvious, there are in fact connections. Planning decisions regarding the location and amount of future growth may influence the location and size of future schools or the stability of existing ones. Planning can help schools project future needs and assist municipalities in financing capital improvements. CVRPC hopes this Plan can be used to broaden access to educational and vocational training opportunities, so as to help ensure the full realization of the abilities of Central Vermonters.

Central Vermont is home to 17 public elementary/middle schools, eight middle and /or high schools, and two schools (Cabot and Twinfield) which host students K - 12. Many of these institutions are either approaching or over their capacities.

Higher education thrives in Central Vermont. Norwich University in Northfield, its affiliate, Vermont College in Montpelier, and Goddard College in Plainfield offer four-year degree programs, in a variety of disciplines. Associates Degree programs and about 100 different courses are offered through the Community College of Vermont (CCV). CCV maintains central administrative offices in Waterbury and conducts



Table 5: Public School Enrollment (Vermont Agency of Education)

School	2013-2014	10 Year Change
Union Elementary School	522	36%
Rumney School (Middlesex)	176	28%
Calais Elementary School	133	22%
Fayston Elementary School	120	20%
Washington Village School	96	17%
Warren Elementary School	184	16%
East Montpelier Elementary School	219	10%
Doty Memorial School	78	10%
Thatcher Brook Primary USD #45	444	3%
Williamstown Middle/High School	318	1%
Orange Center School	103	-1%
Barre City Elementary/Middle School	902	-2%
Woodbury Elementary School	55	-5%
Berlin Elementary School	213	-7%
Northfield Elementary School	297	-7%
Waitsfield Elementary School	155	-9%
U32 High School UHSD #32 (School)	781	-10%
Barre Town Elementary School	856	-14%
Harwood UHSD #19 (School)	544	-16%
Twinfield USD #33 (School)	406	-20%
Cabot School	182	-22%
Moretown Elementary School	117	-23%
Spaulding HSUD #41 (School)	734	-24%
Crossett Brook Middle USD #45	264	-24%
Roxbury Village School	41	-29%
Harwood Union Middle UHSD #19	135	-29%
Main Street School	192	-30%
Montpelier High School	285	-30%
Northfield Middle/High School	308	-38%
Williamstown Elementary School	23	-92%
Total	8883	-14%

classes in Montpelier. Woodbury College, in Montpelier, offers training in mediation, Para-legal skills, counseling and human relations. Montpelier's New England Culi-

nary Institute trains in the culinary arts and operates two restaurants where skills are honed.

Vocational training opportunities are available to Central Vermonter's primarily through the Barre Regional Vo-Tech Center which offers programs in: accounting/bookkeepers, typing/general office skills, general marketing, allied health, food service, vocational home economics, brick/stone masonry, automotive mechanics, and drafting. Some area high schools offer courses in vocational skills as well.

Despite declining enrollment, some public schools face major expansion, renovation, or construction costs due to State public facility standards, as well as other factors.

## **Child Care**

Overview: The availability of safe and affordable child care services is critical to the Central Vermont Region. Quality child care benefits families by preparing children for schooling and social interaction while enabling parents to work and provide income. It benefits businesses by expanding the workforce and creating more reliable, productive employees. Furthermore, child care facilities are businesses themselves and their existence expands local and regional economies directly through the hiring of workers and purchase of goods and services. Research has shown that investment in early child development programs brings a real (adjusted for inflation) public return of 12% and a real total return, public and private, of 16%.

Availability: Despite the economic and social good created by child care services, Vermont appears to have a shortage of such facilities. In fact, the Child Development Division of the Vermont Agency of Human Services estimates that the capacity in regulated facilities meets only 50-60% of the State-wide need. Consider the following statistics:

- 80% of Vermont workers with children under the age of six work outside the home.
- 87% of Vermont women with school age children work outside the home.
- There are 93,436 children ages birth through 12 in the State. An estimated 60,733 of those require child care.

- There are currently only about 36,000 children in regulated care.
- Only 35% of licensed centers serve infants and toddlers.
- On average, children under six receiving child care spend 8-9 hours per day with their care providers.
- Only 25% of the demand for infant care is being met.
- An estimated half of all Vermont businesses have employees with a child or children in child care.

In Central Vermont, there are 87 registered home care providers and 22 licensed care providers (see Table 6 for breakdown). However, there are only 7 “quality” providers (licensed with 4 or 5 STARS in the Vermont Step Ahead Recognition Sys-

Table 6: Regulated Child Care Providers in Central Vermont, Vermont Agency of Human Services

Town	Registered Home Care Providers	% Regional Total	Licensed Providers	% Regional Total
Barre City	20	22%	6	27%
Barre Town	18	21%	3	14%
Berlin	2	2%	1	5%
Cabot	1	1%	0	-
Calais	0	-	0	-
Duxbury	2	2%	0	-
East Montpelier	5	6%	2	5%
Fayston	0	-	1	5%
Marshfield	2	2%	0	-
Middlesex	1	1%	0	-
Montpelier	6	7%	3	14%
Moretown	1	1%	0	-
Northfield	5	6%	0	-
Orange	0	-	0	-
Plainfield	3	3%	0	-
Roxbury	1	1%	1	5%
Waitsfield	0	-	3	14%
Washington	0	-	0	-
Waterbury	9	10%	3	14%
Warren	1	1%	0	-
Williamstown	7	8%	0	-
Woodbury	2	2%	0	-
Worcester	1	1%	0	-
Total	87		27	

Source: Vermont Agency of Human Services.

tem and/or with national accreditation). Furthermore, if we assume that each center is licensed for 50 children (some are less and some are more) then there are 350 spaces for an estimated 21,000 working population. This suggests that we have a crisis that is affecting the social and economic well-being of Central Vermonsters.

**Affordability:** According to the Child Development Division of the Vermont Agency of Human Services, the average cost for center-based care for infants is \$140.92 a week and \$125.71 for pre-schoolers. This means a family with an infant and a pre-schooler in licensed care would pay \$266.63 a week, or \$13,865 a year, for child care. (These figures may be the average for all providers, but are low for quality ones. Costs range from \$8,000 to \$11,000 per year per child depending on age. State subsidies are available, but fall short of actual tuition.) This equates to 29% percent of the median household income for Central Vermont.

It is probable that the high cost of child care keeps some residents of the Region out of the workforce. Simply put, for some families the cost and inconvenience of putting children in daycare outweighs any potential income gain. Even moderate income families that do opt for a daycare solution, often pay a large portion of their total income for these services and consequently struggle to get ahead.

While the financial challenges of child care are certainly daunting, the State of Vermont DCF Subsidy Program, operated by the Agency of Human Services, does provide some financial assistance to low and moderate income families. The amount of the subsidy available is based on a formula (tied to the poverty rate) which takes into account both income and family size. Unfortunately, the formula has not been changed since 1999. Consequently, the percentage of families qualifying for subsidies has been decreasing. It would cost an estimated sustainable \$18 million to bring subsidies up to date. Therefore, many working poor families are caught in a downward spiral. Both parents need to work, can't afford child care and education which then affects their ability to survive.

**Resources:** While child care "slots" are scarce, resources for parents, providers and would-be providers are abundant. Among the many sources of information and assistance are:

- The Family Center of Washington County/Child Support Services – Offers referral services, operates care programs. [www.fcwvt.org/child](http://www.fcwvt.org/child) care. (802)-828-8771 (referral), (802) 828-8774 (subsidy).
- Bright Futures Child Care Information System – Web based resource providing comprehensive information on child care in Vermont, as well as municipal level data on regulated care providers. [www.brightfuturesinfo.org](http://www.brightfuturesinfo.org)

- Vermont Association of Child Care Resource and Referral Agencies – Works with parents, care providers, businesses and community organizations to provide quality child care services throughout the State. [www.vermontchildcare.org](http://www.vermontchildcare.org)
- Vermont Child Care Consumer Line – Provides access to records of violations, counseling regarding child care concerns. [www.dcf.state.vt.us/cdd/programs/childcare/cccl.html](http://www.dcf.state.vt.us/cdd/programs/childcare/cccl.html).

## OUTDOOR RECREATION

Recreation is a basic psychological need; not a frivolous luxury. To recreate (literally, to “make new”) is to refresh minds, bodies, and spirits. The ability to recreate enhances the quality of our lives immeasurably. Where the opportunity for recreation is denied, history and science have shown the spirit withers.

Recreation contributes not only to our individual well being, but to the health of our society as well. Throughout Vermont, recreation breeds tourism, which in turn provides an influx of imported wealth. Recreation also improves the health and productivity of our work force, thereby saving untold dollars for health care. In addition, a region that boasts recreational amenities has a competitive advantage in attracting new entrepreneurs.

One of Central Vermont's greatest recreational "facilities" is its landscape. Besides being home of Vermont's last undeveloped mountain range (the Worcester Range), a bounty of mountains, rivers, lakes, forest and fields, provide a virtual playground for residents, neighboring regions, and out-of-state visitors alike. The Region boasts some 59,194 acres of public outdoor recreation lands. These include a National Forest, eight state forests, three state parks, four wildlife management areas, and about a dozen municipal forests. In addition, there are public parks and playgrounds, as well as State surface water access points.

In addition, an impressive network of trails traverses the region. While these lands contain some of Central Vermont's finest scenery, natural resources, and recreational opportunities, such values are abundantly represented in many of the region's private holdings, as well. Accordingly, un-posted private lands are an important fabric in Central Vermont's recreational tapestry.

Given the Region's natural endowments, it is not surprising that recreational pursuits dependent upon or enhanced by natural resources and scenery flourish here. Skiing, snowmobiling, hiking, jogging, hunting, fishing, golf, cycling, boating, swimming, camping, picnicking, and auto-touring are examples of some of our popular outdoor activities. So popular are they that occasionally their practitioners find

themselves in conflict with each other over scarce resources. Furthermore, the Vermont State Outdoor Recreation Plan (SCORP) has predicted that water-based recreation, bicycling, day hiking, walking and X-C skiing will witness increasing popularity over the next few decades, and the public demand for a more elaborate network of trails and green-ways, for recreation and transit, will increase accordingly.

Alpine skiing has, however, shown a decline in terms of participation, although the enthusiasm of its adherents has not been tempered. Recent mild winters, the sport's expense, and the popularity of X-C skiing as an alternative are all factors in the recent decline. However, alpine skiing is a major industry in Central Vermont, and one of the economic mainstays of the region in general and the Mad River Valley in particular.

The SCORP report also identified several societal trends that may affect recreation in Central Vermont in the years to come. Among these are: decreasing leisure time/shorter vacations; aging population/life long interest in recreation; recreation for fitness; increased privatization and commercialization; continued low levels of public funding for public recreation; resources threatened by recreation/overuse; resources/opportunities threatened by development and pollution; redistribution of population and decline in community spirit; changing households; loss of opportunities on private land due to fear of liability, property damage, and fragmentation of large land holdings; and increases in travel and tourism.

CVRPC faces the challenge of promoting and capitalizing on those trends which bode well for the region, countering those which may have negative impacts, and adapting to those which are neutral and unavoidable.

## CULTURAL RESOURCES

The word "culture" refers to the development, improvement or refinement of the mind, emotions or interests, through ideas, customs, skills and arts. The opportunity for cultural experiences like recreation, theater, the arts, craft making, and public discussion is critical to our well being, happiness, and fulfillment. Culture, while universal among humans, is manifested differently, and with varying intensity, in different places. While the more urbane among us may perceive rural areas as existing in a cultural void, this is never true. Such an assumption about Central Vermont would be particularly erroneous. We are, in fact, in possession of cultural resources of unusual richness, quality and diversity for an area of our size and population.

This wealth of culture is partly responsible for Central Vermont's popularity as a tourist destination. At the same time, tourism bolsters our cultural resources. The

link between culture and the economy is becoming ever clearer.

Central Vermont is home to a talented array of artists, musicians and crafts people, including many who have migrated here seeking a fertile ground and supportive environment for their endeavors. A multitude of festivals, galleries, playhouses, concert halls, and patron organizations exist in support of these talents.

The Region's public libraries (of which there are more than one dozen) conduct and sponsor readings, discussions, lectures and other literary activities. In addition, a few local literary publications provide a forum for amateur writers.

Central Vermont has several facilities capable of housing large cultural events and programs, including the Barre Opera House (seating capacity 645 and recently renovated to be handicap accessible), Montpelier's City Hall Auditorium (seating capacity 600-650), Barre City Auditorium, and Barre City Recreational facility (the BOR). The Region's colleges, and primary and secondary schools also provide space for cultural happenings.

Museums are archives of our culture. Central Vermont's cultural treasures are well protected in a diversity of small museums. Montpelier is home to the T.W. Wood Art Gallery (Vermont College), the Statehouse Museum, the Children's Museum of Central Vermont, and the Vermont Historical Society Museum. The former Kent Tavern Museum in Calais remembers 18th and 19th century agrarian life. In Northfield, the Norwich University museum displays a variety of military artifacts. Several local historical societies maintain small displays as well.

## HISTORIC AND ARCHEOLOGICAL RESOURCES

Preserving an accurate and tangible record of historic and prehistoric endeavors of the people of Central Vermont helps us to develop a better understanding of the past and an awareness and appreciation of our cultural lineage. Significant properties and historic resources edify and provide important benefits to individuals, municipalities, and the Region in the forms of aesthetics enhancement, economic revitalization, tourism, job creation and investment tax credits.

Central Vermont harbors a rich historic record, in its buildings, in its soil, and in the very fabric of its landscape. It is a goal of this Region to preserve, protect, and perpetuate this record as an important part of Vermont's heritage.

## FACILITIES, SERVICES AND UTILITIES GOALS, POLICIES AND STRATEGIES

**WASTEWATER TREATMENT GOAL: Improvement and expansion of wastewater treatment facilities and options so as to protect public health, maximize public investment, and reinforce desired patterns of growth.**

**Policies:**

1. This Plan supports efforts to improve existing wastewater collection and treatment systems.
2. Encourage municipalities to establish a schedule indicating when and for what uses remaining capacity should be allocated. A schedule of the number and types of hookups can serve a similar purpose.
3. Encourage continued efforts to improve water quality through the separation of combined sewers or other method to ameliorate the harmful impacts of combined sewer overflows.
4. Support efforts to upgrade components of aging wastewater systems to address depreciation, improve energy efficiency and increase flood resilience of the Region's systems.
  - A. Encourage coordination of upgrades to coincide with other municipal infrastructure projects (i.e. roads).
  - B. Perform outreach to municipalities whose systems are approaching 20-yr design life and connect local operators/commissions with available technical assistance.
5. In order to encourage municipalities to optimize the use of wastewater treatment capacities, municipalities are encouraged to participate in inter-municipal facilities or agreements. Inter-municipal facilities can prove cost effective for the communities involved. At the same time, capacity allocation agreements offer individual communities the option of encouraging or discouraging growth.

Provide model inter-municipal agreements upon request.

6. New or expanded wastewater treatment facilities should be planned where municipalities have immediate need or where additional growth is appropriate, including *Regional Centers, Town Centers, Hamlets, Resort Centers, and Mixed Use Commercial and Industrial* areas.

Explore opportunities to develop a region-wide water and wastewater study to identify priority investments to supporting desired growth patterns.

7. Encourage planning for and installation of decentralized community wastewater treatment systems in villages, hamlets, and in clustered housing developments, and ensure that agreements for those facilities adequately provide for ongoing maintenance and oversight.

- A. Encourage formation of and support efforts of existing local Wastewater Advi-



sory Committees.

- B. Assist with grant writing and coordinate provision of technical assistance (i.e. soil mapping, wastewater studies, capacity-building) to local efforts to identify wastewater solutions.
  - C. Assist with public outreach and engagement efforts in planning for wastewater infrastructure.
8. This Plan encourages the extension of municipal sewage treatment collection systems to existing developments within currently un-sewered drinking water source protection areas in order to protect underground water supplies from harmful septic system leachate.
9. Wherever possible, extensions of municipal wastewater collection systems should occur, along or within existing public rights of way.
10. CVRPC will promote and encourage environmentally and fiscally sound solutions to the Region's sludge disposal problem.
11. Work with municipalities to improve outreach to on-site sewage disposal system owners through provision of guidance material explaining how to properly maintain their systems.
12. Support programs to assist with the replacement of failed on-site sewage disposal systems.
13. CVRPC encourages the use of shoreline zoning powers (24 V.S.A., Chapter 117, and Section 4411), in compliance with the Vermont Shoreland Protection Act, to regulate the design of sanitary facilities on lands adjacent to surface waters.
14. CVRPC urges communities to establish retrievable record keeping systems for "as built" municipal waste water system engineering plans ~~when designing and building waste water disposal systems and, to require the site engineer to provide "as built" plans~~ so as to ensure exact knowledge of the placement of underground collection lines. ~~when the need for repair or replacement arises.~~

**WATER SYSTEM GOAL: Improvement and expansion of public water system facilities so as to protect public health, maximize public investment, and reinforce desired patterns of growth.**

**Policies:**

- 1. Where existing water supply systems are functioning properly, they should be utilized. Particularly when located in combination with the region's wastewater systems, the service areas of water supply systems are recommended for high intensity development.
- 2. Land uses or activities that would measurably degrade the quality of water supply sources should be prohibited.

Assist communities in developing local regulations and/or incentives to protect aquifer recharge areas and source protection areas.

3. Work with the region's small water supply systems to build administrative capacity, coordinate with each other and develop capital improvement plans and budgets.

A. Encourage participation in VT DEC's Asset Management trainings.

B. Incorporate outreach and education regarding water and wastewater infrastructure planning into Municipal Transportation Capital Improvement Planning task in the Transportation Planning Initiative.

4. Inter-municipal water supply agreements are encouraged. The sharing of water resources can be a cost effective method of insuring that water supply adequately supports the municipal plan.

5. CVRPC encourages municipalities that have not already done so, to identify and protect backup or alternative sources of water.

A. Assist such efforts at the request of local officials.

B. Raise awareness of groundwater mapping resources available from the VT Agency of Natural Resources and U.S. Geological Survey.

6. Water service area expansions should be designed to encourage development in areas where growth is appropriate including Regional Centers, Town Centers, Hamlets, Resort Centers, Rural Commercial and Industrial areas and growth centers as identified by town plans.

7. Capacity expansion and water quality improvements to existing water supply systems are encouraged where such problems are impediments to concentrated growth.

8. CVRPC urges communities when designing and constructing **public** water systems and, to require the site engineer to provide "as-built" plans so as to ensure exact knowledge of the placement of underground collection lines. when the need for repair or replacement arises.

**ELECTRIC POWER GOAL: Improvement, and expansion of electric power generation methods and infrastructure so as to provide adequate service, conserve energy, maximize benefits of public investment, minimize impacts on aesthetic, ecological and recreational resources, and protect public health.**

**Policies:**

1. CVRPC supports the concepts of "demand side management" and "least cost integrated planning" as mechanisms to reduce electrical power consumption, and its attendant costs (both financial and environmental) through conservation and energy efficiency

2. CVRPC encourages the development and use of renewable energy sources to meet the region's electrical power needs, while minimizing impacts on aesthetic, ecological and recreational resources (see *Energy* element of this Plan).

3. CVRPC encourages diversity in the region's future power supply so as to establish

flexibility and avoid reliance on any single source.

4. CVRPC encourages utilities and the Public Service Board to give greater consideration to making service territories more flexible by allowing for inter-utility connections and deregulation where there will be beneficial impact to the consumer and the environment. Such flexibility will help promote the Region's goals regarding settlement patterns, and save money as well.

5. Proposals to introduce extra high voltage and ultra high voltage transmission lines (capacity greater than 345 KV, AC or DC) to Central Vermont should be carefully scrutinized pending satisfactory resolution to the health and safety issues concerning their operation.

6. The Commission encourages adherence to environmentally and ecologically sound utility line maintenance practices.

Plans and designs for utility infrastructure and corridors should incorporate climate projections and be reviewed for long-term reliability, safety and economic, social and aesthetic impacts.

7. The corridor concept is generally supported by this Plan. As such, the location of new transmission lines should share existing power line routes as illustrated on the Central Vermont utilities map. However, it is recognized that existing routes may not always be optimal for additional or expanded transmission lines. It is also recognized that the construction of distribution lines within, or adjacent to, public highway rights-of-way may, in some instances, have more negative aesthetic impacts than would a parallel route away from the road.

8. Utility infrastructure and corridors shall be sited so as to minimize aesthetic impacts, particularly in areas of local and regional scenic importance.

- A. Wherever practicable, utility lines will be installed underground or behind structures in downtowns and village centers
- B. The use of wood support structures, appropriate conductor colors for the background, and landscape compatibility techniques are encouraged.
- C. Municipalities, in their plans, should consider the visual impacts of the siting of utility poles. Traffic safety and water quality issues may also be pertinent in certain locations.

9. Resource areas, as identified by this Plan, shall be avoided wherever possible, in the location or routing of new substation or transmission facilities.

10. Substation facilities should be located in industrial areas or in those planned for industrial use whenever practical. In any case, such facilities should be sited as unobtrusively as possible.

**OUTDOOR RECREATION GOAL: To promote adequate access to a wide range of high quality outdoor recreation experiences to all sectors of the population.**

**Policies:**

1. CVRPC will encourage and foster the provision of diverse outdoor recreational opportunities, with consideration given to the needs of the elderly, disabled, and economically disadvantaged.
2. CVRPC encourages, in particular, those recreation activities that focus on, respect, enhance, and educate, about the natural environment.
3. Recreation inventories and needs assessments should occur at the local and regional levels in order to determine deficiencies and conflicts, and to identify key recreational resources and opportunities on both public and private land.
4. Municipalities should develop and implement strategies to protect important recreation lands. Actions such as securing voluntary easements, fee or less than fee acquisition, subdivision or zoning regulations which contain provisions for common open space, impact fees or other contractual arrangements are encouraged as alternatives for achieving permanent or semi- permanent protection.
5. Public access to rivers, streams, lakes, ponds and recreation lands is a need in the Region. Municipalities, the State, and private groups, such as land trusts, should coordinate efforts to provide for improved access to the Region's surface waters. At the same time, significant water related natural areas should be maintained and protected.
6. Priority consideration should be given to rehabilitating and upgrading existing recreation facilities.
7. CVRPC supports the maintenance or upgrading of existing surface water classifications to reflect their actual recreational uses, except where lower classifications may be needed for municipal sewage treatment projects.
8. Landowners are encouraged to voluntarily keep their lands open for public recreation and enjoyment where possible, so as to maintain the Region's tradition of informal, resource based recreation on private lands.
9. CVRPC will support future legislation to alleviate landowners of unreasonable liability burdens.
10. New development proposals are encouraged, through design, to make an effort to preserve access to recreational uses for the general public.
11. The Commission supports and encourages the creation and existence of inter municipal recreation districts. (Inter-municipal districts are legal arrangements whereby a governmental entity joins with another to provide recreational facilities or services. Through these arrangements, increased opportunities may exist for municipalities to acquire or develop land, provide services, or manage an area).

Accordingly, we will continue to provide administrative and technical assistance to the Wrightsville Beach Recreation District Board of Directors.

12. CVRPC will work towards and support the maintenance and development of trail and greenway networks to provide for recreational diversity, tourist amenity, habitat linkage, and low impact transportation choices. Specifically, the Commission will strive to:

- work with individual municipalities, at their request, to help plan local trails and greenways;
- work with groups of municipalities and/or citizens to promote the concept and realization of a regional trail and greenway network that connects and builds upon local initiatives;
- encourage the paving of shoulder for safe bicycle and pedestrian travel on all state highways in the region;
- encourage the development of multi-purpose trail corridors along abandoned rail beds;
- encourage municipalities to retain Class IV roads and public trails for public recreational use; and
- encourage the provision of recreation along utility corridors, as appropriate.

13. Downhill ski areas provide valuable recreational and economic benefits in Central Vermont. However, certain external costs (e.g. expanded demands on facilities and service, environmental impacts, etc...) are inherent in their operational and expansion activities, too. It is CVRPC's goal to enhance the viability of existing ski areas and foster their development in a manner which will enable them to remain competitive while ensuring that they will protect and co-exist with the natural, physical, and socio-economic environment. Equitable means of sharing external costs between ski areas and their host towns are encouraged where such costs cannot be avoided. The Memorandum of Understanding between the Sugarbush Area Resort, CVRPC, and the Mad River Valley towns is a model for such positive coordination and communication.

14. Atmospheric pollution has become an increasing problem over the past few decades. It now threatens to disrupt global weather patterns and endanger public health. The impacts of air quality on recreation and tourism are also recognized. CVRPC will support measures to address air quality at the local, regional, state, federal, and global levels. Promotion of energy conservation practices will be the focus of such support (see Energy Element).

**CULTURAL RESOURCES GOAL: To promote adequate access to a wide range of high quality cultural experiences for all sectors of the population.**

**Policies:**

1. CVRPC encourages the development of new cultural facilities and services (including studio space), in Central Vermont, particularly in or near existing settlements and growth centers, as such areas are most accessible to all segments of the population, and the proliferation of culture in such areas will strengthen their vitality.

2. The protection and preservation of existing cultural resources and activities is a goal of the Commission.
3. CVRPC will continue to work with cultural organizations where appropriate, to support cultural resources in Central Vermont.
4. The Commission encourages the rehabilitation or adaptive use of sites and structures for cultural pursuits.
5. CVRPC supports strengthening the role of cultural and artistic disciplines in public education.

**HISTORICAL AND ARCHEOLOGICAL RESOURCES GOAL: To promote the protection and use of the Region's historical and archeological resources.**

**Policies:**

1. Municipalities are encouraged to provide a historic preservation section in their municipal plans. (CVRPC will assist in such an effort, if requested.)
2. CVRPC encourages development which preserves the historic and architectural character of town and village centers and the rural landscape.
3. Therefore, it is the policy of this Commission to support and encourage downtown revitalization programs and Downtown and Village Center Designation. Downtown revitalization efforts are means to create jobs and to preserve our national heritage.
4. CVRPC encourages the restoration, rehabilitation and adaptation of historic structures where feasible, as this minimizes the environmental impact of development by conserving raw materials, using land already developed, employing existing services.
5. Where economically practical, rehabilitation of a historic site or structure should be designed to minimize the architectural impact and maintain the historic character of the site or building.
6. Where an area is not designated as a historic district, but where there are buildings of local historical significance, projects should be designed to maintain and protect the historic character of the area. Municipalities are encouraged to develop criteria that would assist in protecting the character of an area considered historic, whether designated as such or not.
7. The impact upon the historic character of the area should be considered when public or private municipal improvement projects (such as sidewalks, roads and traffic improvements) are proposed.
8. Activities having substantial impact on an important historical site or structure should be planned in consultation with the Division for Historic Preservation, Agency of Commerce and Community Development.
9. Additions to a historic building should be designed to minimize the visual impact upon the site or building.

10. Land development adjacent to or on an important prehistoric or historic archeological site should be designed to minimize the impact upon the site.

11. Prehistoric and historic archeological sites are recognized as important to Vermont's history. Any activity that may have an impact on a prehistoric or archeological site should be planned in consultation with the Division for Historic Preservation, Agency of Commerce and Community Development.

12. CVRPC will provide support to local, regional, and state non-profit historic preservation trusts upon request.

13. CVRPC will promote the awareness of historic preservation through periodic publication of funding sources available to municipalities and investment tax credits available to individuals.

**WIRELESS TELECOMMUNICATION FACILITIES GOAL: ~~To promote~~ Effective and efficient communication systems.**

**Policies:**

1. Telecommunication facilities should not be sited where they may create an attractive nuisance.

2. Telecommunication facilities should be sited, designed, maintained and operated so as to minimize negative impacts on natural, cultural and scenic resources. Use of stealth design and/or use of existing structures are encouraged where appropriate. New towers should be no taller than necessary to provide coverage. The policies of this Plan addressing ridgeline and hilltop development (see Land Use Element, Goal 5) are intended to apply to telecommunication facilities.

3. Use of existing towers, communication facilities, and structures where possible, is encouraged and expected rather than development of new transmission and receiving stations. Permits for tower facilities should require permittees to accommodate additional users, appropriate to the structure, at a fair market rate.

4. Permits for towers should require a financial mechanism to ensure their removal by service providers should they be abandoned or rendered obsolete by advances in technology. Processes for establishing bonds should take inflation into account as many years can elapse between construction and removal.

5. Applicants must demonstrate that telecommunication facilities comply with FCC emission standards in order to protect public health and safety.

6. Assist service providers and municipalities to identify appropriate locations for the construction of new tower (or other facilities) necessary to achieve adequate coverage of the Region as well as locations that are not appropriate for new towers. CVRPC will act to implement the results of this effort through its participation in the Section 248 Process.

7. CVRPC will provide its "Model Telecommunication Facility" bylaw to all member municipalities and work with towns and cities to develop bylaw, ordinance, and/or town plan language to address facility siting. The Commission encourages municipalities that adopt telecommunications regulations to provide for an expedited per-

mit process for small scale facilities.

8. New towers should be constructed in areas served by existing roads or trails.

9. Access roads should be designed to minimize their impact on scenic, agricultural, forestry, and natural resources.

**EMERGENCY/HEALTH SERVICES GOAL: To promote effective, efficient and accessible emergency and health care services.**

**Policies:**

1. Adequate health care facilities and personnel should be planned and located throughout the Region so that all residents have access to such services. It is necessary that planning for these facilities be coordinated with population distribution and existing and future transportation patterns.

2. For all aspects of emergency/health service delivery, full consideration of the costs and benefits of cooperative and regional provision of these services is encouraged.

**EMERGENCY MANAGEMENT GOALS:**

1. To build disaster resistant communities in Central Vermont through sound emergency planning and management.

2. To ensure that all communities in Central Vermont have the appropriate information, resources, and tools to respond to disaster events and recover from their impacts.

**Policies:**

1. Promote the importance of local emergency management plans to municipalities in Central Vermont.

2. Encourage municipalities to annually review and update their Rapid Response Plans for the new contact information and to identified risks.

3. Encourage municipalities to undertake and periodically review an all-hazards assessment in their community to identify potential hazards and the at-risk people and property.

4. Encourage municipalities to adopt minimum standards for public roads, bridges, and culverts (using the Vermont Local Roads Program and FEMA's standards).

5. Encourage municipalities to implement land use policies and development regulations that consider the potential impacts of disasters on people and property.

6. Discourage residential, commercial, or residential development in flood plains.

7. Maintain, wherever possible, vegetated buffer strips adjacent to all waterways to reduce the occurrence and magnitude of flooding.



8. Encourage municipalities to amend flood hazard regulations so they comply with current NFIP requirements.
9. Provide local officials with information on programs and funding available through FEMA and/or VEM for emergency management and hazard mitigation projects.

## **CRIME AND SAFETY:**

**Overall Goal: To minimize community conflicts within Central Vermont, reduce the Region's already low crime rate, and protect the community from violence and serious crimes.**

**Goal 1: To prevent the social and economic conditions that often lead to community conflicts.**

### **Policies:**

1. To encourage the use of early intervention and prevention strategies in schools
2. To work to implement the other goals and policies of this Plan, particularly those regarding education, housing, and employment.

**Goal 2: To foster safe and supportive communities by educating municipal officials on crime issues, supporting prevention programs, encouraging rehabilitation strategies, and fostering public safety.**

### **Policies:**

1. To encourage municipalities to investigate the establishment of community based, victim focused crime prevention/justice initiatives.
2. To work with municipalities, SRS, and the Vermont criminal justice system to support the establishment of a regional restorative justice center.
3. To support the use of conflict reduction/resolution techniques and restorative processes in schools, law enforcement, and communities.
4. To gather and report information on crime and safety indicators as related to other indicators of community health to establish data on possible relationships therein.
5. To coordinate all crime/rehabilitation related efforts with municipalities and the Vermont criminal justice system.
6. To encourage State financial and technical support for community restorative justice programs.

**Goal 3: To protect the community from violence and other serious crimes.**

### **Policies:**

1. To support incarceration of violent offenders.
2. CVRPC should consider the need for, costs, benefits, and detriments of construc-

tion of new prison facilities within the Region.

**EDUCATION GOAL: To promote effective, efficient, accessible, and affordable educational facilities and services.**

**Policies:**

1. New development that places a significant impact on local and regional educational systems must address and mitigate these impacts.
2. The construction of new educational facilities should occur in locally designated growth areas or in other locations that will maximize their convenience and accessibility to the population and infrastructure, and will contribute to the vitality of communities.
3. Through improved coordination among planning commissions, school boards and the State Department of Education, a regional approach to planning for the placement and timing of construction of educational facilities is encouraged.
4. Municipalities and school districts are encouraged to employ capital budgeting and programming as a means to anticipate and plan for the payment of capital improvements to public schools.
5. CVRPC supports and promotes efforts to broaden access to adult and senior educational opportunities.
6. CVRPC supports and promotes efforts to broaden access to vocational education opportunities.

**CHILD CARE GOAL: To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process.**

**Policies:**

1. Continue to inform municipalities of their statutory responsibility to plan for child care and assist in this effort upon request.
2. Encourage municipalities to assess local barriers (regulatory or otherwise) to the provision of child care services and to support them in taking action to remove or reduce those barriers.
3. Consider undertaking, in partnership with local advocacy organizations, a region-wide needs assessment for child care services. As part of such a program, CVRPC could examine the relationship between the location of jobs and the location of child care facilities.
4. Encourage the location of child care facilities in growth centers and existing settlements, near residential clusters, schools, and large employers, and along public transportation routes. Such locations can help reduce traffic, energy consumption, and the overall financial cost of day care for families.

**SOLID WASTE GOAL: Safe, sound, cost effective, and efficient solid waste management.**

**Policies:**

1. For both environmental and economic reasons, support waste reduction as a top priority of the Region and support the concept of “zero waste” as outlined by Vermont’s Universal Recycling Law and the policies of the Central Vermont Solid Waste Management District, Northeast Kingdom Waste Management District, Lamoille Solid Waste Management District and the Mad River Resource Management Alliance.

2. Encourage managing solid waste as close to the source as is reasonable, with a preference given to local or sub-regional solutions to waste management. Proper management of municipal solid waste should utilize environmentally sound systems and programs at the least cost possible.

3. Promote education about composting, recycling and waste reduction in the Region.

4. Encourage individuals or businesses in the Region to bear the cost of proper management of the waste generated.

Support Extended Producer Responsibility (EPR) programs and sites for industries to recycle their own byproducts in the Region.

5. Support recycling and composting facilities and programs that promote individual participation and responsibility.

Encourage the convenient and de-centralized placement of local drop-off facilities

6. Support the maintenance of collection centers for hard to recycle materials within the Region.

A. Support the siting and building of a permanent location for the Additional Recyclables Collection Center (ARCC) in a location central to the Region

B. Support the siting and building of a facility to collect and recycle asphalt shingles and drywall in a location central to the Region

7. Encourage composting of residential, commercial and institutional organic waste in order to maintain the materials' highest re-use value. Composting efforts should move toward being financially self-supporting and locally controlled.

Support the continuing presence and establishment of composting centers at appropriate sites within the Region

8. Continue to implement recycling and waste reduction measures in our internal operations, in accordance with Vermont’s Universal Recycling Law.

9. Support projects that involve the distribution of Class A Biosolids from municipal wastewater treatment facilities only when only when Central Vermont Solid Waste Management District, Northeast Kingdom Waste Management District, Lamoille Solid Waste Management District or the Mad River Resource Management Alliance has worked with municipalities to ensure that said biosolids are safe and that municipal officials and other decision makers have been educated about the issue.

**BROADBAND GOAL: Universal broadband availability and affordability.**

**Policies:**

1. Encourage Municipalities to include broadband goals and strategies within local plans as tools to enhance economic development, education and overall resiliency.
2. Promote awareness of broadband informational resources, such as BroadbandVT.org, to inform residents, businesses and local planning processes.
3. Support expansion of broadband services and enhancements in underserved areas, *Regional Centers* and *Town Centers*.
  - A. Encourage creation of public wi-fi zones in *Regional Centers, Town Centers and Hamlets*.
  - B. Encourage expansion of wireless internet service providers in rural communities.

