

## UTILITIES, FACILITIES AND SERVICES

### A. Background

Communities depend on a system of utilities, facilities and services to maintain the health and welfare of their citizens. This system includes such things as solid waste management, transportation infrastructure, water and wastewater services, emergency services and recreation. In urban areas, these systems are often intertwined between communities, requiring some level of regional oversight and maintenance. In our Region however, municipal government provides and maintains most of the systems (excluding state-owned highways and buildings) individually.

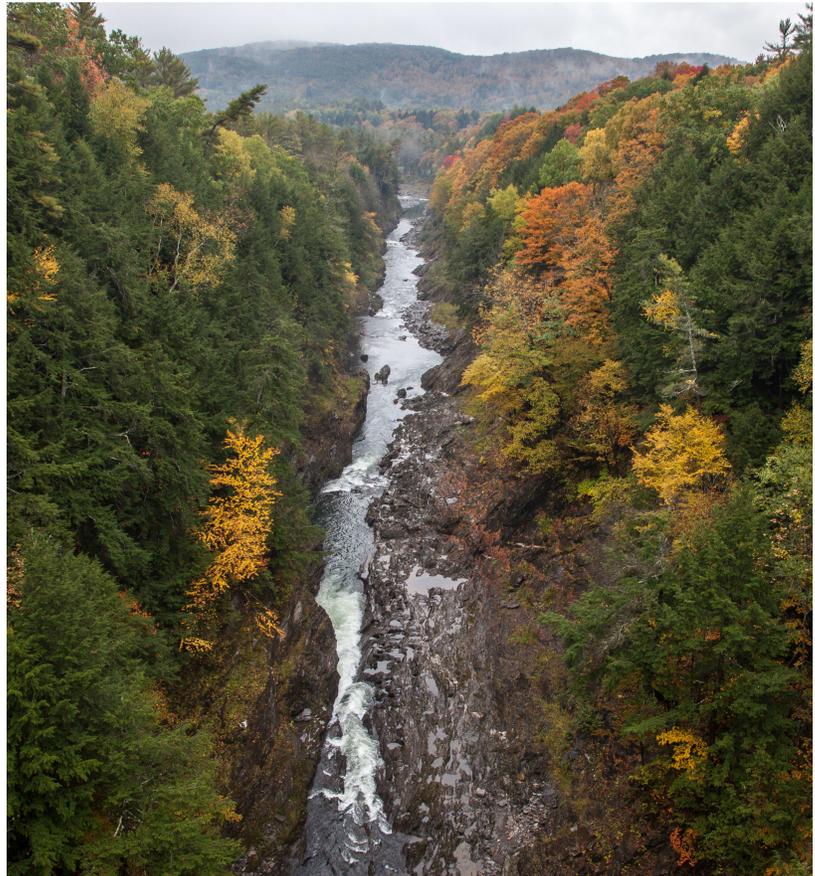
While TRORC does not have a direct role in maintaining these systems, it does have the ability to provide municipalities with guidance and technical assistance, and to take a regional approach to prioritization of future investments, particularly investments by the State. It is our role to recognize when regional land use patterns may create a need for new or improved systems, and to identify areas where future investments might have a regional benefit. At the same time, we must also recognize when expansion of infrastructure and services may lead to poor planning and unsustainable patterns of land use.

Although Vermont's population growth has flattened substantially over the past decade, it is understood that population growth can influence the need for improved utilities, facilities and services. An increased number of residents and development within a community or region can require additional roads and

additional capacity in wastewater and solid waste removal systems, etc. Where this new growth occurs also has an impact. Increased development in rural areas of a region can tax existing road and emergency management systems. To ensure that essential systems are able to sustain growth, long-range planning is needed.

Systems addressed will include:

- Water and Wastewater
- Solid Waste
- Health Care Facilities
- Broadband and Cellular Communication
- Libraries



Quechee Gorge, Quechee State Park | Source: ©imiro

For each system we will analyze their regional impact, their needs, the benefits they offer and what investments might need to be made in the future. This

chapter does not discuss transportation or emergency services as they are addressed in other parts of this Plan.

## Goals, Policies and Recommendation: **Overall Utilities, Facilities and Services**

### *Goals*

1. The expansion or construction of new facilities and utilities will be financially sustainable for governments and taxpayers.
2. Regional services and infrastructure that is secure, financially sustainable, well-maintained and energy efficient.
3. Investments in utilities, facilities and recreation enhanced the desired pattern of development which is compact village and urban centers surrounded by open countryside.

### *Policies*

1. Public investments in governmental and public utility facilities, services, and lands which support existing and future development within the regional center, town centers, village settlements, and hamlet areas, or other designated and planned regional growth areas are the policy of this Plan.
2. The scale, type, and design of major public utilities and facilities shall be undertaken so as to complement the future land use settlement patterns recommended in this Plan and relevant municipal plans. Public investments in municipal, regional, and state facilities should be located within existing or planned regional growth areas.
3. Controversial public facilities, such as solid waste disposal facilities, correctional facilities and wastewater treatment facilities, shall be situated in an area where they best serve their purpose while minimizing negative impacts on the surrounding area.
4. TRORC supports the acquisition of future public and quasi-public utility sites, properties, or interests, when public actions advance the goals and policies of this Plan and relevant local plans.
5. New land development shall be prohibited where it is found that the necessary supportive governmental facilities and public utility services are unavailable or have not been planned for as part of a capital budget program to be available concurrently with impacts, or when new development places an excessive or uneconomic demand on such services. To mitigate or prevent any such unreasonable burdens, the use of permit conditions, impact fees, exactions, and similar methods can be used.
6. The construction of primary educational facilities, health care facilities, emergency facilities, post offices, libraries, and other public facilities shall occur in or within or adjacent to existing or planned regional growth areas, so as to maximize their convenience and accessibility to people, infrastructure, and to contribute to the vitality of communities.

*Goals, policies and recommendations continued on next page*

Goals, Policies and Recommendation: **Overall Utilities, Facilities and Services**

**Policies (continued)**

7. TRORC supports the development of innovative and stable sources of public facility funding to supplement traditional funding resources.

**Recommendation**

1. TRORC will foster partnerships between public investment planning and implementation activities and the private sector, in a manner which advances the goals and policies set forth in this Plan.

**B. Water and Wastewater Systems**

The TRO region is by and large a rural region, with a majority of water supply and wastewater treatment handled through individual or small group on-site wells and septic systems. Only a fraction of towns have water or wastewater systems, and in

those municipalities, the systems serve a limited area – generally downtown or village areas. In general, these systems are considered “small” systems (i.e. serving less than 3,300 people).

For villages and downtowns, water and wastewater systems are a vital piece of infrastructure. The average area required

**Table 10-1: Wastewater Treatment Facilities in TRO Region, 2014**

	Design Capacity	Present Use - Annual Average Flow	% Available Capacity 2014*
	(reported in gallons per day)		
<b>Bethel</b>	115,000	50,000	57%
<b>Bradford</b>	137,000	65,000	53%
<b>Bridgewater</b>	43,000	9,500	78%
<b>Chelsea</b>	55,000	28,000	49%
<b>Hartford-Quechee</b>	300,000	200,923	33%
<b>Hartford-WRJ</b>	1,215,000	668,901	45%
<b>Randolph</b>	400,000	250,000	47%
<b>Rochester (septic tank and leachfield)</b>	30,000	12,263	60%
<b>Royalton</b>	70,000	21,000	70%
<b>Woodstock</b>	450,000	235,000	48%
<b>Woodstock - S. Woodstock</b>	50,000	16,000	68%
<b>Woodstock - Taftsville</b>	10,000	2,233	78%

\*The percentage of available capacity reflects allocated and unallocated reserve capacity.

Source: TRORC

for onsite septic and water is roughly one half acre to one acre. To create and maintain the feel and viability of a village or downtown, higher density is preferred. Water and wastewater systems allow communities to encourage greater density that would be possible without them. Well-maintained public drinking water and wastewater infrastructure is critical for public health, strong businesses and a clean environment.

### Wastewater Treatment Systems

There are 12 wastewater treatment facilities in 9 communities in our Region. The bulk of these systems were originally built in the 1970s and 1980s, with periodic improvements being made in response to

aging equipment or increased demand. As these facilities age, the cost of necessary upgrades increases, putting improvements out of reach of smaller communities (see Table 10-1).

With the exception of Hartford's Quechee Wastewater Treatment system (which currently has 33% remaining capacity), there are no issues regarding capacity. The majority of systems in our Region have at least 45% available capacity. Given that trends in population growth have flattened substantially, it is likely that most communities will be able to maintain their current design capacity. Hartford has a strong capital improvement plan that addresses capacity issues.

**Table 10-2: Public Water Systems in the TRO Region, 2014**

Town	SPA	Connections	Pop. Served	Ave. Daily Demand (gal/day)	Max. Daily Demand (gal/day)	Storage Capacity (gal)
<b>Bethel</b>	Yes	346	915	122,000	220,000	500,000
<b>Bradford</b>	Yes	551	1,512	227,000	450,000	1,200,000
<b>Chelsea</b>	Yes	114	140	26,254	67,500	244,000
<b>Fairlee</b>	Unknown	284	284	115,000	150,000	1,296,000
<b>Hartford</b>	Yes	2,600	2,600	727,413	1,454,826	2,500,000
<b>Quechee Central</b>	Yes	720	720	153,280	181,712	320,000
<b>Hartland</b>	Unknown	262	262	26,200	65,000	150,000
<b>Newbury Village</b>	Yes	180	480	44,000	60,000	350,000
<b>Wells River</b>	Yes	130	490	35,000	38,000	275,000
<b>Norwich</b>	Yes	333	333	87,837	164,800	125,000
<b>Randolph Village</b>	Yes	795	2,700	205,000	325,000	2,400,000
<b>Randolph Center*</b>	Yes	50*	1,138	60,000	100,000	250,000
<b>Rochester</b>	Yes	180	440	32,195	64,390	265,000
<b>Royalton</b>	Unknown	250	1,500	10,500	21,000	900,000
<b>Woodstock</b>	Yes	672	2,473	351,220	434,563	1,000,000

\*Randolph Center connection data does not reflect VTC

---

Wastewater treatment facilities will eventually be necessary in additional communities as the need to further develop in community centers grows. At present the towns of Norwich, Hartland, Strafford and Fairlee are the most likely to need wastewater treatment facilities if the state's goal of densely populated villages and downtowns surrounded by open countryside is to continue. Hartland and Norwich are the largest communities in the TRO Region without wastewater treatment facilities. Fairlee and Strafford both have viable village centers that would benefit (from an economic and health standpoint) greatly from the ability to concentrate more development within those areas.

### Municipal Water Systems

There are 15 municipal water systems in 12 municipalities in the TRO Region. Like the Region's wastewater treatment infrastructure, much of this equipment is aging and in need of repairs. Some systems suffer from inadequate storage, or from poor line pressure.

Municipalities are required by law to create source protection area (SPA) plans which ensure that drinking water supplies will remain safe and untainted.

### Challenges

#### *Land Use Patterns and Geography*

The need for water and wastewater treatment facilities is driven primarily by the density and intensity of land development within a given area, the number of people located within the area and geography.

Vermont's land use law seeks "to maintain the historic pattern of compact village and urban centers separated by rural countryside." This land use goal creates a dichotomy between theory and action. While most would agree that the pattern is desirable, it is challenging to implement, particularly for communities without existing infrastructure. Continued increases in density and development in our villages and downtowns will eventually be unsustainable without water and wastewater facilities. Some villages such as South Strafford, have already experienced issues of cross-contamination due to a high concentration of private systems in a small area. Fortunately, a majority of our communities with existing infrastructure have adequate reserve built into their systems to allow for steady, planned growth. However, unplanned spikes in population may tax those reserves.

Geography is also a challenge in many of our communities. Wastewater and water systems are complex, and the cost of developing them can vary dramatically due to variations in soil types, topography and other conditions. In a number of our towns, space to develop new systems is limited due to geography. Sharon's village, for example, is sandwiched between the White River on one side and I-89 and very steep slopes on the other. With maximum coverage in their village already reached, the development of a traditional water and wastewater system would be challenging.

Because population is also a factor in determining whether or not a water or wastewater treatment facility is needed, the nature of the population must be

---

considered. In communities such as Fairlee or Barnard, where there are a substantial number of transient residents (i.e. residents who come during the summer to enjoy the lakes), it may not be feasible to build a system large enough to handle the summer population while remaining sustainable year-round.

### ***Aging Infrastructure/Mapping***

The American Society of Civil Engineers (ASCE) issues an Infrastructure Report Card for each state every four years. This report grades the condition of the state's infrastructure, including water and wastewater facilities. ASCE's most recent report card (2013) gave Vermont a C- in drinking water facilities and a D+ in wastewater facilities. These scores are similar to other New England states which, like Vermont, has underground infrastructure which is often over 100 years old.

Our Region's water and wastewater infrastructure varies widely in age. Several communities have systems that were built in the early 1900's (Newbury and Wells River). Others were originally built in the mid-1980s. While many communities have upgraded their primary facilities, aging service lines is a serious issue. Municipalities like Hartford, who have had water and wastewater for over 100 years, have service lines that are of multiple materials (cast iron pipe from the late 1800s, for example) and multiple ages. Many of these aging facilities are past their design lives. Cast iron, for example, has an average life expectancy of 120 years. Ductile iron pipes were introduced in the 1950's and were an improvement over

their cast-iron predecessors, but they only have a life expectancy of 50 to 75 years due to corrosion. Older infrastructure is more likely to fail, creating health hazards and costing the town a substantial amount of funding to repair. In other cases, existing infrastructure is inadequate - sizing of pipes can range from a mere 4"-16" depending on the location and the town.

In many communities, the distribution systems are so old that there is not an adequate understanding of where the pipes are located, how old they are and what material they are made out of. Improved mapping of these underground systems is an essential part of creating a maintenance plan.

### ***Infiltration and Loss***

Wastewater treatment facilities suffer from leaks into sewer pipes as well as older built connections that funnel storm water from impervious surfaces such as rooftops, roadways and parking lots into combined sewer and stormwater lines. Drinking water systems often suffer from the opposite problem – loss of potable water from leaking pipes due to age, damage from frost or other causes. If systems are not properly gaged, such losses can go undetected for years. Large leaks in mains can and have caused damage to roads in our Region. During Tropical Storm Irene, several communities (including Woodstock) experienced damage to water lines that pass under the river, resulting in a loss of drinking water that was difficult to identify.

---

### **Cost of Upkeep and Investments**

Water and wastewater systems are capital-intensive operations. Cost is the largest barrier to repairing, improving or expanding water and wastewater systems. During the 1970s, Federal programs existed that provided 78% of the funding needed to develop water and wastewater infrastructure. Today, federal grant programs provide less than 3%, leaving municipalities to find other sources of funding to pick up the remaining 97% or more. Commonly, these investments are funded through a mix of federal grants, bonding and pay-as-you-go funds generated through metering. The price of water supply and wastewater treatment that residents and businesses pay often do not reflect the full cost of the services. Many towns have found it challenging to get voters to buy-in to high cost investments. In the town of Bradford, for example, it took over a decade to extend their water system, despite the potential economic benefits.

### **Solutions**

#### **Water Efficiency Programs**

To increase the long-term sustainability of existing water system infrastructure, municipalities can implement water efficiency programs. These programs include installation of water meters (which can help identify areas of unusual loss or use) and water-saving devices. Water efficiency programs can reduce operating costs and reduce the need for additional sources of water or water storage facilities. Reductions in water usage also lead to less energy being used to treat, heat and dispose of water. Financial surpluses from

these efficiency upgrades can be set aside to build cash reserves for future system investments.

#### **Future Infrastructure Investments**

Long-range planning for infrastructure investments and maintenance is essential for water and wastewater systems. State statutes enable communities to create a Capital Budget and Program (CP&B) for the purposes of planning and investing in long-range capital planning. Although most communities have some form of capital account where they save money, many do not have a Capital Budget and Program as described in state statute (24 V.S.A §4443). A capital budget outlines the capital projects that are planned to be undertaken in the coming fiscal years over a five year period. It includes estimated

### **Importance to the Economy**

*Access to water and wastewater services is a valuable commodity for many businesses. The ability to serve multiple units in a concentrated area such as a village or downtown allows for a greater mix of commercial and residential uses. For businesses, having a larger cliental located in a central location creates a reliable base level of commerce.*

*Consistent service is important, as loss of either water or wastewater services for even an hour can cause problems, and in as little as a day some businesses may be forced to shut down. Smart planning and more long-term budgeting will make this possible.*

---

costs and a proposed method of financing those costs. Also outlined in the Program is an indication of priority of need and the order in which these investments will be made. Any Capital Budget and Program must be consistent with the Town Plan. They shall include an analysis of what effect capital investments might have on the operating costs of the community. An adopted Capital Budget and Program should be drafted with assistance from the Planning Commission to ensure consistency with the Town Plan. While the Planning Commission is designated in statute as the “preparer” of the Capital Budget and Program, it is essential that members of the Selectboard and budget committee (if one exists) are part of the team that develops the CB&P. The Selectboard has the ultimate decision as to whether or not such a budget and program is adopted.

From a regional standpoint, investments in municipal infrastructure must be made based on the population they will serve and the most pressing needs. Because capacity is not a significant issue in most communities with existing infrastructure, the priority for future investments is in modernizing aging infrastructure. This will make these systems more sustainable, affordable and will protect against unwanted loss of water resources, or the potential hazards of effluent releases. In addition, any opportunities to make improvements to existing systems that increase their energy efficiency should be implemented. Expansion of infrastructure should be limited to locations that enhance the cohesive core of designated growth

areas. Any such expansions shall not encourage sprawl or strip development.

Development of new systems in communities that do not currently have water or wastewater treatment facilities should focus on areas where there is a clear village center. Fairlee, Strafford and Sharon are the most obvious candidates for the development of new systems in the TRO Region. The development of new systems must focus on the cohesive core of the village and shall not encourage sprawl or strip development.

### ***Alternative Systems***

Communities that do not have existing systems are unlikely to be able to afford to spend the millions necessary for a traditional centralized water and wastewater system. There are more affordable systems that will allow for village-scale wastewater treatment. Innovative decentralized systems include village-wide septic systems. The Village of Rochester maintains a village septic system that includes multiple leach fields. Although not inexpensive, this alternative approach has a more reasonable cost than a traditional system. Communities with unique geographical or topographical constraints may also be able to utilize alternative systems to make community wastewater and water service a reality.

---

## Goals, Policies and Recommendations: **Water and Wastewater**

### *Goal*

1. Municipal water and wastewater systems that are secure, financially sustainable, well-maintained and energy efficient.

### *Policies*

1. Municipalities should create capital budgets, enterprise funds and reserve accounts for utilities and facilities
2. Water and sewer lines should be extended only to those areas where future development of high density residential is being encouraged by regional and local plans:
3. Proposals for upgrades, improvements or expansion of water and wastewater treatment infrastructure which promote sprawl and strip development and scattered land uses are not compatible with this Plan.
4. When systems are extended to service a new development, careful consideration must be given to the impacts of additional hookups along the length of the extension. The allowance of new hookups must not promote sprawl or strip development.
5. TRORC encourages the location of community water supplies and wastewater treatment facilities primarily in regional growth areas, however, systems designed specifically to supply cluster housing projects in rural areas may be consistent with this Plan.
6. Land development within existing or planned source protection areas which pose reasonable threat of contamination to public water supplies is not compatible with this Plan.
7. TRORC supports water conservation measures to reduce demand for water and to promote the life and efficiency of water and wastewater facilities.
8. TRORC encourages installation of community wastewater treatment facilities or water supply systems in areas of concentrated settlement where conventional onsite septic systems have failed or are marginally inadequate.
9. New water and wastewater systems should be designed so as to be as energy efficient and secure as possible.

### *Recommendations*

1. Municipal plans, per Vermont statute, shall identify and prioritize future capital improvements/major repairs and estimate costs and means of financing for maintenance and future capacity.
2. TRORC shall assist communities with the identification and prioritization of future capital improvements/repairs.
3. TRORC shall offer capital budgeting workshops throughout the region.
4. Water efficiency programs and codes should be adopted at the state or local level to reduce demand on municipal water systems.

*Goals, policies and recommendations continued on next page*

---

## Goals, Policies and Recommendations: **Water and Wastewater**

### *Recommendations (continued)*

5. TRORC shall seek grant opportunities to map water and wastewater systems throughout the region.
6. When funding is available, municipal plans should inventory water and wastewater systems to identify current and projected capacity gaps.
7. Municipalities should conduct periodic auditing of all water and wastewater distribution systems for calculation of infiltration and losses.

### **C. Solid Waste**

All Vermont municipalities, either individually or as part of a solid waste district or an inter-municipal association, are required by Vermont law to adopt a Solid Waste Implementation Plan (SWIP). The SWIP documents town or district waste management facilities and articulates how solid waste will be managed over the next five years. All solid waste districts and inter-municipal SWIPs must be in compliance or consistent with the goals outlined in the statewide Materials Management Plan (MMP), which came into effect in June 2014 (Act 148). All waste districts and inter-municipal associations must, therefore, revise or rewrite their existing SWIPs to conform to the new MMP that adheres to policy changes stemming from Act 148.

In addition to being in conformance with the State Plan, all SWIPs must be in accordance with any municipal or Regional Plan, prepared and adopted pursuant to 24 VSA Chapter 117. Towns and districts need to demonstrate that the provisions of these plans match the goals and policies of the SWIP. The elements of a SWIP must meet Agency planning requirements,

discuss waste diversion plans, household hazardous waste, biosolids, and septage management, waste facility siting criteria, and include a public participation component. All towns or districts for this Region are encouraged to contact TRORC offices regarding their current planning activities and to seek a determination that their SWIP revisions meet overall goals and policies of this Plan.

The TRO Region is served by a total of six waste management districts, as well as one inter-municipal association (see Table 10-3). The Greater Upper Valley Solid Waste Management District covers a ten town area, which constitutes a third of the Region's population, based on 2010 U.S. Census Bureau figures. The second largest service area is the Hartford Community Recycling Center, which covers 18% of the Region's population. It currently operates a solid waste/recycling transfer center on a 19 acre site (the former town landfill). The third largest waste management district is the White River Alliance, which covers eight of the Region's towns and roughly 17% of the regional population.

As of 2014, there are twenty-six active solid waste facilities throughout our Region

that have been certified by the state (see Table 10-4). Presently, the Region has: 7 recycling facilities, 4 composting facilities, 11 transfer stations, and 3 landfills. The table of existing facilities illustrates that a third of the Region’s towns lack any waste management facility, and are instead reliant on their neighboring waste management district partner municipalities for waste disposal. Four of our smallest towns (based on population numbers) are currently without waste management facilities. These four towns are: Granville, Hancock, Stockbridge and Pittsfield. In some instances, these towns find themselves two to three towns removed from a landfill or transfer station in other nearby towns or may otherwise be physically removed from nearby sites by mountain passes that make site access more challenging.

The only solid waste facility that currently has a permit for construction and use in the TRO Region is the proposed Upper Valley Landfill, which would be owned by the Greater Upper Valley Solid Waste Management District. The permit for the site has been in place since March 1996, and was recertified in 2014. Per the facility’s management plan, the landfill would have an allowable acceptance rate of up to 50,000 tons of solid waste per year, with a contingency plan in place to utilize a to-be constructed transfer station in the event of a temporary landfill shutdown. The location of the landfill is to be in the Town of Hartland, on a 112.5 acre parcel that is located at Mille Street, between the I-91 highway and the Connecticut River. While the Greater Upper Valley Solid

**Table 10-3: Waste Management Districts in the TRO Region**

Waste Management District	Towns	Population	% of Total Regional Pop.
Central Vermont SWMD	Bradford	2,797	11%
	Chelsea	1,238	
	Fairlee	977	
	Tunbridge	1,284	
Greater Upper Valley SWMD	Bridgewater	936	33%
	Hartland	3,393	
	Norwich	3,414	
	Pomfret	904	
	Sharon	1,502	
	Strafford	1,098	
	Thetford	2,588	
	Vershire	730	
	W. Fairlee	652	
	Woodstock	3,048	
Northeast Kingdom WMD	Corinth	1,367	8%
	Newbury	2,216	
	Topsham	1,173	
Southern Windsor/Windham Counties SWMD	Plymouth	619	1%
Tri-Town Agreement	Braintree	1,246	13%
	Brookfield	1,292	
	Randolph	4,778	
White River Alliance	Barnard	947	17%
	Bethel	2,030	
	Granville	298	
	Hancock	323	
	Pittsfield	546	
	Rochester	1,139	
	Royalton	2,773	
Stockbridge	736		
Hartford Community Recycling Center	Hartford	9,952	18%

**Table 10-4: Waste Management Facilities in the TRO Region**

	Town	Facility Name	Type of Facility
Orange County	Bradford	Bradford Recycling Depot	Recycling
	Bradford	Knoxland Farm-Highfields Institute	Composting
	Braintree	Greenwood Composting Facility	Composting
	Chelsea	Chelsea Transfer Station	Transfer Station
	Corinth	Sandberg Farm - Highfields Institute	Composting
	Corinth	Corinth Recycling Facility	Recycling
	Corinth	Corinth Transfer Station	Transfer Station
	Fairlee	Fairlee Transfer Station	Transfer Station
	Newbury	Newbury, Town of	Recycling
	Randolph	Randolph Stump Dump	Landfill
	Randolph	Randolph Transfer Station-Casella	Transfer Station
	Strafford	Strafford Recycling Depot	Recycling
	Thetford	Thetford Transfer Station & Recycling Ctr.	Transfer Station
	Tunbridge	Tunbridge Transfer Station	Transfer Station
	Vershire	Vershire Recycling Center	Recycling
Windsor County	Barnard	Barnard Transfer Station	Transfer Station
	Bridgewater	A.B.L.E. Waste Mgmt. Transfer Station	Transfer Station
	Hartford	Hartford C&D Landfill & Transfer Station	Transfer Station
	Hartford	NE Waste Services, LTD Recycling Fac.	Recycling
	Hartford	Twin State Sand & Gravel Stump Dump	Landfill
	Hartland	D & D Excavating, Inc.	Recycling
	Norwich	Norwich Transfer Station	Transfer Station
	Plymouth	A.B.L.E. Waste Mgmt. Transfer Station	Transfer Station
	Rochester	North Hollow Farm	Composting
	Royalton	Bethel/Royalton Transfer Station	Transfer Station
	Stockbridge	Harvey's Peavine Pit	Landfill

Waste Management District has transfer stations and recycling centers within its region, it is currently reliant on a landfill outside its region in neighboring Lebanon, New Hampshire.

### Solid Waste Management Challenges

#### *Universal Recycling Law*

According to the Agency of Natural Resources (ANR), the average Vermont resident generates 5.18 pounds of waste per person per day in 2014, and, as of 2011, cumulatively dispose of over 400,000 tons of materials per year. In 2012,

---

Vermont adopted Act 148, commonly known as the Universal Recycling Law, to promote the universal recycling of solid wastes and to improve diversion rates (i.e., keeping less waste out of landfills through product recycling, composting, and other measures). (10 VSA § 6604). The Law works by phasing in a required separation of waste materials over a six year period, so as to afford municipalities and waste management districts time to establish necessary collection services and accompanying waste processing facilities for residents. Following on this, the Secretary of ANR promulgated rules in the form of the Vermont Materials Management Plan, which came into effect in June of 2014.

Four goals serve as the basis of the state Materials Management Plan (MMP), which serve to keep products out of the waste stream while also reducing reliance on conventional waste management needs:

1. To prevent waste from being generated;
2. To promote sustainable materials management, with a preference for highest and best uses;
3. To minimize reliance on waste disposal (landfilling and incineration); and
4. To conserve resources, minimize energy consumption, and reduce greenhouse gas (GHG) emissions and other adverse environmental impacts.<sup>1</sup>

How solid waste management providers will adapt to the new requirements of Act 148 are unclear, because they lack

sufficient data and understanding of the impacts of the MMP and Act 148, more broadly, on their capacity. TRORC, therefore, is not in a position to comment on or otherwise assess the capacity, fiscal, and overall management issues that the Region's waste districts will face while the Universal Recycling Law implementation rules are phased in between now and 2020. However, there are a number of potential challenges that may arise as each of the timeline milestones is reached:

- Effectively enforcing rules on what may and may not enter landfills (i.e., recyclables, yard and food compostable) may prove difficult. Determining how solid waste management entities will monitor waste is key to addressing this, and may be aided by variable rate pricing mechanisms.
- Ensuring cooperation between solid waste districts and business, particularly with respect to recycling and composting efforts, may take time.
- Many haulers, particularly those managing smaller operations, are fearful of being pushed out of the waste collection market by larger competitors, owing to a smaller capital base with which to acquire larger trucks capable of both trash, recyclable, and compostable waste products.
- Requiring towns to provide recycling receptacles in all publicly accessible spaces alongside trash receptacles is a cost that needs to be considered in municipal budgeting. While perhaps not overly onerous for many towns,

**Table 10-5: Act 148 Implementation Timeline**

July 1, <b>2014</b>	<ul style="list-style-type: none"> <li>• Transfer stations/drop off facilities to accept residential recyclables at no additional charge</li> <li>• Generators of 2+ tons of food scraps/week must divert material to any certified facility in a 20 mile radius</li> </ul>
July 1, <b>2015</b>	<ul style="list-style-type: none"> <li>• Statewide unit based priced takes effect</li> <li>• Recyclables banned from landfills</li> <li>• Haulers to offer residential recycling collection at no additional charge</li> <li>• Public buildings to provide recycling containers alongside trash containers in public spaces</li> <li>• Generators of 1+ tons of food scraps/week must divert to any certified facility in a 20 mile radius</li> </ul>
July 1, <b>2016</b>	<ul style="list-style-type: none"> <li>• Leaf, yard, and clean wood debris banned from landfills</li> <li>• Haulers to offer leaf and yard debris collection</li> <li>• Generators of 1/2+ tons of food scraps/week must divert material to any certified facility in a 20 mile radius</li> </ul>
July 1, <b>2017</b>	<ul style="list-style-type: none"> <li>• Transfer stations/drop-off facilities to accept food scraps</li> <li>• Haulers to offer food scrap collection</li> <li>• Generators of 1/3+ tons of food scraps/week must divert material to any certified facility in a 20 mile radius</li> </ul>
July 1, <b>2020</b>	<ul style="list-style-type: none"> <li>• Food scraps to be banned from landfills</li> </ul>

this unforeseen cost has not been a formal consideration previously, and may prove burdensome for certain municipalities unless appropriately planned for prior to July 1, 2015.

The biggest task ahead of solid waste management entities is simply providing the necessary education and guidance to equip residents, businesses, and municipal governments alike with understanding their role in the roll-out of these new waste management practice requirements. Conducting the necessary outreach, to this end, is a critical task to ensuring proper compliance with the statewide MMP.

## Solid Waste Management Solutions

### *Reduce Inputs*

According to ANR, waste generation figures can be reduced substantially through improved product design, increased producer and consumer responsibility for products' lifecycles (a cradle to cradle approach to that leads to repurpose once a product's primary purpose or utility has been fulfilled), and increasing consumer and commercial awareness of reuse and reclamation opportunities for goods. In promoting a product's highest and best use, Vermont's residents and businesses are tasked with considering the environmental impacts of all stages of a product's lifecycle. One example of this approach is

viewing organic materials as the greatest contributor of GHG emissions in landfills, and considering their reuse in a hierarchy that feeds not only people but also livestock, compost and anaerobic waste digesters, and ultimately fuelling energy production. Reliance on landfills requires the waste of natural resources, and is indicative of the inefficient management of waste products. Distancing ourselves from reliance on landfills will lessen both current and future environmental degradation impacts. A zero-waste future, is one that minimizes the ecosystem burdens to our land, our soil, our air, and our water resources from emissions, leachate, and toxins.

In line with the above-state goals, the MMP sets out eight implementation goals and objectives, from which municipal Solid Waste Management Plans are to stem:

1. Expanded education and outreach to schools, businesses, and the general public.
2. Extended producer responsibility and product stewardship.
3. Reduction in the statewide disposal rate (pounds per person per year).

4. The reuse, recycling, and composting of materials to reduce the amount needing to be landfilled.
5. Reduction of toxicity in the waste stream.
6. Improved availability of statewide infrastructure and services for waste reduction and diversion (strive for convenient, consistent, and cost-effective services).
7. Improved measurement and progress of performance standards.
8. Development of sustainable financial structures to manage materials.<sup>2</sup>

### **Outreach and Support**

The most obvious role for TRORC regarding solid waste is to provide outreach and education to our communities. As the Agency of Natural Resources begins to implement the requirements of the Vermont Materials Management Plan, TRORC can help guide our communities through those requirements, ensuring that the plan is implemented. Additionally, TRORC can continue to support our Region’s Solid Waste Districts when seeking permits through Act 250 or when renewing solid waste plans.

## Goals, Policies and Recommendations: **Solid Waste**

### **Goals**

1. Reduced solid and hazardous waste generation in the TRO Region.
2. Increased reuse and recycling in the TRO Region.
3. Disposal of municipal solid waste in lined landfills.

*Goals, policies and recommendations continued on next page*

---

## Goals, Policies and Recommendations: **Solid Waste**

### *Policies*

1. The scale, type, and design of major public utilities and facilities should be undertaken so as to complement the future land use settlement patterns recommended in this Plan and relevant municipal plans. Public investments in municipal, regional, and state facilities should be located within existing or planned regional growth areas unless those facilities are of a type that is considered inappropriate for these locations due to potential health hazards.
2. The placement of businesses that produce significant amounts of hazardous waste in areas where unintended, persistent waste discharge could cause harm to both the human and natural environment is inconsistent with this Plan.

### *Recommendations*

1. TRORC shall continue to assist member towns, alliances, and the Greater Upper Valley Solid Waste Management District in the update and implementation of municipal and regional solid waste plans.
2. TRORC shall support and participate in any future discussions regarding the development of regional waste management services.
3. TRORC shall further Universal Recycling Law requirements for parallel solid waste collection services through outreach and education with assistance from the Agency of Natural Resources.
4. TRORC shall support the creation of municipal composting facilities for organic wastes where appropriate.

## **D. Health Care Facilities**

Health care facilities are essential in the prevention, treatment, and management of illness, and in the preservation of mental and physical well-being through the services that they offer. Additionally, they provide benefits to our Region by providing jobs and supporting local economies. From a regional standpoint, the availability of quality health care to our citizens is of significant importance.

This chapter focuses specifically on medical facilities. It does not delve into a greater discussion about the regional health care system and the services offered through it. This is a very complex

system, and it is likely that there are gaps and needs in the availability of services, particularly for the Region's vulnerable populations (i.e. the elderly, the physically, mentally, or developmentally disabled, and the low-income). There is no statutory requirement to have a health element as part of the Regional Plan, however, TRORC recognizes that this is an important issue and in the future, a more in-depth discussion about the regional health care system should be considered as part of this plan.

### **Medical Facilities**

Gifford Medical Center in Randolph, and the White River Junction branch of

**Table 10-6: Medical Care Facilities in TRO Region, 2014**

Facility	Primary Focus	Location	Affiliation
<b>Gifford Medical Center</b>	Primary Care	Randolph	Gifford Primary Care
<b>Kingwood Health Center</b>	Rehabilitation Services	Randolph	Gifford Primary Care
<b>Rochester Health Center</b>	Primary Care	Rochester	Gifford Primary Care
<b>Bethel Health Center</b>	Primary Care	Bethel	Gifford Primary Care
<b>Chelsea Health Center</b>	Family Medicine	Chelsea	Gifford Primary Care
<b>Sharon Health Center</b>	Sports Medicine	Sharon	Gifford Primary Care
<b>Twin River Health Center</b>	Specialized Medicine	White River Jct	Gifford Primary Care
<b>Little Rivers Health Care - Bradford</b>	Family Medicine	Bradford	Little Rivers Health Care
<b>Little Rivers Health Care - Corinth</b>	Family Medicine	Corinth	Little Rivers Health Care
<b>Little Rivers Health Care - Wells River</b>	Family Medicine	Wells River	Little Rivers Health Care
<b>VA Medical Center</b>	Acute Care	White River Jct	U.S. Veteran's Admin.
<b>Dartmouth-Hitchcock Medical Center</b>	Tertiary Care	Lebanon, NH	Dartmouth-Hitchcock

the Veteran's Administration Medical Center, are the largest medical facilities located in the TRO Region. For more major medical issues, residents in our Region use Dartmouth Hitchcock Medical Center in Lebanon, NH which includes a cancer center and children's hospital. The majority of our Region's medical needs are provided by smaller health clinics, which are part of a larger network. These facilities allow local residents, including those on low or fixed incomes, direct access to day-to-day primary and family care services without requiring extensive travel. The local nature of our Region's health clinics allows residents to create long-term relationships with their medical practitioners, a concept that is consistent with the concepts of primary care.

Medical services are available to lower income residents in several locations in the TRO Region. Gifford Medical Center in Randolph and the Good Neighbor Health

Clinic in White River Junction can provide free primary medical care to nearby residents whose household incomes are below 200% of the poverty level.

Based on discussions with regional health care service providers, the Region's medical facilities are at a scale that is meeting the current needs of our residents. While there is always room to improve services and to expand opportunities, additional medical facilities are not needed at this time.

### Elder Care Facilities

As the elderly (citizens aged 65 or older) become less comfortable with the tasks involved in managing their own home, they often turn to some sort of elder housing. If health is an issue and some form of constant care is required, seniors will need to enter a nursing home or a residential care facility. The chart below indicates the number of units or beds available for each

**Table 10-7: Elder Care Facilities in the TRO Region, 2014**

<b>Assisted Living Facilities</b>	<b>Units</b>	<b>Location</b>
Valley Terrace	61	White River Junction
Woodstock Terrace	42	Woodstock
Hillside	40	Randolph Ctr
<b>Nursing Homes</b>	<b>Beds</b>	<b>Location</b>
Menig	30	Randolph Ctr
Brookside	67	White River Junction
Merten's House	14	Woodstock
<b>Residential Care (Level III)</b>	<b>Beds</b>	<b>Location</b>
Blue Spruce Home for the Retired	8	Bradford
Mountain View	8	Vershire
Oasis Home	6	Bradford
Pleasant Street Home	3	Randolph
Riverbend Residential Care Home	21	Chelsea
The Homestead	23	Woodstock
Valley View Home for the Retired	7	Fairlee
Windover House	15	Randolph
<b>Residential Care (Level IV)</b>	<b>Beds</b>	<b>Location</b>
Atkinson Residence	15	Newbury
Merry Meadow Farm - Bradford House	12	Bradford

level of elderly care. Data shows that there are limited options surrounding area for all levels of care, but full-time residential care is particularly scarce. Elderly residents in need of full-time care (Level IV) are often forced to move away from their community. This is a statewide problem, not just a regional issue.

### Challenges

#### *Access to Data*

Medical facilities rely heavily on the transfer of data. In this age of digital data, this requires access to the internet. Because of the size and volume of these

data, substantial bandwidth is required. Those facilities that are located in areas where internet access or internet bandwidth is limited are not able to be as responsive as other facilities.

#### *Lane Use Patterns*

The expansion of existing or development of new medical or elder care facilities has the potential to conflict with existing and future land use patterns. The most appropriate locations for these facilities are within community centers (villages and downtowns), because they are often walkable, have existing services and access to business-class internet access.

In locations outside of designated growth areas, new facilities are less desirable because they have a broader impact. In rural areas, these facilities may require the extension of existing water and wastewater systems, can negatively impact natural resources, and can create conditions that encourage sprawl and strip development.

#### *Aging Population*

The percentage of our Region's population that is over 60 years of age is growing, which creates new challenges for our Region. The number of people with chronic illnesses (generally incurable illnesses or conditions that require ongoing medical attention and affect a person's daily life) is on the rise nationally. Four out of five Americans over the age of fifty suffer from at least one chronic condition, including high blood pressure, diabetes or mental illness. When chronic illnesses are coupled with age, some form of elderly care service becomes necessary. In 2010, the number of residents 60 years and older

---

in our Region was 13,665; nearly 25% of the TRO Region’s total population. There are currently only 372 total beds/units dedicated to elderly care in our Region, a fraction of what may be needed in the future.

## Solutions

### *Encouraging Medical Facilities through Land Use Policy*

Given the need for additional medical facilities, particularly those that specialize in elderly care, efforts to encourage their growth and development at sustainable levels is in the interests of the Region. Municipalities can support their growth by allowing for these facilities in their villages and downtowns, and by creating regulatory structures that balance issues like historic preservation with the public value these facilities provide. Under Act 250, rules could be clarified to allow some leeway in permitting if a facility represents a clearly defined public good.

The priority for future investments in the health of our Region should focus on elderly care facilities and services. The first step in making these investments is to determine where they would be most practical. TRORC could work with communities and stakeholders to identify possible locations for elderly care facilities throughout the Region.

Beyond the clear health benefits of these facilities, the economic benefits are obvious. Medical and elderly care facilities have the potential to provide workers with a livable wage and act as stimulators of the local economy. When located in appropriate locations, such as

within or immediately adjacent to villages and downtowns, medical and elderly care facilities are consistent with this Plan.

### *Support Facilities and Systems*

TRORC can provide support for the development of new facilities, by reviewing any potential projects before they are submitted to the District Environmental Commission in order to reduce the possibility that a permit will be denied, delayed or heavily conditioned. During the Act 250 process, TRORC should actively participate and offer support for the proposed developments when possible. Priority of support should be given to developments that will increase the availability of elder care opportunities, provided that any proposed development is consistent with the policies contained within this Plan.

### *Importance to the Economy*

*Vermont’s not-for-profit hospitals are cornerstones of our local economies, providing and supporting more than 27,000 direct and indirect jobs in Vermont – about five times the state’s largest private employer and one out of every 12 workers.*

*For communities like Randolph, where Gifford Primary Care (Gifford Medical Center) is located, these facilities are a direct stimulator of the economy, providing employment, paying taxes and utilizing local services.*

---

## Goals, Policies and Recommendations: **Medical and Elderly Facilities**

### *Goals*

1. Enhanced availability of medical and elderly care services in the Region.
2. Access for residents to all levels of health care, regardless of wealth or income status.

### *Policies*

1. Medical and elderly care facilities are encouraged when located within or immediately adjacent to designated growth areas provided that they do not have an undue adverse impact on traffic or the character of the area.
2. Support efforts at the state and local level to develop additional elderly care services and facilities.

### *Recommendations*

1. TRORC should identify areas of the region where medical or elderly care facilities would be beneficial.
2. TRORC should review local zoning and subdivision regulations to ensure that they do not have the effect of prohibiting health or elderly care facilities from appropriate areas and to assist with revisions as needed.
3. TRORC should work with state partners to clarify or revise Act 250 rules to allow permitting flexibility when a proposed development is consistent with this Plan and has a clearly defined public good.
4. TRORC should work with partners to further identify and document gaps or needs within the regional health care system, particularly for vulnerable populations.

## **E. Educational Facilities and Services**

Access to a system of quality education is required to achieve social and economic goals throughout the TRO Region. According to Vermont Statute, the right to public education is key to guaranteeing political and civil rights to constituents. Indeed, “[t]o keep Vermont’s democracy competitive and thriving, Vermont students must be afforded substantially equal access to a quality basic education.”<sup>3</sup>

Sustained regional and economic development will be impossible in the Region unless financial and geographic access to education is affordable and geographically convenient. Without a well-educated work force, the Region, like the rest of Vermont, will be unable to compete with other states for well-paying jobs. Further, education and child care are necessary to community vitality. Education institutions make towns attractive to residents and employers alike.

---

Education serves as a driver of local economic development, and investments in education contribute greatly to the overall economic health of the Region.<sup>4</sup> The economic downturn that began in 2008 emphasized the relationship between economic development and an educated work force. Economic restructuring following the recession resulted in a shift away from jobs in manufacturing to service sector employment. Many of these new jobs are at lower wage levels, as is true of such work in our regional growth centers. However, as workforce skillsets increase and improve through investments in regional educational opportunities, so, too, will job and wage growth in local economies.<sup>5</sup>

### Challenges to Educational Attainment

- It is anticipated that the Region may see population growth of up to 6.2% between now and 2030, placing increased strain on some of the education facilities that currently exist.<sup>6</sup> Some towns in the TRO Region may see pronounced growth, while others may experience population decline. The totality of these impacts, whether positive or negative population fluctuations, will directly influence the breadth and use of educational services throughout the Region.
- Declining enrollment numbers in certain towns and villages threaten the future of local schools, which, if closed, would increase burdens placed on schools in adjacent municipalities. Over the past decade, there have been four school closures in the Region:

Hancock, Granville, Plymouth, and Bridgewater. Many others are in active discussions about consolidation.

- The cost of publicly educating children places significant financial strain on many municipalities. These costs, coupled with potential school consolidation, may be further compounded by the need to carry out extensive renovations of remaining schools or the construction of new facilities so as to maintain a level of service for students that allows for academic achievement and growth.
- Continuing and adult education programs are few throughout the Region, and are increasingly important as the elder population grows in coming years in order to promote lifelong learning, societal engagement, mental health, and well-being.
- Lack of access to high-speed internet in portions of the Region hinders access to educational materials for many, irrespective of age or level of education.

### Elementary and Secondary Schools

Sound planning for educational facilities and programs is necessary to support the social, economic, and cultural welfare of a community. There is a positive correlation between levels of higher education attainment and higher earnings; lower unemployment and poverty rates; decreased reliance on social welfare programs; and higher levels of civic engagement.<sup>7</sup> Further, higher levels of education positively correlate to improved health, well-being, and lower crime rates.<sup>8</sup> A quality education provides

**Table 10-8: Regional School Facility Enrollment Totals, Academic Year 2013-2014**

			0	K P/T	K F/T	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	AW	Total
<b>Blue Mtn. SD</b>	Blue Mtn. USD #21 (District)	Blue Mountain USD #21 (School)	44		29	27	44	34	36	30	29	24	22	27	29	29	26		430
<b>Orange East SU</b>	Bradford ID	Bradford Elementary School	32		35	36	26	32	31	34	16								242
	Bradford ID	Riverbend Career and Tech																	0
	Bradford ID	Connecticut River Academy				1	1	1	3	2	4	3		1	4	4	2		26
	Oxbow UHSD #30 (District)	Oxbow UHSD #30 (School)										49	49	74	84	68	66		390
	Newbury	Newbury Elementary School	19		18	24	17	16	17	10	22								143
	Thetford	Thetford Elementary School	8		22	28	27	26	32	33	34								210
	Thetford	Thetford Academy											31	38	66	46	52	62	295
	Thetford	Open Fields School		4	1	1	2	2	7	6									23
	Waits River Valley USD #36 (District)	Waits River Valley USD #36 (School)	26		28	32	25	14	26	20	29	20	27						
<b>Orange Southwest SU</b>	Braintree	Braintree School	2		23	9	9	11	11	7	15								87
	Brookfield	Brookfield School	1		8	8	8	6	7	11	9								58
	Randolph	Randolph Elementary School	5	50		47	38	56	42	38	52								328
	Randolph	Vermont Academy of Science and Technology															56		56
	Randolph UHSD #2 (District)	Randolph UHSD #2 (School)										74	68	69	98	71	65	1	446
<b>Orange Windsor SU</b>	Chelsea	Chelsea Elementary High School	2	23		11	13	11	11	13	10	18	10	18	27	19	8		194
	Chelsea	Brookhaven Learning Center				1	1	3	2	2	2	3	2						16
	Royalton	South Royalton Elementary/High School	15		32	18	22	21	25	24	23	22	21	38	41	28	32		362
	Sharon	Sharon Elementary School	34		15	15	14	20	22	14	13								147
	Sharon	The Sharon Academy										17	19	33	33	32	32		166
	Strafford	Newton Elementary School	4		7	11	15	7	17	13	16	13	18						121
	Tunbridge	Tunbridge Central School			14	15	14	12	13	16	10	16	11						121
	Vershire	The Mountain School															45		45

Continued next page

**Table 10-8: Regional School Facility Enrollment Totals, Academic Year 2013-2014**

			0	K P/T	K F/T	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	AW	Total	
Rivendell Interstate SD	Rivendell Interstate School District	Samuel Morey Elementary School	17		24	22	24	16	21	19	36								179	
		Westshire School	24		17	14	9	17	13											94
Hartford SD	Hartford	Dothan Brook School	43		43	37	37	35	37	49										281
		Hartford High School													148	138	127	145	8	566
		Hartford Memorial Middle School										114	92	115						321
		Mid Vermont Christian School		5		9	4	11	6	6	7	4	9	5	8	16	11			101
		Ottawaquechee School	28		51	38	36	33	34	30										250
		Potter's House		9													1			10
		White River School	38		36	28	33	30	35	28										228
Norwich SD	Norwich	Marion W Cross School	7		38	51	45	52	47	46	46								332	
Windsor Central SU	Barnard	Barnard Central School	10		7	8	3	8	9	14	3								62	
	Bridgewater	Bridgewater Village School	2		5	7	5	5	6	5	3								38	
	Pomfret	Pomfret School			8	4	8	9	10	13	11								63	
	Woodstock	Woodstock Elementary School	2		17	29	26	18	31	23	27								173	
	Woodstock UHSD #4	Woodstock Senior UHSD #4													95	107	81	93		376
		Woodstock Union Middle School											74	63						137
	Woodstock UHSD #4	Upper Valley Waldorf School		30		8	12	14	13	20	17	11	13							138
Windsor Northwest SU	Bethel	Bethel Elementary School	28		33	15	26	19	24	12	21								178	
		Whitcomb Junior/ Senior High School											27	19	26	21	22	15		130
	Rochester	Rochester School	14		13	13	11	7	8	9	10	8	8	12	15	16	12		156	
	Stockbridge	Stockbridge Central School	4	8		10	5	6	8	9	4								54	
Windsor Southeast SU	Hartland	Hartland Elementary School	7		34	29	26	44	27	38	34	33	26						298	
Regional Totals			372	129	529	579	542	562	595	564	588	515	516	585	623	581	599	9	7,888	

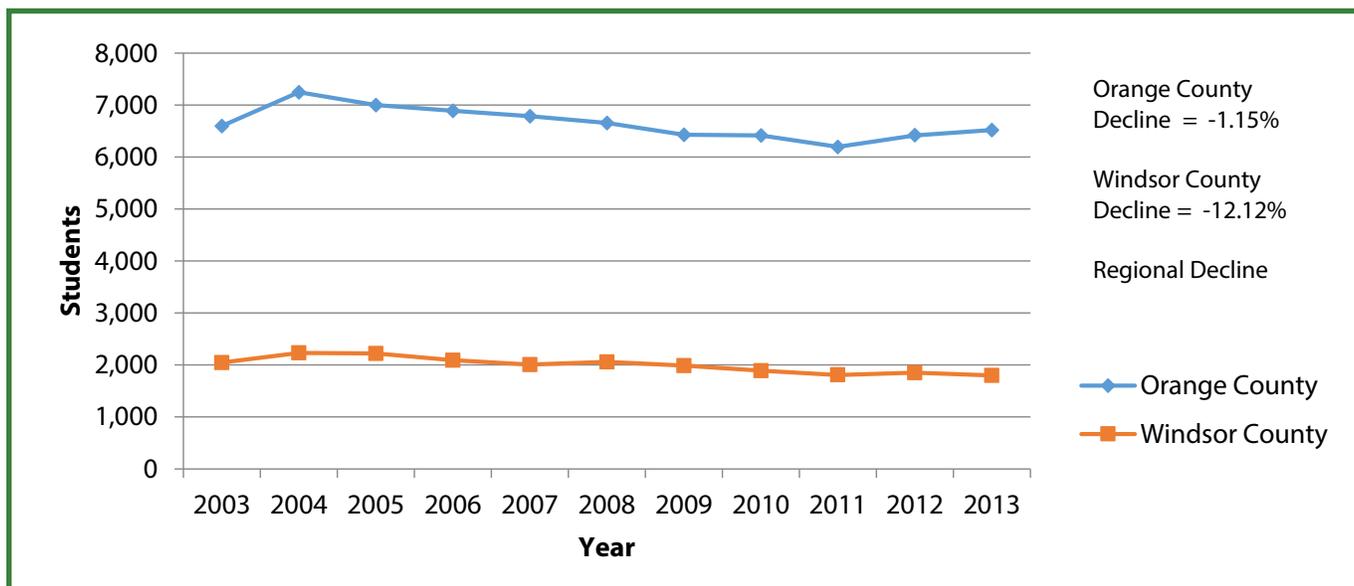
Source: Vermont Department of Education, 2013

the foundation for a child’s productive future, enabling the child to make positive contributions to business, civic affairs, and family life.

All public schools are governed by a district school board elected by the voters of their respective municipalities, and administrative support to the district board is received from supervisory unions. In 2013/2014 there were a total of forty-five educational facilities within, or serving, the Region. Total enrollments amounted to approximately 7,888, covering grades K through 12 and special programs. Some school districts and municipalities accept, on a year-to-year basis, tuition-paying students from neighboring communities that do not provide elementary or secondary education, or lack adequate facilities. (See Table 10-8, which lists individual school facilities and enrollment totals for the 2013/2014 academic year).

Throughout the 1980s and 1990s, school enrollments experienced slow to moderate growth, but this trend has reversed in recent decades. Declining enrollments have brought staffing, programmatic, and financial planning challenges to schools throughout the Region. It has resulted in the closure of four schools in the TRO Region in the past decade in Granville, Hancock, Plymouth, and Bridgewater. If this trend continues, additional schools and municipalities will have to make the decision whether to down-size their staffs and programs, or investigate the idea of regional schools. Regional schools will likely require one of two things: the building of entirely new facilities that are in more centralized locations for participating towns or the renovation of existing centrally-located school facilities. How towns will make this determination is yet to be determined, but both eventualities will come at a substantial cost.

**Figure 10-1: School Enrollment Figures for the TRO Region, 2003-2013**



Source: Vermont Department of Education, 2013

In the decade from 2003 to 2013, schools in the TRO Region saw a 3.75% decline in the number of enrolled students. Where once there were 8,650 students for academic year 2003-2004 and 47 educational facilities, there were just over 7,888 enrolled students in 2013 and a loss of 2 schools. Viewed by counties as a whole, the decline in student enrollment was most pronounced in the TRORC towns in Windsor County, which saw student numbers fall by over 12% in one decade. The largest gains and declines in individual school enrollment numbers were seen in Orange County schools. The student body at Vermont Academy of Science and Technology in Randolph, which provides specialized and advanced courses for students from other area schools, increased by 133%. Meanwhile, enrollment at Potter’s House in Hartford declined by 53%. In Windsor County, the Bethel Elementary School’s enrollment numbers increased by over 24%, and the Rochester School’s student numbers declined by nearly 38%. Sustained levels of decline may have untold social and economic impacts for towns in the TRO Region, and are, therefore, an area of vigilance and concern for the future well-being of the Region.

**Homeschooling**

For the academic year running from 2013 to 2014, there were a total of 145 known home study students in the TRO Region. There are more scattered across 24 other towns and villages, but, due to there being fewer than 11 students in each of those places, the Agency of Education (AOE) has suppressed their overall student

**Table 10-9: Towns/Villages with Home-schooled Students**

Fewer than 11 Home-schooled Students	11 or more Home-schooled Students
Bridgewater	Randolph (27)
West Brookfield	Bradford (19)
Corinth	Randolph Center (19)
Fairlee	Bethel (17)
Hancock	Chelsea (16)
Hartford	Woodstock (13)
Newbury	Hartland (12)
West Newbury	Braintree (11)
Norwich	Brookfield (11)
Pittsfield	<b>No Home-schooled Students</b>
Plymouth	Fairlee
South Pomfret	Granville
East Randolph	Pomfret
Rochester	Royalton
South Royalton	
Sharon	
Stockbridge	
Strafford	
South Strafford	
Thetford	
Thetford Center	
Topsham	
Tunbridge	

figures. What this does mean is that there could be as many as an additional 240 home study students residing in our Region. Altogether, this could mean that 5% of all students in the Region are being homeschooled as opposed to mainstreamed in local schools. What may come as a surprise is that four of the towns in the Region did not have any home study students represented in Agency data, and

---

one of the towns lacking such students also lacks a school altogether.

Homeschooled students are reliant on parents for their curriculum, but all children enrolled in home study programs are to have access to a quality of education, in accordance with the State Board of Education, the AOE, and Vermont state law. The AOE sets guidelines for home study in Vermont, and this does include provisions allowing home study students to partake in classes and other activities at local public schools, as per Act 119 (although independent schools are not required to make such offerings).<sup>9</sup> There are also community organizations, such as Artistree in Pomfret, that provide extracurricular programs to supplement in-class learning and socialize students outside of the home. All told, these homeschooled children must have a minimum of 60% of their core academic coursework conducted at home.

### **Determinants of Education Funding**

Quality educational facilities are expensive investments to construct and maintain, and per pupil tuition rates are increasingly steep. As a result, schools require careful and diligent long-range planning by school officials, administrators, and citizens. Overall state aid to local and regional districts has declined, placing even greater burdens on towns to fund school costs through property taxes. Despite many attempts by the Vermont General Assembly and Executive Branch to reform property tax/school aid, Vermont has been unable to adopt a reform package that provides relief from high property taxes, as experienced in many towns.

In 1997, the Vermont Supreme Court ruled that total state funding would be provided to school districts. Prior to this judgment (the *Brigham v. State of Vermont* decision), the state would provide aid that augmented local property taxes to fund the school districts through a state-aided local tax system. The court held in *Brigham* that such a policy was unconstitutional because it unfairly allowed students in towns with higher property values to receive a higher level of education funding per pupil than less affluent areas. Following the Vermont Supreme Court ruling, the state passed Act 60, also known as the “Equal Educational Opportunity Act,” which seeks to balance educational spending across school districts, irrespective of the wealth in a particular district. Act 68 was later passed in 2003 to rectify imbalances in Act 60. Through Act 68, the state Education Fund disperses money to school districts via categorical grants and education spending toward school district budgets. Together, these funding opportunities totaled more than \$1.35 billion in 2012, and were supplemented by the homestead property tax.<sup>10</sup> The latter tax varies proportionally with each district’s education spending per pupil, with different weighting used for different types of students.

### **Provision of Free Appropriate Education**

Under Section 504 of the federal Rehabilitation Act of 1973, no disabled individual “shall, solely by reason of her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal

---

financial assistance,” irrespective of the nature of extent of the individual’s physical or mental disability.<sup>11</sup> Generally speaking, all school-age children with disabilities are covered under Section 504, with “appropriate education” encompassing the provision of regular classes and all necessary aids and services that support a child’s learning needs, including services such as speech, occupational, physical, psychological, and/or diagnostic medical services.<sup>12</sup>

For all intents and purposes, the educational programs designed for disabled students must meet the needs of those designed for nondisabled students to an equal extent, be that through the creation of an individual education plan or otherwise. Students must be allowed, to the fullest extent possible, to be educated with a cohort of nondisabled students, unless it is demonstrated that their needs can be most effectively served in a different setting. Student tuition is to be free of charge to disabled students, with no additional financial burden placed on families or guardians; therefore, fees are to be borne by the school district. This federal act warrants consideration by all school districts, particularly at a time when some educational institutions specifically designed to meet the educational needs of disabled segments of the state’s population have closed or are facing closure (for example, the Austine School for the Deaf in Brattleboro).

### **Poverty and Education**

It is important to note that the Region’s school system provides the main avenue of support for children living in poverty. In

Orange County, 18.7% of children under 18 live in poverty, and, in Windsor County, 12.8% of children under 18 live in poverty, according to 2013 American Community Survey data. For those children who attend school, the school provides them with the supportive care they require, including providing them with important nutritional supplements through the free and reduced lunch program, access to case managers and counselors, and providing them with a safe and supportive environment. Schools also have a strong impact on children living in poverty by providing them with the opportunity to form strong, positive relationships, either formally through mentor programs or informally with teachers, coaches, and fellow students. Finally, the small class sizes in the Region allow observant teachers to act as an early warning system, and to intervene on behalf of a child whose circumstances might warrant greater attention and support. Schools can have a positive impact on students; however, the level of impact is possibly greatest with students from lower-income families. As a consequence, schools play a critical role in combating regional poverty.

Another facet of poverty with respect to education is the provision of services to homeless children. Per the federal McKinney-Vento Homeless Assistance Act, homeless children are defined as those who “lack a fixed, regular, and adequate nighttime residence.”<sup>13</sup> Homeless students, under the Act, are to be afforded the same Free Appropriate Education as are other students that are mainstreamed in the local school system. They have a right to the

---

“same challenging State student academic achievement standards to which all students are held.”<sup>14</sup> All homeless student data in Vermont is supplied to the Agency of Education by Local Education Agencies (LEAs – Supervisory Unions and a few school districts), and the data they receive reflects the homeless students enrolled in schools during a given academic year.

In the interest of confidentiality of minors, Vermont’s data is suppressed for school districts with fewer than 11 homeless students. Consequently, it is difficult to gauge how many students are homeless in a given academic year. Furthermore, it is likely there are duplicates in the statewide counts because some students experiencing homelessness move in and out of different LEA catchment areas during the school year (more than one LEA will count them). What is known with certainty is that the state data showed a total of 114 unsuppressed students within the TRO Region for the academic year running from 2013-2014. This figure includes 78 students from the Hartford School District, 29 students from the Orange Windsor S.U., and 17 students from the Windsor Southeast S.U. All other regional LEAs are listed as having some number of homeless students, but their data has been suppressed.

The availability of homeless student data and its limitations (such as transient student populations across LEAs) makes it difficult to draw concrete inferences about homeless youth in the Region’s school system. However, we do know that they are present, and they must be afforded equal opportunity to education as students of

differing means if the cycle of poverty they live on a daily basis is to be broken.

### ***Vocational Training and the Region’s Youth***

In recent years, promoting educational opportunities that support the acquisition of professional skillsets and allow students to develop a firmer grasp of local employment sector opportunities has become a hot button issue for both the Region and the state. Act 77, more commonly known as the Flexible Pathways Initiative, was passed by the Vermont Legislature in 2013 with the intention of expanding educational opportunities to include new learning initiatives, including more work-based learning and access to Career and Technical Education.<sup>15</sup> This initiative is intended, in part, to help students align their interests and abilities with perspective professional prospects within the context of their academic curriculum. It is one means of many that students may be granted greater exposure to the Region’s industrial sectors and promote overall career development. Any such efforts to provide employment resources and exposure to the Region’s youth should be encouraged.

Perspective employers from an array of local enterprises and students alike stand to benefit substantially from the formal establishment of connections between students and the working world, both within and outside of the traditional classroom. These connections serve as an enriching supplement to traditional academic course offerings. Providing opportunities for the Region’s youth to see what local jobs have to offer and the

---

aptitude required to complete jobs may serve as an incentive to keep many youth in our communities well beyond high school.

## Higher Education

### *Vermont Technical College*

In 1962, the Vermont School of Agriculture and the Vermont Agricultural and Technical Institute merged to form Vermont Technical College (VTC). VTC is part of the five-member Vermont State Colleges System. Located in Randolph Center, the 600 acre VTC campus consists of thirty-one buildings, which includes a farm and home and automotive learning center. The Randolph campus supports a current enrollment of roughly 1,650 students. Over the past decade alone, the student body size has increased by over 135 percent. The VTC school network also has campuses in Williston, Brattleboro, and Bennington, along with other satellite campuses elsewhere in the state.

Vermont Technical College offers both two and four year programs, certificates, associate degrees, and bachelor degree programs in a range of academic areas including: engineering technology, architectural and building technology, agribusiness, computer and information technology, sustainable agriculture, business technology and management, applied technologies, allied health and nursing, landscape design, veterinary technology, and renewable energy. Additionally, the school provides continuing education opportunities for the Region's residents of all ages, and more advanced and specialized course offerings to the Region's youth through the Vermont

Academy of Science and Technology. Most students are primarily from Vermont and other New England states. VTC retains an excellent placement record for its graduates, many of which find employment within the Region. VTC also maintains a Center for Business and Industry (CBI), which provides outreach programs and services to business and industry clients.

### *Vermont Law School*

Founded in 1972, Vermont Law School (VLS) is a private institution offering legal education to approximately 450 students throughout the United States, internationally, and via online distance learning programs. Located in the village of South Royalton, the school offers multiple advanced degrees: Master of Environmental Law and Policy (MELP), Master of Energy Regulation and Law (MERL), Master of Food and Agriculture Law and Policy (MFALP), Master of Laws in Environmental Law (LLM), Master of Laws in Energy Law (LLM), Master of



*Apple Orchard at Vermont Technical College* | Source: ©First Light Studios

---

Laws in American Legal Studies (LLM), and Juris Doctorates (JD). VLS is home to the Environmental Law Center, which oversees the masters and LLM programs while also offering education on the issues and values underlying environmental law and policy. Additionally, the Center provides training opportunities to mid-career professionals, and serves the Region by conducting extensive programs on current environmental issues.

VLS is the home of the South Royalton Legal Clinic, where second and third year law students work under the supervision of professors and practicing attorneys, offering legal services to low-income clients. Additionally, the Environmental Law Center operates the Environmental and Natural Resources Law Clinic, where students gain experience by working on actual environmental law cases under the auspices of professors and attorneys. VLS is also home to the Institute for Energy and the Environment, which provides academic and professional research opportunities to students and staff scholars on a range of energy law and policy issues. The Center for Agriculture and Food Systems (CAFS), a more recent addition to VLS, provides advocates and entrepreneurs in the agricultural and food sectors with the legal tools that will support the sustainable food system of the future.

#### ***Center for Cartoon Studies***

The Center for Cartoon Studies, located in the heart of White River Junction, is a post-graduate education institution that offers a two-year Master of Fine Arts for students looking to pursue a career in the realm of comics and graphic

novels. The school also offers one- and two-year Certificates in Cartooning and annual summer workshop opportunities. The school was founded in 2004, and is unique in being the only higher education program of its kind within the country. The curriculum spans themes of art, graphic design, and literature with respect to the creation and production of comic and graphic writing. It currently enrolls just over 100 students, and, like other higher education institutions in the Region, is a huge economic driver for the prosperity of both Hartford and the wider TRO Region.

#### ***Community College of Vermont***

The Community College of Vermont is an accredited college offering a range of associate degrees in the arts and science as well as certificate programs that help further employment goals or pave the way for continued studies at the bachelor degree level. The school has no main campus. Instead, services are delivered through a network of twelve site offices around Vermont and in online classrooms. The College is part of the Vermont State College system, and it provides degree and non-degree programs to 5,918 students statewide as of the 2014/2015 academic year. The CCV has a facility in Wilder, which serves 350 part-time and full-time students; other sites close to the Region include Montpelier, Rutland, St. Johnsbury, and Springfield.

#### ***Other Institutions***

Although not located within the Region, the following nearby institutions also serve the Region's residents:

- Champlain College – Burlington

- College for Lifelong Learning – Lebanon, NH
- Dartmouth College – Hanover, NH
- Green Mountain College – Poultney
- Middlebury College – Middlebury
- New Hampshire Technical College – Claremont, NH
- Norwich University – Northfield
- St. Michael’s College – Winooski
- University of Vermont – Burlington
- Vermont State Colleges – Castleton, Johnson, Lyndon
- Woodbury College – Montpelier

### Continuing Education

The availability of adult education services is critical to the social and economic well-being of the Region and its residents. The Vermont AOE defines adult learners as: “persons 16 years of age and older, who may or may not be enrolled in school, and lacking essential skills or a credential equivalent to high school completion.” The Agency funds continuing education through its Adult Education and Literacy Program. In the Region, the Agency of Education funds three adult learning centers: the Vermont Adult Learning Center in Hartford, and the two Central Vermont Adult Basic Education Centers in Randolph and Bradford. These centers offer classes free of cost to adults in basic skills, General Educational Development (GED) certification, English as a second language, college transition skills, and work readiness skills, including WorkKeys (ACT) certification. Additionally, The Family Place, a family support center, offers courses to young mothers with the aim of helping them earn their GED and acquire basic employment skills.

While both of the Community Action Agencies covering the TRO Region (Southeastern Vermont Community Action and Captstone Community Action) have adult education and job skills programs, neither of them have physical centers that offer their services within the Region. Instead, participants are required to travel outside the Region for these educational opportunities. This limits access of the Region’s lower-income residents to this specific avenue for educational services. Through accessing adult education services, lower income residents have the opportunity to improve their financial security by removing educational barriers to higher-level employment.

As Vermont’s senior population significantly increases in coming years, the State will be confronted with the need for both new educational and recreational opportunities that can help fulfill the intellectual and emotional needs of the state’s retirees and elders. There are a number of opportunities for seniors to be involved in continuing education programs throughout the Region, but distance, lack of safe and reliable transportation, lack of access to high speed internet, and a lack of understanding of the basic facets of information technology may preclude many from enjoying the opportunities available. Currently, with respect to in-person instructional classes within the TRO Region, residents can participate in classes at Artistree in Woodstock and Vermont Technical College in Randolph. Dartmouth College also offers continuing education courses in nearby Hanover, NH through its OSHER Lifelong Learning

---

Institute. Riverbend Career and Tech and the Oxbow High School, both in Bradford, also offer adult programs. Additionally, there are opportunities to take classes online through public libraries (purchased from L@ad) and the University of Vermont. Some continuing education opportunities may be free for residents, while others may be fee-based.

### The Future of Education in the Region

Many of our Region's communities have a school. Schools are often seen as the center of a community or at the very least a location that brings the townspeople together, but declining enrollments and an aging population are making the traditional model of one school in every town less sustainable. Surveys in many of our communities tend to show a growing frustration with the cost of education in Vermont. As a result, many communities continue to work on ways that they can collaborate together to decrease costs and maintain the quality of education desired by everyone.

Some communities have opted to close their schools or merge schools with other communities. If the trend toward smaller classes and fewer children in many towns continues, more communities will need to engage in these discussions. However, the closing or merging of schools is not a simple decision. For towns with no defined community center, a school often acts as the central focus of the community. In many communities, the academic institutions are the largest employer(s) and the psychological center of the community. Down-sizing or closing of schools means,

in many instances, laying off neighbors and friends. Schools provide a place where members of the community can join together to support common themes, provide opportunities for citizens to connect, and create a sense of unity. They are also a safe space for residents in the event of emergencies, often doubling as emergency shelters and response centers. Their utility to towns is unmatched.

Addressing declining enrollment numbers, deterioration of school structures and infrastructure, and increasing financing pressures in a manner that is balanced with meeting the need for well-being, safety, and academic excellence for all students of every age is no small feat. Engaging in these discussions is critical to the future health of the education system in the TRO Region. These discussions are intricately interwoven, too, with discussions around utilities and facilities, transportation, economic development, and energy concerns. For example, multi-modal access to public facilities like schools is needed for purposes of safety in as much as promoting a healthy lifestyle. Providing efficient and timely busing opportunities to schools and extracurricular activities will bolster academic and professional success. Ensuring all students have access to high speed internet will extend our students' academic offerings beyond the brick and mortar classroom setting, and put students at an equal footing with those from other, more developed regions of the nation. Improving energy efficiency in our schools through the installation of LED lighting, thermal efficiency improvements, solar heat pumps, and renewable energy technologies will improve schools' bottom

---

lines while also making schools more environmentally sustainable.

### School Infrastructure

Many schools throughout the state face the constant threat of repair or renovation, with rehabilitation efforts being a harbinger of increased costs for residents. The TRO Region is not an exception to this rule, and this can be a daunting prospect for towns to consider. Inadequate insulation, accessibility issues, aging electrical wiring systems, and crumbling infrastructure plague many a school, compelling principals and superintendents to defer repair work in some instances. Providing a safe, secure, and suitable environment for the Region's children is a key concern for the Region's well-being. A healthy school environment that affords children a chance to thrive intellectually and socially attracts families to the Region, creates jobs, and helps foster vibrant communities.

The threat of repair is one element of many that has been considered

when determining whether schools ought to be consolidated. In the event that communities choose to close or merge schools, how to manage vacated infrastructure should be part of the discussion. For many communities, the closure of a school can present new opportunities. Because schools are often located within villages or town centers, they can become prime locations for reuse in areas that are otherwise built up. Possible options for reuse of existing school buildings could include:

- Town Offices and other Municipal services
- Inclusive, mixed age and income housing opportunities
- Senior Centers
- Light industrial development
- Business incubator or office park

In addition to the existing school building, facilities that have land which had been utilized for athletic purposes, may now be available for new development.

## Goals, Policies and Recommendations: **Educational Facilities and Services**

### Goals

1. Accessible and affordable educational facilities and services throughout the Region that meet or exceed statewide standards, including life-long learning opportunities.
2. The Region's educational system provides quality services despite student-aged population fluctuations, and appropriate measures are taken to consider consolidation and/or the reuse and repurposing of facilities in the wake of closure.
3. Students have access to quality vocational and workforce training opportunities to prepare them for future career opportunities.

*Goals, policies and recommendations continued on next page*

---

## Goals, Policies and Recommendations: **Educational Facilities and Services**

### *Policies*

1. The construction of primary educational facilities shall occur in or within close proximity to existing or planned regional growth areas, so as to maximize their accessibility to people and infrastructure as well as to contribute to the vitality of communities.
2. Towns in the Region should consider the need for educational facilities and services within their capital budgeting and programming that promotes flexible facility use in anticipating the need for future growth and improvements.
3. Promote the expansion of continuing education and vocational education opportunities.
4. School construction and renovation opportunities that promote the use of existing municipal infrastructure and multi-modal transportation access routes for the enhancement of designated downtown areas.
5. Adaptive reuse of vacant school facilities that occurs in a manner that enhances villages and downtowns and stimulates the local economy.
6. The sustainability of existing school systems shall be evaluated by municipalities, school boards, and other stakeholders in an equitable and transparent manner that considers the needs of students of all ages and mental and physical abilities.

### *Recommendations*

1. Support local efforts to assess capacity issues in our Region's schools, and, conversely, that explore opportunities to consolidate where appropriate. This is of particular importance with respect to facilities that currently do—or in the future may—serve multiple jurisdictions, due to inherent land use implications of such decisions.
2. In assisting towns with capital plan and budget formulation, ensure that member towns anticipate and plan for improvements to public school facilities.
3. Coordinate with the supervisory unions and the Agency of Education to create a regional approach to planning that considers the need for new school facilities and programs.
4. Work with local communities to determine which locations are most desirable for and best suited to the growth of new or relocated educational facilities throughout the region.
5. Encourage the development of school-business partnerships that promote valuable and sustainable employment opportunities in the Region through vocational and workforce training experiential learning.
6. Facilitate coordination between town and school authorities to create and maintain safe pedestrian access and transit opportunities to educational facilities, in line with Safe Routes to School efforts.
7. Ensure towns assess and incorporate the needs of disabled children into educational facility and budgetary planning efforts to ensure the provision of free and appropriate education for all children.

---

## F. Child Care Services

### Introduction

The availability of safe and affordable child care is an important factor in the appeal and sustainability of our Region. Child care fulfills many roles within the Region. For example, the child care industry contributes to the regional economy as a business and employer in its own right. It also functions as a service industry that provides crucial support to employers and employees. Equally important, child care serves as a critical component in the raising of a child or children from working families. Good quality child care helps prepare children for schooling or may even supplement a child's school curriculum, and it provides them with opportunities for socialization. Many children also rely on child care services for meals and it is important that child care providers provide children with wholesome, nutritious food options. In addition, a supply of child care services and facilities allow parents in the regional economy to work and be productive employees. Lastly, child care enables women to pursue their career goals and participate in the workforce.

There are long term benefits of good child care as well. Research conducted by a regional economic analyst demonstrated 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%<sup>16</sup>.

Child care providers are closely tied to successful and more efficient transportation systems. For example, child care providers located near or in

connection with an employer help to reduce commuting costs and time spent in the car. In some cases, this may even reduce a family's need to own multiple vehicles. However, to help achieve reduced commute times and a reduced dependency on motor vehicles, it is important for employers to have some flexibility as to when their employees are allowed to begin and leave work each day.

### Thresholds of Child Care Services

Vermont statute provides guidance on the operation of child care providers in the state. A state-issued license is required to operate a child care facility, and in order to operate a family child care home, the home must be registered with the Department of Child and Families.<sup>17</sup> There are also exemptions to obtaining a license or registering with the state, including: a person who provides care for at most two families, not including their own family; a hospital or other establishment holding a license issued by the Department of Health; a religious organization operating to provide care and supervision to children during or in connection with religious services or church-sponsored activities; and after-school programs meeting a specific set of criteria.<sup>18</sup> All employees of licensed child care facilities are required to receive orientation of the prevention, identification and mandatory reporting of child abuse.

Child care services that are defined by the State of Vermont include: (1) registered homes (which provide care within a home setting for up to six children under the age of six and four school-aged children);

---

(2) licensed early childhood programs (which are licensed for up to 12 children within a home and also include child care outside of a home (part- and full-day programs, preschools, etc.)); and (3) public pre-school programs and after-school programs.<sup>19</sup> Child care may also be provided by family members, or a non-family member running a private, unregistered child care facility out of their home.

The State of Vermont categorizes children receiving child care into four categories. They include: infants (under 24 months); toddlers (24 months to 35 months); preschool age children (36 months to 59 months); and school age children (5 to 13 years for typical developing children, and 5 to 19 years for children with special needs).<sup>20</sup> Most child care providers are specific about the age of the child they will care for.

### Child Care Services in the Region

According to the 2010 U.S. Census, approximately 56,000 people live in the TRO Region. The number of children aged 0-14 is a relatively small percentage of the Region's population, just over 16%, or 9,015 individuals. In the TRO Region, there are approximately 117 licensed child care providers and homes registered with the State of Vermont.<sup>21</sup> There are approximately 650 licensed child care providers in Vermont.<sup>22</sup>

Hartford has the highest number of both licensed providers and registered homes in our Region. Otherwise, child care providers are, for the most part, reasonably spread across the Region.

Five towns are without any type of licensed or registered child care including, Bridgewater, Granville, Hancock, Pittsfield and Plymouth. It is important to note that the number of private, in-home child care providers in our Region is unknown, but is likely that this type of provider makes up a significant portion of the child care providers. Regardless, it is critical for the quantity and quality of child care providers in the TRO Region to meet the needs and expectations of parents and guardians living and/or working in the Region.

In addition to bringing children to stand-alone child care providers, some parents have the option to bring their child to work with them and leave them in the care of an on-site child care provider. There are a few larger employers in the broader region that offer child care for their employees. These employers have sliding fee scales, but costs still remain high. Such employers include Dartmouth Hitchcock Medical Center and Dartmouth College. The Gifford Medical Center in Randolph has a child care center that provides child care to Gifford Medical Center employees and the public. There are also some employers in the area who offer child care to their employees, who pay a reduced rate, but also have slots open to the public. These employers include Kendal at Hanover, and the US Army Cold Regions Research and Engineering Laboratory under contract with Cradle & Crayon, Inc. Large employers located within the TRO Region, such as Vermont Castings, GW Plastics, King Arthur Flour, Global Resource Options, Inc., Britton Lumber Company, Inc., and North Hartland Tool Corp., do not currently provide on-site child care services.

Table 10-10 is a list of licensed child care providers and registered homes, recognized by the State of Vermont, located in the towns in our Region. The population and percentage of children aged 0-14 years in each town are also reported for reference.

### Other Forms of Child Care

After-school programs and summer camps provide child care options for parents with children old enough to attend public or private school full-time. Both help to keep children engaged in enriching activities while also allowing parents to feel comfortable that their child or children is/are safe if working past school hours, or during summer vacation. There are approximately 20,000 children in after-school programs in Vermont.<sup>23</sup> However, the number of children attending after-school programs in the TRORC is unknown. There are a number of national, state and local organizations running after-school programs in our area including ExCel Afterschool, STYLE, CLASP, the Boys and Girls Club, One Planet and the YMCA. These after-school programs serve a number of towns in our Region including Bethel, Bradford, Hartford, Newbury, Randolph, Rochester, Royalton, Sharon, Stockbridge and Tunbridge.

There are a many varieties of summer camps that parents may choose to send their children to, from adventure camps, nature camps, summer camp at the local recreational center, art or music camp. Depending on the program, children may only attend camp during the day for a specific number of days,

**Table 10-10: Numbers of Childcare Providers by Town, 2013**

Town	Population (2010)	% of Children Aged 0-14 Years	Licensed Provider	Registered Home
Barnard	947	16	1	0
Bethel	2,030	17.8	2	4
Bradford	2,797	20.1	3	3
Braintree	1,246	15.3	0	2
Bridgewater	936	13.1	0	0
Brookfield	1,292	17.4	0	2
Chelsea	1,238	16.4	2	1
Corinth	1,367	16.4	1	0
Fairlee	977	14.5	2	2
Granville	298	13.4	0	0
Hancock	323	14.6	0	0
Hartford	9,952	17	15	16
Hartland	3,393	16	3	0
Newbury	2,216	16.6	4	0
Norwich	3,414	19.8	7	0
Pittsfield	546	16	0	0
Plymouth	619	12.9	0	0
Pomfret	904	16.6	0	2
Randolph	4,778	15.3	6	5
Rochester	1,139	12.9	2	0
Royalton	2,773	14	3	2
Sharon	1,502	16.4	2	0
Stockbridge	736	17.4	2	2
Strafford	1,098	18.1	2	1
Thetford	2,588	16.5	5	2
Topsham	1,173	17.7	0	1
Tunbridge	1,284	15.2	2	0
Vershire	730	17.6	0	1
W. Fairlee	652	18.3	2	1
Woodstock	3,048	13.9	4	0
<b>Total</b>	<b>55,996</b>	<b>16.1</b>	<b>70</b>	<b>47</b>

Source: American Fact Finder, 2010 and Vermont Department for Children and Families, Child Care Division. Bright Futures Child Care Information System. Accessed December 2013.

---

or they may remain at the camp for an extended period of time. Vermont Adventure Camps in Thetford, the camps of the Aloha Foundation in Fairlee and Killoleet Camp in Hancock are examples of established summer camps in the Region. In addition, the Boys and Girls Club runs a summer camp in Randolph and the Randolph recreation department holds its own summer camp. The Green Mountain Suzuki Institute, in Rochester, holds a week-long “camp” for string, flute and piano students approved by the Suzuki Association of the Americas (SAA). Hartford’s Parks and Recreation Department hosts a wide variety of spring and summer camps. Finally, Lebanon, New Hampshire’s Recreation and Parks Department hosts a number of summer camps as well.

### Ranking Child Care Services

Going beyond state-recognized programs, the State of Vermont has created a ranking system, STARS (STep Ahead Recognition System), to help parents and guardians find quality child care and to improve the quality of regulated health care programs in the state. There are approximately 70 child care programs in the TRO Region that participate in/are recognized by the STARS program. Specifically, there are 35 STAR programs in towns located in Orange County, and 33 STAR programs in towns located in Windsor County. Programs receiving 4 or 5 stars are considered “high quality.” There are a number of such programs scattered across our Region, especially in the White River Junction area.

There are also other organizations which rank/grade child care providers, such as the National Association for the Education of Young Children (NAEYC). The NAEYC has accredited 62 child care programs in Vermont. Six of these programs lie within the TRO Region, most notably within the Towns of Norwich and Randolph, and in White River Junction.

### Child Care Training Opportunities

There are a number of child care courses and trainings being offered around at state throughout the year. These learning opportunities are sponsored by a variety of organizations involved in child care. Most of the trainings in our Region are lead in Hartford, but other reasonably close locations include Rutland, Barre, Berlin, Middlebury and Montpelier. By sending employees to trainings, child care employers may help improve or maintain the quality of care being offered at their facility.

There are also a few vocational schools in the Region that have training programs to teach interested high school students to care for infants and preschool-aged children. One vocational school to offer such a program is the River Bend Career and Technical Center in Bradford in their “Education and Human Development” curriculum. The Randolph Technical Career Center and the Hartford Area Career & Technology Center both have similar programs in their “Human Services/Teacher Preparation” curriculum and “Human Services” curriculum, respectively.

---

## Barriers to Child Care Services: Cost, Affordability and Family Structure

According to the 2013 Head Start and Early Head Start Needs Assessment, some of the barriers associated with child care in Vermont include an inadequate amount of infant/toddler care available, and the inability of financial assistance for child care to support high quality services (despite the financial help from some child care providers).<sup>24</sup> In the TRO Region and broader Upper Valley area, searching for child care is often difficult for parents. Availability of child care providers, especially for infant and school-age children, is limited.

Over the past decade, the cost of child care in Vermont has risen substantially. From 2003 to 2012 the market rates for a preschool age child in licensed child care center increased from \$140 per week to \$200 per week (43.9%).<sup>25</sup> During the same years, the market rates for a preschool age child in registered home care increased from \$106.25 to \$150 (41.2%).<sup>26</sup> This equates to approximately \$10,400 and \$7,800 per year for licensed center care and registered home care for one preschool aged child, respectively. It is more expensive to place an infant or toddler in either a licensed center or registered home than a preschool aged child. Parents or guardians wishing to place their infant in a higher quality licensed center or registered home should expect to pay \$225 to \$160 or more, respectively.<sup>27</sup>

To help families pay for child care, the State of Vermont provides financial assistance, or a child care subsidy, from the

Vermont Child Care Financial Assistance program. The subsidy granted for each child is dependent on their age, the type of child care provider and the number of hours the child will attend care. Families that choose to enroll their child in a care program recognized by the Vermont's STARS program may receive additional subsidy monies, depending on the child care program's ranking. A family must first be deemed eligible to receive financial assistance, which includes meeting income guidelines. While Vermont's child care financial assistance program enables more families to take advantage of child care, some low- to moderate- income families may have difficulties paying the co-payment for their child's care.

In some cases, child care programs try to help families who are enrolled in the State's financial assistance program to afford care. Many programs that do charge or usually charge parents the co-payment offer additional financial support and work with families to determine payments that are affordable.<sup>28</sup> Some programs do not charge families a co-payment at all, which ultimately affects the bottom-line of the business. As a final point, child care workers in Vermont make an average annual income of \$23,120 (compared to the U.S. average of \$21,320), which is not necessarily a livable wage.

According to 2000 Census data, families living in poverty with children comprise 5.4% of the population in the TRO Region. Given the high costs of child care, it can be difficult for these and other low- to moderate income families to afford placing their child or children in child care. As a

potential consequence of this situation, a family member may decide to provide care to the child or children instead of working and supplementing the family income.

Of approximately 24,000 households in the TRO Region, 1,750 of them are classified as “single-head-of-household” with children 18 years old or younger. It is very important for single parents to find child care so that they are able to work and provide for their family. The parent may have another family member or trusted adult care for their child or children while at work, or they may seek out a child care provider. Depending on the parent’s income, certain types of child care may be difficult or impossible to afford, even with Vermont’s Child Care Financial Assistance program. The struggle for some single parents to find and/or afford child care may be constant, leading to stress and even poor attendance and performance at work.

Parents working second or third shift may have an even more difficult time finding child care to meet their needs. This is

especially true of single parents working second or third shift. Currently, there are no “center-based programs,” that is licensed child care facilities, that offer second or third shift care in our area. However, there are a few family child care providers in the area that would consider providing second and third shift care, one in White River Junction and one in North Thetford. A number of years ago, a White River Junction-based child care center opened and intended to offer extended hours until midnight. However, they found that there was little or no interest in such care and dropped the option altogether.

As previously mentioned, most child care providers are specific about the age of the child they will care for, so, barring other obstacles, finding second or third shift care for a child of a specific age may be difficult or impossible. It is likely that most single parents working second or third in the area would leave their child or children in the care of another family member or a trusted adult.

## Goals, Policy and Recommendations: **Child Care Services**

### **Goals**

1. Ensure that an adequate supply of safe and affordable child care services and facilities are available.
2. To create a regional network of well trained, educated, child care providers and facilities that fulfill the needs of families and employers.
3. To incorporate child care issues into the planning process by:
  - a. Encouraging that any major employers (employing more than 35 employees) locating to the TRO Region provide child care services on-site.
4. Working collaboratively with child care providers and towns to help them locate into convenient areas.

*Goals, policies and recommendations continued on next page*

---

## Goals, Policy and Recommendations: **Child Care Services**

### *Policy*

1. Support initiatives to develop child care facilities where a need has been proven and the location conforms with this Regional Plan.

### *Recommendations*

1. Work with member towns to address identified needs for child care facilities or services by:
  - a. Identifying publicly owned buildings throughout the region and;
  - b. Evaluating and prioritizing their suitability to serve as child care facilities after considering Vermont regulations.
2. Towns should review their zoning regulations (if adopted) to determine the ability of the regulations to allow child care providers to be located in the town.
3. Develop business “how-to” guide for providers to navigate local permitting.
4. Conduct a child care needs assessment.
5. Work with Dartmouth-Hitchcock Medical Center to build a community directory of services and options for day care, child care, after school programs, break programs, and summer programs and camps.

## **G. Broadband and Cellular Communications**

Information Technology (wired and wireless telecommunications, Broadband Internet) has become increasingly important to the economic needs of residents and businesses in the Region. As our Region continues to become more reliant on online data and communication the need to expand these systems will grow. Because so much of our economy now relies on the availability of data and communications, in order for our Region to remain economically competitive with more urban areas of the state, continued information technology development will need to be encouraged.

In the Vermont Telecommunications Plan 2014, the Department of Public Service set the lofty goals, including the following:

- Every address in Vermont should have available broadband Internet access with the minimum technical requirements of 4 megabits per second (Mbps) download and 1 Mbps upload. By year end 2020, a majority of addresses in Vermont should have access to the Internet at speeds of at least 100 Mbps symmetrical, and every address should have access at speeds of at least 10 Mbps download.
- Every address in Vermont should have access to wired and wireless broadband Internet access service.
- Broadband service should be affordable to all members of every customer class.
- Universal adoption and use of broadband service at home and at work.
- Universal availability of mobile service

---

along roadways and near universal availability statewide.

Reliable, economical telephone service in all areas of the state, including rural areas. All residents, regardless of income or location, should have access to basic telephone service.

Availability of broadband services and mobile coverage has increased markedly since this report was released, but not all of these goals have been met. Despite this, the Regional Plan supports the goals

of increasing availability of broadband and mobile communications. In the TRO Region access to broadband is provided via a number of mediums including: cable, DSL (Digital Subscriber Line), fiber optical cable, cellular, wireless and satellite.

Use of cellular phones in day-to-day activities has skyrocketed over the past decade. The availability of broadband cellular data has increased the usefulness of cellular phones to the point that they are essential to businesses and citizens alike. In a Vermont Telecommunications survey, 57% of businesses reported that they subscribe to cell phone services for their organization. The average number of cell phones per household in Vermont is 2.39, further supporting the fact that these devices have become common.

### Importance to the Economy

*On average, Vermont businesses report that 74 percent of their workforce utilizes email and seventy percent utilize web sites. Fifty-seven percent of businesses statewide indicate using mobile telecommunications. Broadband and mobile telecommunications and data access are essential to the Region's businesses.*

*Hospitals utilize broadband for "telemedicine," which is considered extremely important in rural areas such as ours. More accessible health information, products, and services provide real economic benefits in rural communities. Rural businesses with strong access to broadband can use the internet to expand market reach. Farms, for example, can utilize the internet to sell products online that would otherwise be sold only to local residents, expanding their market.*

### Challenges

#### ***Lack of Coverage***

Although data provided by the State of Vermont reports a majority of Vermonters have broadband access, the reality is less clear. Access to broadband varies from town to town, with the highest concentration of availability generally being in villages and downtowns. This is because broadband providers tend to locate their infrastructure in areas with high population density in order to maximize the subscriber to infrastructure ratio. 2013 broadband availability data indicates that availability is highest in areas with larger villages and downtowns (such as Hartford and Randolph), or in areas where development is concentrated along service corridors where infrastructure exists (such as major roads). The farther away from a community

center, the fewer options for broadband connectivity, making the “last mile” homes and businesses, the least likely to have access.

Cellular access is determined in great part by a Region’s topography in relation to the placement of cellular transmission towers. While coverage in the TRO Region is reasonably good along main travel corridors, it is spotty in more rural areas. In some instances there are entire communities (such as Barnard) that have virtually no access. Cell phones are particularly needed during severe hazard events when landline communications may be offline due to damage. The inability to communicate via phone during extreme events puts our communities at risk.

**Aesthetic Concerns**

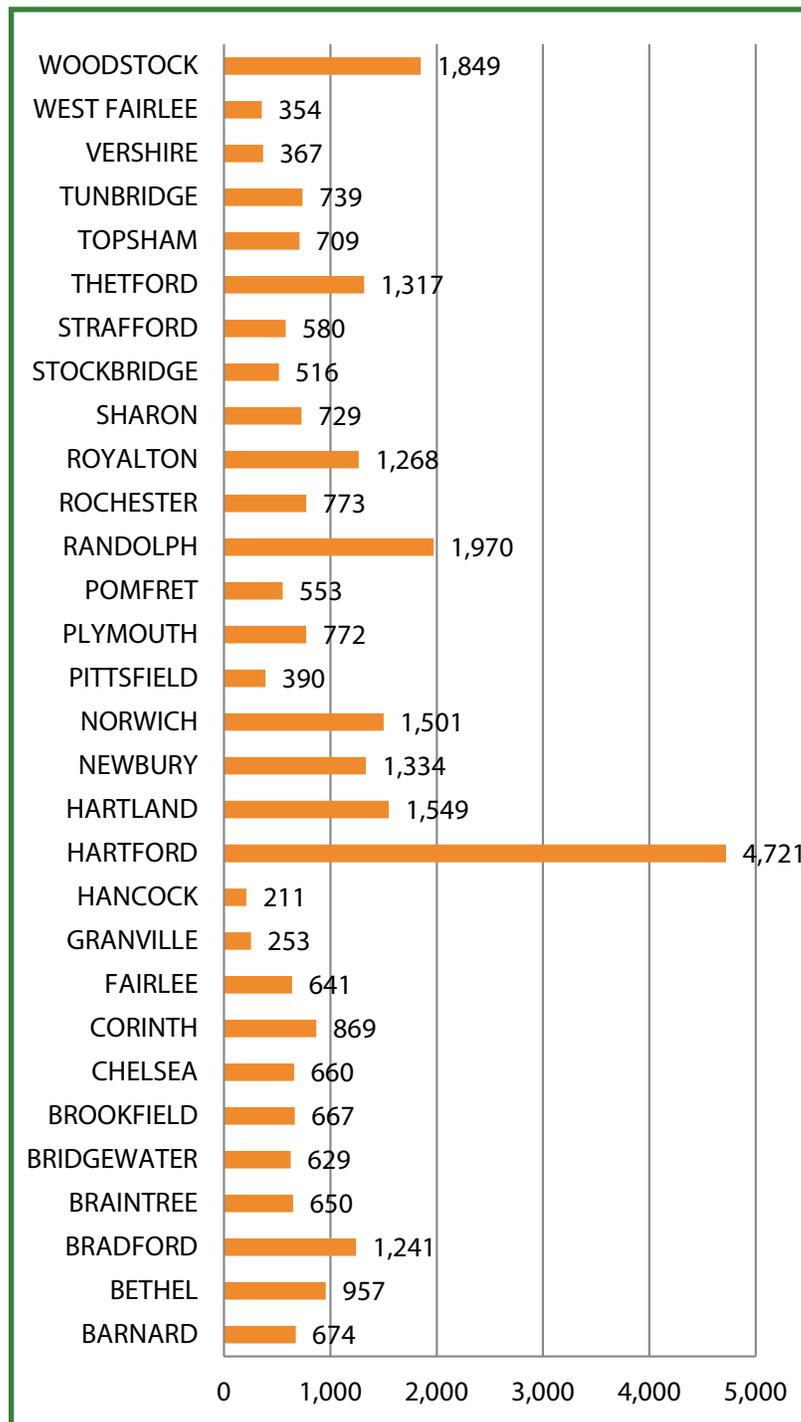
Communities are conflicted on the value of cell towers. In most cases, residents support improved cell phone access, but are less supportive of having the necessary facilities located in their communities. When residents object to proposed facilities, it is almost always due to the potential for aesthetic impacts.

Although the Section 248a process (which allows cellular network providers to apply for a Certificate of Public Good rather than going through local zoning or Act 250) does not require support at the local level, it is preferred, as legal interference can slow down the process of developing new facilities.

**Access Barriers**

For a portion of our population, access to the internet is a challenge for reasons that go beyond the availability of the service.

**Figure 10-2: Total Served by Broadband, 2014**



BroadbandVT.org, 2014

---

For the poor, there may be financial barriers to gaining internet access, for the elderly there may be issues of comfort with the technology. Access to broadband internet has become a necessary part of life. Underserved populations need access in order to interact with health and human service providers, many of whom utilize online forms and online data collection to assist these populations. It is important that access be made available at a cost that is sustainable.

The 2014 Vermont Telecommunications Residential Survey indicates that the average monthly cell phone bill is \$109.82. The price of cell phone packages makes them cost prohibitive for those on a limited or fixed income.

## Solutions

### *Improve Broadband Coverage*

Efforts to improve broadband coverage in the TRO Region are ongoing. Between 2000 and 2012, the State of Vermont invested a substantial amount of funding in an effort to bring broadband to all Vermonters. One such project was the Vermont Digital Economy Project (VDEP), which developed as part of the State's goal to create more resilient communities after the damages caused by Tropical Storm Irene in 2011. In an effort to speed disaster recover, spur economic and job growth, and improve community resilience to disasters, the VDEP project was tasked with building digital infrastructure in communities that had been hardest hit by the storm.

In the TRO Region, the VDEP project built free village Wi-Fi zones in the communities

of Bethel, Royalton and Rochester. These investments provide residents who lack access in their homes with a reliable place to connect to the internet. In East Barnard, there is also a community-funded WiFi zone for residents. The benefit of village wide access is a boon to businesses who can take advantage of the additional customers who are drawn to the village to access the internet.

The East Central Vermont Fiber-Optic Network (EC Fiber) is a consortium of 24 towns (including 21 TRORC towns) that is working to expand access to high speed internet within the TRO Region. EC fiber currently provides high-speed internet access to selected communities including parts of Barnard, Pomfret, Stockbridge, Bethel, Royalton, Tunbridge, Strafford, Vershire, Corinth, Thetford and Norwich. There are additional expansions of the EC Fiber network planned in the future.

TRORC is highly supportive of efforts to expand broadband access provided that the infrastructure required does not have an undue adverse impact on the rural character of our communities.

### *Expand Cellular Coverage*

Major cellular providers are continuously working to expand coverage, particularly along major transportation corridors such as Interstates 89 and 91. Under the Section 248a permitting process, the Public Service Board (PSB) must review the environmental, economic, and social impacts associated with a particular project, similar to Act 250. In making its determination, the PSB must give due consideration to the recommendations

---

of municipal and regional planning commissions and their respective plans. Accordingly, it is appropriate that this Plan address these land uses and provide guidance to town officials, regulators, and providers.

For all cellular telecommunications facilities, the following policies shall apply:

1. **Preferred Locations:** New generation and transmission facilities shall be sited in locations that reinforce the Region’s traditional patterns of growth, of compact downtown and village centers surrounded by a rural countryside, including farm and forest land.
2. **Prohibited Locations:** Because of their distinctive natural, historic or scenic value, telecommunications facility development shall be excluded from the following areas;
  - Floodways shown on FEMA Flood Insurance Rate Maps (except as required for hydro facilities)
  - Fluvial erosion hazard areas shown on Fluvial Erosion Hazard Area maps (except as required for hydro facilities)
  - Wetlands as indicated on Vermont State Wetlands Inventory maps or identified through site analysis.
  - Rare, threatened or endangered species habitat or communities.
3. **Significant Areas:** All new telecommunications facilities and related infrastructure shall be sited and designed to avoid or, if no other

reasonable alternative exists, to otherwise minimize and mitigate adverse impacts to the following:

- Historic districts, landmarks, sites and structures listed, or eligible for listing, on state or national registers.
  - Public parks and recreation areas, including state and municipal parks, forests and trail networks.
  - State or federally designated scenic byways, and municipally designated scenic roads and viewsheds.
  - Special flood hazard areas identified by National Flood Insurance Program maps (except as required for hydro facilities)
  - Public and private drinking water supplies, including mapped source protection areas.
  - Primary agricultural soils mapped by the U.S. Natural Resources Conservation Service.
  - Necessary wildlife habitat identified by the state or through analysis, including core habitat areas, migration and travel corridors.
4. **Natural Resource Protection:** New telecommunications facilities and related infrastructure must be sited to avoid the fragmentation of, and undue adverse impacts to the town’s working landscape, including large tracts of undeveloped forestland and core forest habitat areas, open farm land, and primary agricultural soils mapped by the US Natural Resource Conservation Service.

- 
5. **Protection of Wildlife:** Designers must gather information about natural and wildlife habitats that exist in the project area and take measures to avoid any undue adverse impact on the resource. Consideration shall be given to the effects of the project on: natural communities, wildlife residing in the area and their migratory routes; the impacts of human activities at or near habitat areas; and any loss of vegetative cover or food sources for critical habitats.
  6. **Site Selection:** Site selection should not be limited to telecommunications facilities alone; other elements of the facility need to be considered as well. These include access roads, site clearing, onsite power lines, lighting, and off-site power lines. Development of these elements shall be done in such a way as to minimize any negative impacts. Unnecessary site clearing and highly visible roadways can have greater visual impacts than the energy generation facility itself. In planning for facilities, designers should take steps to mitigate their impact on natural, scenic and historic resources and improve the harmony with their surroundings.
  7. **Aesthetics:** The developer shall make all efforts to minimize the aesthetic impact of the telecommunications facility or infrastructure on the surrounding landscape. This includes options such as the utilization of “stealth towers,” camouflage through paint scheme, or designs that blend into the surroundings such as asymmetrical mono-poles.
  8. **Height of Structures:** Telecommunications facilities shall be designed to be the minimum height necessary to achieve coverage.
  9. **Colocation:** Applicants shall provide reasonable options for sharing space on existing towers or tower sites prior to proposing new towers sites and related facilities. In making such a determination on the feasibility of co-location, proposers should evaluate space available on existing towers, the tower owners ability to lease space, geographic service area requirements, mechanical or electrical incompatibilities, the comparative costs of co-location and new construction, and regulatory limitations.
  10. **Resiliency Support:** To support resiliency, applicants should make space available for municipal communication systems to enhance or expand road and emergency service communication networks.

#### ***Remove Access Barriers***

While broadband and cellular service expansion is not within TRORC’s traditional purview, it can support opportunities for free access such as the village Wi-Fi zones developed through the Vermont Digital Economy Project. Our Region’s libraries and senior centers represent the best opportunity for underserved members of the community to access broadband. A library’s public

computers and high-speed access allow those in need to reach health and human service providers, as well as potential employers. Additionally, some libraries offer technology training as part of their program. These services are vital to our communities.

## Goals, Policies and Recommendations: **Information Technology**

### *Goals*

1. Universal broadband access using fiber throughout the TRO Region.
2. Universal availability of mobile service in the TRO Region.
3. Universal first responder communications.
4. Speeds and pricing for residential broadband on par with national urban areas.

### *Policies*

1. Support public and private efforts to expand broadband access as long as the infrastructure required does not have an undue adverse impact on the rural character of our communities.
2. Encourage the expansion of the mobile telecommunications network in a manner that respects the rural character of our communities.
3. Support efforts to provide broadband access to segments of the population who cannot afford access.

### *Recommendations*

1. Continue to participate actively in the Section 248a permitting process.
2. Seek out funding for our communities to implement new or sustain existing Wi-Fi Zones in villages and downtowns.

## **H. Libraries**

These are times of tremendous change at all levels of society. Citizens of the Region need information to make decisions and to solve problems associated with living in a complex society. Public libraries play an important role in providing materials to inform, challenge, and inspire the Region's residents.

Public libraries and the services they provide are changing too, partly to meet

the changing needs of users and also because of developments in technology and the availability of information. Statewide use of national on-line databases and the Internet by libraries has increased dramatically in the past few years. According to the Vermont Department of Libraries, the demand for electronic information services has come from rural and remote areas of the state. This presents a challenge to the Region's libraries to find ways to ensure that all

citizens have access to books, information, and worldwide resources, which is similar to the access opportunities at urban libraries. The onslaught of information technology and the number of new formats coupled with the vast number of books available will promote increased resource sharing among the Region's libraries. This is likely to remain a priority of this decade and beyond. The Vermont Department of Libraries programs and services to local and regional libraries will be key factors in advancing coordination and services from the Region's public library system.

### I. Recreational Facilities

The TRORC has many recreational opportunities available to its residents and visitors. These range from organized, structured prospects at state and

federal parks, as well as more informal opportunities in municipal parks and forests. Recreational opportunities attract tourists, second homeowners, and retirees to the Region and contribute to the quality of life. The Region's recreational resources include elements of the built environment like historic towns and buildings, museums and theatres, and the natural environment which includes scenic views, rivers, lakes, mountains, and forest lands that offer public and private access for hunting and fishing, hiking, mountain biking, skiing, snowmobiling, and use of all-terrain vehicles (ATVs). Access to private lands is also available through agreements brokered by groups such as VAST and other local groups. As pressure on private lands increase and more private land is posted, the need for publicly owned land for recreation is critical. Public recreational lands and resources should maximize their utility by providing for multiple uses.

#### Public Recreational Opportunities

The Region has one national park - the Marsh Billings Rockefeller National Historic Park in Woodstock. Associated with the Park is the privately owned Billings Farm and Museum which offers farm educational programs. The Region is also fortunate to have access to the Green Mountain National Forest in the Quintown valley and along the Appalachian Trail and Long Trail corridors. Additionally, recreation opportunities are available at the U.S. Army Corps of Engineer Sites along the Ompompanoosuc River at Union Village and the Ottauquechee River at North Hartland Lake.

#### Importance to the Economy

*Outdoor recreation plays an important role in Vermont's economy. The Outdoor Industry Foundation in 2006 estimated that the outdoor recreation economy supported 35,000 jobs across Vermont, generated \$187 million in annual state tax revenue, produced \$2.5 billion annually in retail sales and services across Vermont, and accounted for 12 percent of the gross state product.*

*In the TRO Region, some communities, such as Fairlee, depend heavily on the economic benefits of outdoor recreation. For others, it is one part of their overall economic profile.*

---

Several state parks can be found in the Region including the Calvin Coolidge Historic Site in Plymouth, the Quechee Gorge State Park and Theron Boyd State Historic Site in Hartford, the Allis and Ainsworth State Parks in Brookfield, Thetford Hill State Park and the Granville Reservation State Park. The Department of Forest, Parks and Recreation and the Department of Fish and Wildlife's several state forests, wildlife management areas and lake or river access points offer additional recreational opportunities.

Many towns throughout the Region also have town forests that are available for recreation; these forests also offer unique educational opportunities for local school children and residents about forestry and landscape practices. Nineteen towns in the Region have town forests: Barnard, Bethel, Bradford, Brookfield, Chelsea, Fairlee, Hancock, Hartford, Hartland, Newbury, Norwich, Plymouth, Pomfret, Randolph, Rochester, Royalton, Strafford, Thetford, and Woodstock. Currently, there are public and private statewide initiatives studying and encouraging town forest development and use; West Fairlee is in the process of developing a town forest.

Several towns also offer town recreation programs through their recreation departments. These may include ski programs in conjunction with local schools in the winter, camp and track & field programs in the summer, as well as various events year round. These recreation departments may also manage a modest network of town parks.

Many towns also have excellent trail networks linked to their road network and portions of these networks include Class 4 roads. Town selectboards have the authority to develop a policy that regulates use and maintenance of town trails and Class 4 roads and several towns have developed policies for these public rights-of-way (ROWs) based on the users' needs.

### Public Access to Aquatic Recreation

The Region's rivers and lakes offer opportunities for swimming, fishing, and boating, all of which require public access areas for parking or boat launching. Scenic waterfalls, cascades, and gorges are also destinations of tourists and recreators. There is a need for access areas to water resources in the Region. In addition, there is a need for management of public access resources in a manner that will make them safe and attractive for human use as well as of a quality that will sustain fish and wildlife. See the Surface Water, and Fisheries and Aquatic Resources sections of this Plan, for more information.

### Historic and Cultural Resources

According to the Vermont Department of Tourism and Marketing, winter tourism brings in approximately thirty percent of the state's tourism activity, while antique shopping, theater and art exhibits, festivals, historic site visitations, foliage viewing and outdoor recreation make up nearly seventy percent of annual tourist activity. Cultural heritage in particular is drawing substantial attention. According to the Department, requests for information on historic sites more than doubled in

---

1994. Cultural heritage resources include the scenic qualities inherent in village centers and hamlets, many of which have maintained the look and feel of 19th century Vermont. Historic resources and town centers that offer museums, shopping, and eating establishments may attract bicycle and pedestrian traffic. Towns in the Region should determine to what extent they want town centers to be destinations for tourism and whether or not the facilities are available to accommodate additional traffic safely and effectively.

### Private Recreational Opportunities

Only 15% of all land in Vermont is publicly owned, which means many of the outdoor recreational resources in the Region rely on the traditional willingness of landowners to allow access to private land. As the population increases in the state, so does the pressure on private land. With increased use, more landowners experience vandalism, littering, and disregard for private property. Such negative impacts result in the posting of land and closing of trails. For private lands to continue to be used, landowners must feel secure in the protection of their traditional rights and land uses, and incentives for landowners to keep their land open are needed.

Several large private landowners allow access to their land. Three notable examples include the owners of the Wilder Dam facility in Hartford and its associated Kilowatt Park, the Quechee Gorge Dam in Hartford, and the Montshire Museum lands in Norwich. Other private facilities such as local ski areas and golf courses provide recreation opportunities year round. Users to all facilities, public or private, must respect the facilities. Users should get permission when appropriate from the landowner or local access club.

Facilities in the Region include the ski centers of Bear Creek, Killington, Middlebury Bowl, Northeast Slopes, Nordic Centers, Quechee, Suicide Six; the Quechee Club; golf courses and exercise/fitness clubs.

### ATVs (All-Terrain Vehicles) and Environmental Considerations

All-terrain vehicles (ATVs) provide for unique opportunities to experience nature, and at the same time, they provide opportunities to damage the critical ecostructures present in remote and sensitive areas.

---

## Goals, Policies and Recommendations: **Recreational Facilities**

### **Goals**

1. Access for residents and tourists to a well-managed, network of outdoor recreation throughout the region.
2. Corridors provided for wildlife habitat as well as recreational areas for hiking, biking, and cross-country skiing.
3. Promote recreation and a healthy natural environment as regional assets, and to plan development in a way that will ensure that those assets are sustainable.

### **Policies**

1. The maintenance and development of recreation trail networks (e.g. Appalachian and Long Trails, regional and state snowmobile networks, and cross-country ski trails) are encouraged.
2. In planning for development within or immediately adjacent to recreational amenities, design plans must work toward separation of these alternative travel modes from vehicular traffic and other competing or incompatible land uses.
3. New development and land subdivisions which have an undue adverse impact on the enjoyment or continued use of recreational uses are inconsistent with this Plan.
4. Consistent with property rights, ownership and management practices which maintain or enhance public access to and uses of recreational amenities on privately held land are encouraged.
5. Where development interacts with the Appalachian or Long Trails and other related side trails, design plans and construction must maintain the predominant scenic character and the primitive qualities of the trail corridor.
6. TRORC encourages planning and construction of recreational opportunities on sites of public utilities or public works facilities (e.g. incorporation of trail networks into public utility corridor planning) to achieve more efficient and productive use of these lands.
7. Roadways and village centers that are heavily used by bicycles and pedestrians must incorporate planning for sidewalks, bike lanes, or separate bike paths to promote safety and enjoyment of such activities and provide for alternative modes.
8. TRORC supports the development of multi-purpose trails using abandoned railroad beds, Class 4 roads, and other public rights-of-way.
9. TRORC encourages federal, state, and local acquisition of land and facilities well-suited for outdoor recreation, provided that adequate financial and management arrangements are made with involved local governments.

*Goals, policies and recommendations continued on next page*

## Goals, Policies and Recommendations: **Recreational Facilities**

### *Recommendations*

1. To further support outdoor recreation, TRORC will assist communities with the establishment of Conservation Commissions and will support existing Conservation Commissions when possible.
2. TRORC will help towns develop highway policies that address recreation needs, and encourage the adoption of a walkable communities programs within the Region.

### **J. Opportunities for Shared Services/Infrastructure**

Earlier in this chapter, it was noted that there are few regional utilities or facilities in the TRO Region. As is the case in much of Vermont, our Region is generally low-density with a limited population

as compared to more urban locations. In urban areas, opportunities for shared services and infrastructure are obvious because density and development is high enough that communities are very easily connected.

While they may not be so readily apparent, opportunities exist in our rural communities as well. State statute enables communities to join into inter-local contracts or union municipal districts for the purposes of performing “any governmental service, activity, or undertaking which each municipality entering into the contract is authorized by law to perform.”<sup>29</sup> Common examples include shared police services and municipal aid agreements. Communities may also share staff or equipment. Under certain forms of cooperative agreements they may purchase property together.

As costs of services and infrastructure investments continue to rise, communities should seek opportunities to work with neighboring towns. Engaging in well-planned and well-organized cooperative efforts can ensure that services are provided more efficiently and more effectively.

#### Title 24 : Municipal And County Government Chapter 121 : Intermunicipal Cooperation And Services

##### Subchapter 004 : Interlocal Contracts

(a) Any one or more municipalities may contract with any one or more other municipalities to perform any governmental service, activity, or undertaking which each municipality entering into the contract is authorized by law to perform, provided that the legislative body of each municipality approves the contract, and expenses for such governmental service, activity, or undertaking are included in a municipal budget approved under 17 V.S.A. § 2664 or comparable charter provision.

~24 V.S.A. § 4901

---

Goals, Policy and Recommendation: **Shared Services and Infrastructure**

***Goal***

1. Services provided efficiently and effectively.

***Policy***

1. TRORC encourages communities to seek opportunities for share services and infrastructure with other municipalities in an effort to reduce costs and improve quality of service.

***Recommendation***

1. TRORC will assist communities with the development of interlocal agreements, union municipal districts, and other cooperative agreements whenever possible.

---

## Utilities, Facilities and Services Endnotes

1. Vermont Agency of Natural Resources, *Vermont Materials Management Plan*, (2014), <[http://www.anr.state.vt.us/dec/wastediv/solid/pubs/MMP2014/MMPdraft\\_18June2014\\_draft.pdf](http://www.anr.state.vt.us/dec/wastediv/solid/pubs/MMP2014/MMPdraft_18June2014_draft.pdf)>, p. 4
2. *Id.*, p. 8.
3. 16 V.S.A. § 1.
4. Berger, Noah and Peter Fisher. “A Well-Educated Workforce Is Key to State Prosperity.” *Economic Policy Institute*. August 2013. <http://www.epi.org/publication/states-education-productivity-growth-foundations/>.
5. Bartik, Timothy. “Why education is important to the economy, especially the local economy, and how business can help improve education.” June 2012. <http://investinginkids.net/2012/06/14/why-education-is-important-to-the-economy-especially-the-local-economy-and-how-business-can-help-improve-education/>.
6. Jones, Ken et al. “Vermont Population Projections – 2010 – 2030.” *Vermont Agency of Commerce and Community Development*. August 2013. <http://dail.vermont.gov/dail-publications/publications-general-reports/vt-population-projections-2010-2030>.
7. Driscoll, Elizabeth. “Higher Education: A Perspective of Administration, Access, Affordability and the Policy that Drives It.” May 2013. [https://etd.ohiolink.edu/rws\\_etd/document/get/ksuls1366481730/inline](https://etd.ohiolink.edu/rws_etd/document/get/ksuls1366481730/inline).
8. Berger, Noah and Peter Fisher. “A Well-Educated Workforce Is Key to State Prosperity.” *Economic Policy Institute*. August 2013. <http://www.epi.org/publication/states-education-productivity-growth-foundations/>.
9. “Guidelines for Home Study in Vermont.” *Vermont Agency of Education*. April 2014. [http://education.vermont.gov/documents/EDU-Homestudy\\_Guidelines.pdf](http://education.vermont.gov/documents/EDU-Homestudy_Guidelines.pdf).
10. “Vermont’s Education Funding System.” *Vermont Agency of Education*. June 2011. [http://education.vermont.gov/documents/EDU-Finance\\_Education\\_Funding\\_System\\_2011.pdf](http://education.vermont.gov/documents/EDU-Finance_Education_Funding_System_2011.pdf).
11. 29 U.S.C. § 794.
12. U.S. Department of Education, *Free Appropriate Public Education for Students with Disabilities: Requirements Under Section 504 of The Rehabilitation Act of 1973*. (2010). <<https://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html#textnote1>>.
13. 42 U.S.C. § 11301.
14. *Id.*
15. Vermont Department of Education, <http://education.vermont.gov/flexible-pathways>. 2014
16. Rob Grunewald. Early Childhood Development: Economic Development with a High Public Return. *fedgazette*. Published March 2003 issue. <[http://www.minneapolisfed.org/publications\\_papers/studies/earlychild/abc-part2.pdf](http://www.minneapolisfed.org/publications_papers/studies/earlychild/abc-part2.pdf)>
17. 33 V.S.A. § 3502
18. 33 V.S.A. § 3502 (b)(1)-(5)
19. 2011 Vermont Early Childhood and Afterschool Professional Development Survey. Conducted by the Vermont Department for Children and Families, Child Development Division. Reported June 2012. Page 6. <[http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/CDD%202011%20Professional%20Development%20Survey\\_web.pdf](http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/CDD%202011%20Professional%20Development%20Survey_web.pdf)>
20. 2012 Vermont Child Care Market Rate Survey. Vermont Department for Children and Families, Child Development Division. Page 4. <<http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/care/Market%20Rate%20Survey%20Report%202012.pdf>>
21. Vermont Bright Futures Child Care Information Center, accessed 2 December 2013.
22. Vermont Child Care Regulation Review, Workgroup Data Report, July 27, 2012. <<http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/proposed/RegReview/Vermont%20licensed%20program%20data%20for%20reg%20review%207%2027%202012.pdf>>
23. Afterschool Alliance. Afterschool Programs in Vermont. [http://www.afterschoolalliance.org/states\\_docs/pdfs/2013/Vermont\\_Fact\\_Sheet.pdf](http://www.afterschoolalliance.org/states_docs/pdfs/2013/Vermont_Fact_Sheet.pdf)
24. Vermont Head Start- State Collaboration Office. Vermont Department for Children and Families, Child Development Division. 19 September 2013. Page 101-102. <[http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/2012\\_Vermont\\_HS\\_EHS\\_Needs\\_Assessment\\_Report%20for%20web.pdf](http://dcf.vermont.gov/sites/dcf/files/pdf/cdd/2012_Vermont_HS_EHS_Needs_Assessment_Report%20for%20web.pdf)>

- 
25. *Id.* Page 3.
  26. *Id.*
  27. *Id.*
  28. Vermont Child Care Financial Assistance Co-Payment Survey. Vermont Department for Children and Families, Child Development Division. March 201. Page 4. <<http://dcf.vermont.gov/sites/DCF/files/pdf/cdd/care/fap/Co-payment%20Survey.pdf>>
  29. 24 V.S.A. § 4861-4902

