

# **Granville Town Plan**

**Adopted June 16, 2014**

Prepared by the Granville Planning Commission

*Written with assistance from the Two Rivers-Ottawaquechee Regional Commission*

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## I. INTRODUCTION

*"Would you tell me which way I ought to go from here?" asked Alice.*

*"That depends a good deal on where you want to get," said the Cat.*

*"I really don't care where" replied Alice.*

*"Then it doesn't much matter which way you go," said the Cat.*

*~ Lewis Carroll, Alice's Adventures in Wonderland (1865)*

Planning is the process of projection. A community imagines what the future should be, and then starts putting these ideas into action. Communities with little or no planning are more likely to experience problems of over-development, high property taxes and increased demands for community services. Granville, like every town, has choices in the way it provides for orderly growth and in the way it balances the natural and built environments. Planning is done to meet the needs of the people who are here now in the face of change. Human nature resists change... but, change is inevitable. Here are some specific reasons to have a Town Plan:

1. *A guide for a community.* Information in the plan can be used for developing the recommendations contained in a capital budget and program, for establishing a community development program, and for providing direction to the Select Board for such things as community services, emergency services, recreation, and municipal facility development, to name a few.
2. *Support for grant applications and planning studies.* Many of the state-run grant programs available to Granville look to see if the town has stated a need for its grant request. Studies are often called for within a plan, and the funding for such projects can come from various sources..
3. *A guide for future development* In towns with no zoning, a Town Plan can be the only tool for local control of development. The District Environmental Commission considers Town Plans during Act 250 hearings, which is why this Plan should clearly explain to developers and others what types of development are preferred in Granville, and where they should be built.
4. *Foresee unintentional consequences.* All actions taken lead to consequences. Although the action is usually initiated to cause a specified result, unintended results also occur. A plan provides a framework for anticipating both the intentional and unintentional consequences of planned actions.
5. Granville has always been a multi-faceted working community. It is fortunate that Granville has remained an unspoiled environment that continues to provide its residents and visitors a rarely paralleled living experience.

It is the intent of this plan to acknowledge and celebrate the past, as well as to reach towards the future. We hope that this document will provide guidance to the governing bodies of Granville and to assist Granville residents to maintain this special place as we move forward in the 21st century.

### A. General Goals

Five long term goals for Granville are presented below.

1. **Sustainability** is a nearly universal goal associated with transportation, land use, and the environment.
2. **Affordability** has been a concern in Vermont due to the increases in housing prices and taxes seen over the last decades.
3. **Preservation** is critical for towns like Granville that have long histories and aging infrastructure both public and private.
4. **Community and sense of place** has great value in New England, and especially Vermont, given the tradition of village centers and local government.
5. **Connectivity** is critical to allow everyone to participate in society and will become even more important as the population ages.

The purpose of these five long-term goals is to provide broad benchmarks against which the Town of Granville can evaluate future proposals.

### **1) Sustainability**

Promoting the long-term viability of an area is usually phrased as the goal of sustainability. This term includes many themes related to environmental consciousness such as energy conservation, minimization of air and water pollution, and preservation of wildlife and natural ecosystems. It also implies economic vitality, improvement of living standards, and a stable or slowly growing population. Ultimately, sustainability means supporting the vitality of human activity in an area and ensuring that it is in harmony with its environment and not destructive to it.

It is not the goal of this plan to suggest economic strategies for the region. Instead, the goal of sustainability reinforces the need to encourage entrepreneurship and maintain the quality of life in the area so that new economic activity has a chance to take root here, while at the same time maintaining the integrity of forests and open lands.

### **2) Affordability**

Granville needs to balance the goal of building and maintaining the Town as a sustainable, affordable community while keeping the municipal tax burden to a minimum. Both the initial costs and ongoing maintenance costs of all requests should be analyzed to ensure that continued residency in Granville remains affordable.

### **3) Preservation**

The long history of the Town of Granville, detailed later in this document, demonstrates that there is much to preserve. Granville's buildings are aging and in need of restoration and continued upkeep. Preservation of our unpolluted air, water, and night sky should be deemed a high priority. Preservation also means stewardship of the environment and the landscape that sets Vermont apart from other places. Because an increasing share of the local economy is tied to tourism, preserving the working farms and forests that make Vermont attractive is essential for economic growth.

#### **4) Community and Sense of Place**

Villages and towns in Vermont are still vibrant communities, as is demonstrated every March at Town Meeting. The way towns are built and governed have an impact on the way citizens relate to each other. Most governing functions within Granville are performed by volunteers; however, the demands made upon those folks, in many situations, exceed their expertise. This need for additional knowledge may be found in the private sector via consultants, or it may be found through the volunteerism of other Granville citizens. Granville's sense of community can be enhanced through the participation of additional volunteers, and thus should be encouraged as much as is feasible.

Growth in a town, in the form of new housing or commercial space, needs to happen organically, in harmony with the existing character of the community, while minimizing habitat fragmentation due to parcelization. This character should not be sacrificed for a quick infusion of property tax money due to new sprawl development. Granville must celebrate its past as well as embrace its future.

#### **5) Connectivity**

In the near future, Granville hopes to be provided with affordable broadband access to all homes and offices. Not only will this promote economic development, but it will also provide improved communication amongst the residents of the community and the town's governing bodies.

We are still in the Age of the Automobile. The vast majority of households in Granville rely on vehicles for most if not all of their transportation needs. This will continue to be the case for the foreseeable future, though the aging of the population means that a greater portion of future residents will not be able to drive. To the extent that they "age in place," that is, remaining in their homes, an increase in public transportation service will be necessary.

The state and federal governments have been spending increasing amounts of transit funding on the Elders and Persons with Disabilities program, which provides rides for a range of purposes. This will need to continue. Additionally, new housing for seniors should be placed in areas that are accessible to public transportation and thus do not significantly raise operating costs.

## **II. CULTURAL AND ECONOMIC HISTORY OF GRANVILLE**

### **A. Geography**

The town of Granville, situated in the northeastern part of Addison County, bounded on the north by the town of Warren and a part of Roxbury; east by Braintree; south by Hancock, and west by Ripton and a small part of Lincoln. It was granted by Governor Thomas Chittenden on November 7, 1780 and chartered August 2, 1781. The town was originally called Kingston, but the name was changed to Granville in 1833. In that year most of Avery's Gore to the west was added to the town. There were at one time ten districts, each with its own schoolhouse. Population rose to a high of around 1,100 in the mid-1880s.

Granville and Lower Granville are situated in a valley through which the White River flows. The hills on either side of the valley are heavily wooded and much of those on the west are part of the Green Mountain National Forest, which accounts for 46% of Granville's total area. North of the village in the Granville Gulf, Moss Glen Falls cascades over vertical rocks, falling over 50 feet.

Fewer than half of the roads of the 1880's remain in use today. East Granville, located over a mountain range, was first chartered as the town of Sandusky. The name was later changed to East Granville and was accessible by a road over Braintree Mountain. A once bustling railroad, siding, and manufacturing district, East Granville has been reduced to a row of houses along Route 12A with no remaining businesses. Because the road over Braintree Mountain to East Granville is now a jeep trail, a trip of 30 miles is necessary to reach that town over the Roxbury Gap road from VT Route 100 in Granville.

### **B. Architecture**

Vermont's rural buildings tend toward the Vermont vernacular, reflecting the working families residing in Upper and Lower Granville. Several of these, dating from 1825 to about 1865, are listed on the State Register of Historic Places. There were at one time three inns, all now private residences. Of the two churches originally built, only the one in Lower Granville remains. Constructed in 1838, it was raised in 1871 to provide another level underneath to be used as the Town Clerk's Office. Originally called the Methodist Episcopal Church, the name was changed to the Union Meeting House and today functions as the Granville Town Hall.

By 1870 there were several lumber mills in Upper Granville Village and they all used water power from the White River and adjacent brooks. It was in this era that six row houses were built beside the main road to house the mill workers. Five of these remain today as private residences. The original barn of the Granville Manufacturing Company burned down, as did the three successive buildings that replaced it. The company continues to sell wooden bowls although they are not manufactured there.

Three of the original ten schoolhouses remain today. Number 10 in Upper Granville Village functioned as a school until 1949, after which it was used as the town library. Schoolhouse Number 2 in South Hollow is now a private residence. Schoolhouse Number 1 in Lower Granville closed in 2009 after 158 years of continuous use, and is now the Granville Town Office.

A Grange Hall was erected in 1875 and it still stands today. After the farmers of Granville formed a Grange Chapter in the Village, a small building was put up between the Union Meeting House and the school. That building became one of the first Grange stores where farmers took their produce to sell. This



building also housed the Granville town hearse until 2007, when it was loaned to the Addison County Fair and Field Days to be included in their antique collection. The building was then dismantled.

### **C. Community**

As in most rural communities, the church and the Grange served important social and business functions. The annual Town Meeting brought people together to provide input and make decisions about the future of their town. This tradition continues today. With the coming of the automobile, telephone, cellular service, and now the Internet, staying connected within Granville and the outside world has been greatly improved. Although the one remaining school has closed, it is encouraging to know that the building will eventually become a community resource center.

### **D. Noteworthy**

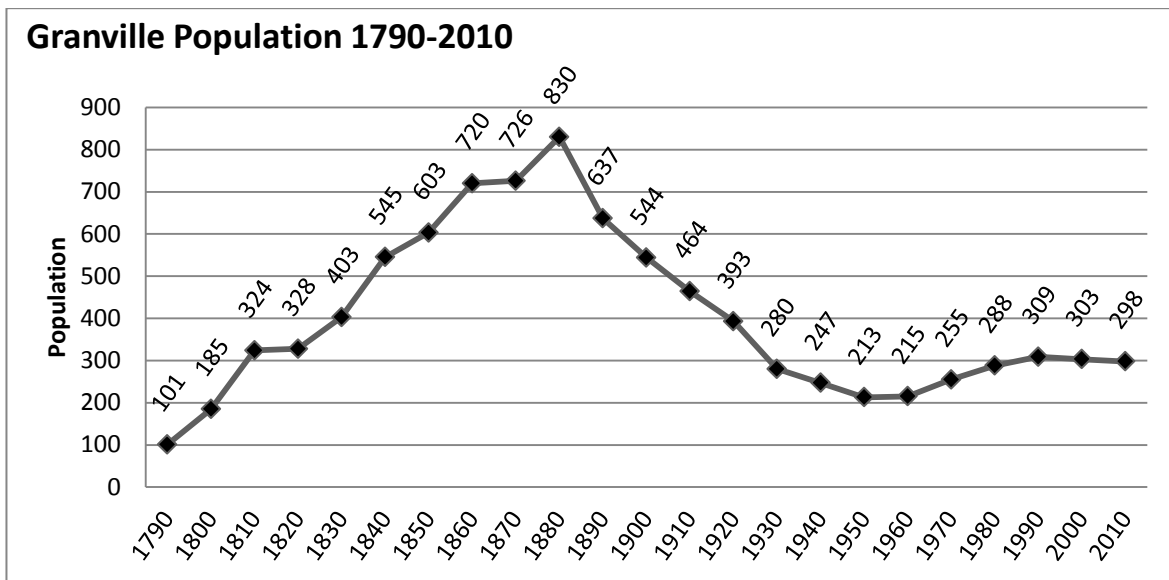
Around 1900 Benjamin Holt invented a crawler-tractor powered by steam and mounted on caterpillar wheels. It was named Diana, for a young woman who worked in the village. Diana the Log Hauler was used in winter to haul as many as six sleds of logs at a time from Austin Hollow and Stetson Hollow to the upper village.

John Deere, inventor of the steel plow, lived at the home of Mary and William Lamb in South Hollow sometime after 1830. He married one of their daughters, Demarius. They lived in different towns in Addison County, eventually locating in Moline, Illinois. After the death of Demarius, John Deere returned to the Lamb home in 1866 and married another Lamb daughter, Lucinia. The wedding took place in the Union Meeting House in Lower Granville. The couple returned to Moline, where Deere died in 1886 at the age of 82. Many of the Lambs are buried in the South Hollow Cemetery.

### III. Demographics

The demographic nature of a town tells the reader a great deal about who the town is and what trends define its direction. To get a real-time snapshot of the town it is important to have the most up-to-date data available. Much of the content in this chapter has been taken from the 2010 US Census or the 2005-2009 American Community Survey. In other instances, state data was used.

#### A. Population



1 - Granville Population, 1790-2010 (Source: U.S. Census)

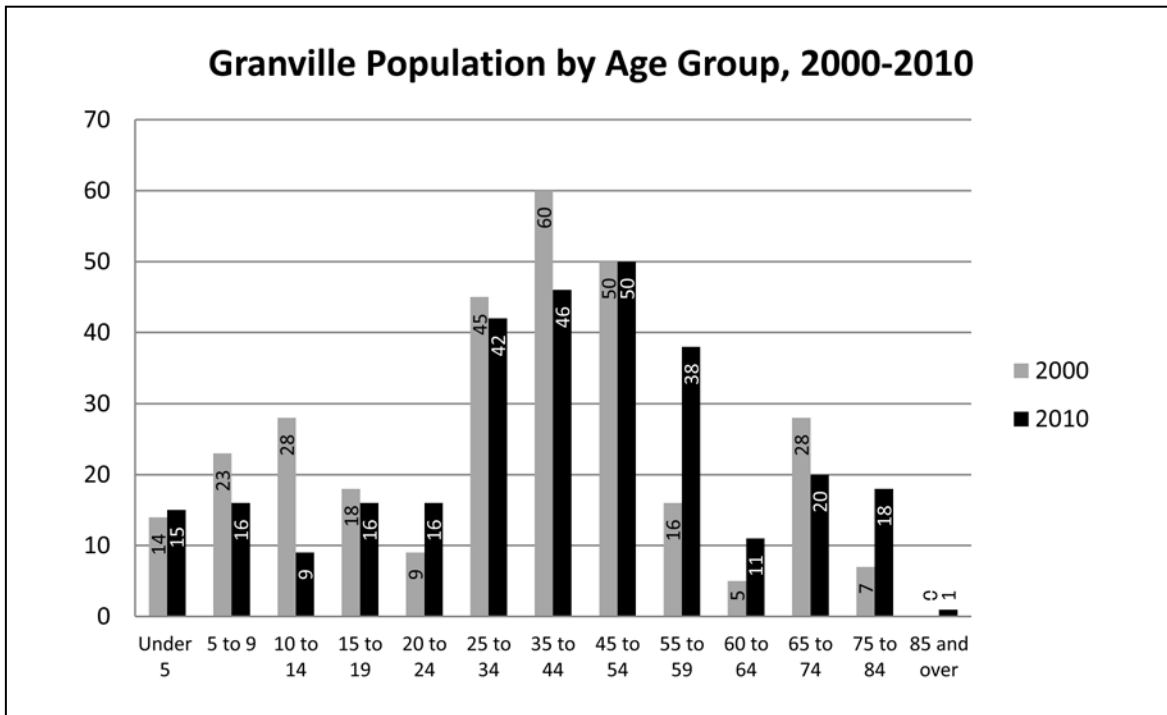
According to the data in figure 1, Granville’s year 2010 population numbered 298 compared to a population of 303 in 2000, resulting on only a 1.6% decrease. Granville’s population change over time is reflective of many communities in Vermont. During the mid to late 1800’s many Vermont towns reached their peak population. A mass exodus as citizens moved south caused a steep drop that finally stopped during the 1970’s. Throughout the 1980’s and up to 2000, most communities experienced a steady influx of new residents. Between 2000 and 2010, however, gains became losses in many communities, while other communities saw their population levels flatten.

#### B. Age of Population

In general, the age of Granville’s population is similar to that of Vermont as a whole, with over half (61%) of the population over the age of 35. If the assumption is made that most of the population of Granville remained in the community between 2000-2010, some changes in the demographic mixture of the community can be identified. For example, in 2000 roughly 9% of the population was aged 10-14. Ten years later, the population of 15-19 year-olds was just under 5%. The explanation for this drop in younger residents is difficult to ascertain.

If the same analysis is applied to residents aged 20-24 during 2000, it is interesting to note that Granville appears to have gained residents aged 25-34, an age group that is important to Vermont’s communities. The loss of young adults (generally between the ages of 25-35) has been a concern throughout Vermont during the past decade. Often referred to as a “brain drain” the out-migration of young adults raises concerns on both economic and social levels. Without a talented and well-educated pool of young

workers, there are worries that the state will find it increasingly difficult to attract and retain well-paid jobs, which in turn can have serious repercussions for the state’s capacity to raise tax revenues and pay for essential services. Young adults who leave their rural communities often do so because communities lack the resources commonly sought after by people of their age group, such as reliable high speed



2 - Population by Age Group, 2000 & 2010 (Source: U.S. Census)

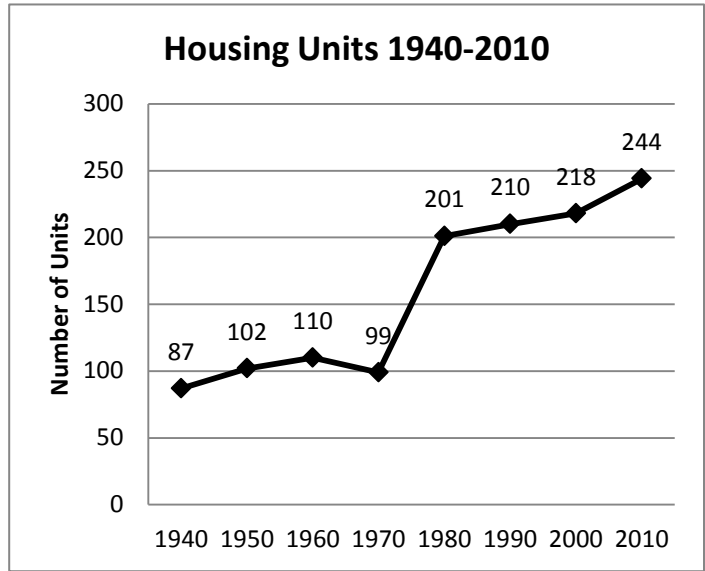
internet access, clear cell phone reception and opportunities for social interaction with others of their age group.

According to the Department of Economic Development’s (DED) 2007 Report “Growing Vermont’s Next Generation Workforce”, Vermont ranks at the bottom nationally for the percentage of its citizens between the ages of 25 and 29, and at the top in the percentage aged 50-54. While it is common, and perhaps desirable, for young adults to venture beyond their home state after college, the biggest concern is that many are not returning. During interviews for the DED report in 2007, young adults explained that their primary reason for leaving Vermont was to find better paying jobs. Likewise, the biggest hurdle for young adults wanting to return to Vermont was the availability of well-paying jobs and affordable housing. Those young adults who choose to return to, or relocate to, Vermont have indicated that their primary motivation for moving to Vermont is the lifestyle associated with the working landscape. Outdoor recreation, agriculture and the importance of community often encourage these citizens to return. The apparent increase in the number of residents aged 25-34 implies that there is some element of Granville’s community that is attracting younger residents. This is a trend that needs to be explored and developed to insure growth in Granville as a community.

In another trend that mirrors statewide trends, Granville also has an aging population. In 2010, 16% of the population was over 65 years of age, which is less than Addison County (20%) and marginally higher than the State of Vermont (14.6%). Vermont also has the lowest birth rate in the nation (10.4 births per 1,000 of population, compared with 14.2 for the U.S ) which, when coupled with immigration of residents over 55, results in an aging population that will need services that are not readily available in a town like Granville. The need for elderly housing will increase. For additional discussion regarding elderly housing, go to chapter IV, Housing.

## IV. Housing

A key element in the character of the Town is its housing—the quality, availability and variety of places for its residents to live. Although the provision and maintenance of a town's housing stock is primarily a private sector activity, the growth and development of housing affects the character of the town and the facilities and services it provides or will provide. Housing constructed in the absence of adequate planning for public facilities can overburden schools, roads, and other municipal services. Poorly located housing can pollute a water supply or destroy an important wildlife habitat. Housing that is inadequate to meet the demand in a town or region can strain adjacent towns and make it challenging to find homes in close proximity to locations of employment.



3 - Granville Housing Units, 1940-2010 (Source: U. S. Census)

### A. Housing Profile

According to the 2010 U.S. Census, there were 244 housing units in Granville (see figure #). In 2000, there were 218 housing units. This amounted to an increase of 26 units or nearly 12% over the ten-year period or an average of roughly 2.5 units per year. A housing unit, as defined by the U.S. Census, includes houses, apartments, mobile homes, and rooms for occupancy. As is the case for most Vermont towns, the bulk of Granville's housing units are single-family homes (84%).

2010 Housing Occupancy, Granville & Surrounding Area			
	<i>Owner-occupied</i>	<i>Vacation</i>	<i>Renter-occupied</i>
Braintree	71%	13%	9%
Granville	51%	36%	9%
Hancock	57%	23%	15%
Lincoln	68%	15%	13%
Ripton	63%	18%	14%
Rochester	48%	28%	16%
Roxbury	58%	27%	10%
Warren	26%	60%	8%
Addison Co.	64%	11%	20%
Vermont	56%	16%	23%

4 - 2010 Housing Occupancy, Granville & Surrounding Area (Source: U.S. Census)

When compared to its neighboring towns and Windsor County as a whole, Granville has one of the lowest percentages of owner-occupied homes (51%), whereas the percentage of second homes (36%) in Granville is second only to the town of Warren (which is home to several ski areas). While there are positive tax benefits to vacation homes (which are taxed at a higher rate than year-round homes), there are downsides to having a high percentage of vacation homes. For example, communities which have volunteer fire departments depend on full-time residents to staff their fire departments and a lack of full-

time residents can make acquiring staff difficult because the pool of candidates is reduced.

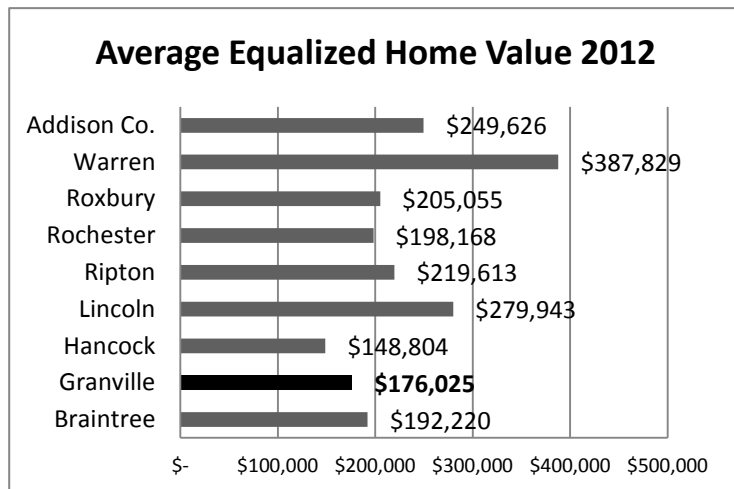
## B. Rental Housing

Granville’s percentage of renter-occupied housing (9%), is substantially lower than Addison County. The tight housing market statewide and lack of unoccupied apartments (only 2% of Granville’s apartments are unoccupied) continues to drive up rental costs. The low percentage of homes that were unoccupied indicates that in 2010 Granville was experiencing a shortage of available rental housing stock. Anything below 5% is functionally considered a zero. This low percentage of housing stock is very consistent from town to town throughout Vermont.

## C. Affordability

Affordable housing is defined to be no more than 30% of household income spent on housing costs. For homeowners, housing costs include payments for principal and interest on mortgage, taxes, etc. For renters, housing costs include rent and utilities.

In 2000 the US Agency of Housing and Urban Development (HUD) calculated the fair market rent for a modest two bedroom apartment in Granville at \$598 per month; in 2013 that cost had risen 60% to \$957 per month. In order for a renter in Granville to afford rent for a two-bedroom apartment at this rate, in 2013 he/she would have needed a household income of roughly \$38,280 annually. Given that more than 60% of Granville’s households filed tax returns valued at less than 40,000 in 2012, it is likely that renters in the community find it difficult to afford rental housing in Granville.



5 - Average Equalized Home Value 2012 (Source: VT. Dept. of Taxes)

Between 2000 and 2010, home prices throughout Vermont rose dramatically. The collapse of the US housing market during the Great Recession (2007-2009) slowed the rise in home prices in many locations. Between 2010 and 2012 Granville’s average equalized home value decreased by less than 2%. When compared to neighboring communities in 2012, Granville had the second average equalized residential home value (\$176,025). But, it should be noted that average equalized residential home value data is not an exceptional indicator, as it can be skewed by a particularly expensive home and is subject to the local formula used for assessments.

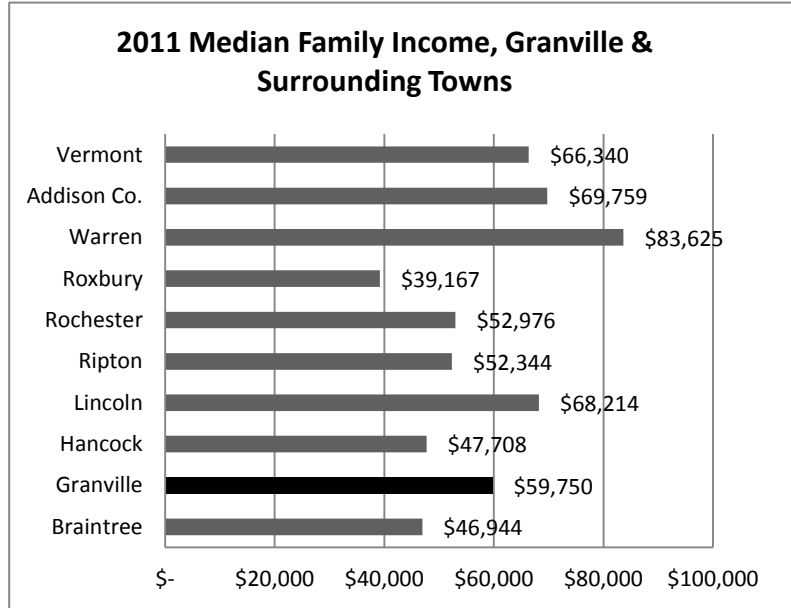
The lack of consistent available housing data makes it challenging to track trends in housing values over time. The Vermont Housing Finance Agency (VHFA), in its 2013 “Housing Needs Assessment in East Central Vermont” indicated that the median income family in Addison County (\$57,203) could likely afford the median home price of \$173,000. Granville’s median household income is slightly lower than the county median (\$53,127)<sup>1</sup>. The VHFA also reports that 38% of Addison County’s residents are spending more than 30% of their income for housing.

<sup>1</sup> This figure differs from the Median Household Income. A household is defined as any individuals living in a house, regardless of relationship. A family must be related by marriage or blood.

Granville, like many communities, has experienced a trend toward fewer home occupants. This trend is unlikely to be reversed. The trend results in an increased demand for housing. The elderly, single households and other special populations are oftentimes in need of special types of housing including that which is affordable and readily accessible.

Another barrier to affordable housing is the age of homes in Granville. Vermont’s housing stock is among the oldest in the United States. Forty-seven percent (47%) of the homes in Addison County were built before 1970, before newer energy efficiency technology was available, housing codes were more lax and the use of lead-based paint was widespread. These factors impact the cost of operating housing, assuring the health and safety of all residents, and providing access to Vermonters with different abilities.

The location of housing plays an important factor in housing affordability. Living near employment or other daily destinations can reduce costs substantially. The VHFA suggests that for a household 10 miles from locations of employment, driving is likely to cost \$122 less per month than a household 25 miles away. A reduction in an expense of this nature would allow a household to better afford rent or a mortgage. In addition, a household with a shorter commute is likely to have a more stable future because it is less vulnerable to increases in vehicle fuel prices.



6 - Median Family Income, 2011 (Source: American Community Survey)

### D. Elderly Housing

Section B of Chapter 1 discussed Granville’s trend toward an aging population. “Baby Boomers,” people born between 1946 and 1964, are beginning to retire, and the oldest ones will be 84 in 2030. This shift in demographics will put added pressure on an already tight housing market. Expanding healthcare costs may leave seniors with even less money to spend on housing.

Nursing and Residential Care Facilities	Nursing Care (II)	Residential Care (III)	Residential Care (IV)
Braintree	0	0	0
Granville	0	0	0
Hancock	0	1	1
Lincoln	0	0	0
Ripton	0	0	0
Rochester	0	0	0
Roxbury	0	0	0
Warren	0	0	0

7 - Nursing and Residential Care Facilities, 2014 (Source: VT DAIL)

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. Figure ## indicates that there are no options in Granville and very few in the surrounding area for this type of care. Elderly Granville residents in need of full-time care are forced to move away from their community. This is a statewide problem, not just a local issue.

Within Vermont there are several types of elder-care facilities which are subject to state regulation: nursing homes and residential care facilities. Nursing homes provide nursing care and related services for people who need nursing, medical, rehabilitation, or other special services. They are licensed by the state and may be certified to participate in the Medicaid and/or Medicare programs. Certain nursing homes may also meet specific standards for subacute care or dementia care. Residential care homes are state licensed group living arrangements designed to meet the needs of people who cannot live independently and usually do not require the type of care provided in a nursing home. When needed, help is provided with daily activities such as eating, walking, toileting, bathing, and dressing. Residential care homes may provide nursing home level of care to residents under certain conditions. Daily rates at residential care homes are usually less than rates at nursing homes.

## **E. Goals, Policies and Recommendations**

### **Goals**

1. Safe and affordable housing for Granville residents.
2. To encourage innovative planning, design, and construction of residential housing that minimizes the cost, energy consumption, and environmental impacts of housing.
3. Preserve historic structures in ways that serve housing needs.

### **Policies**

1. It is the policy of the town to allow for growth of housing for all income levels and at a rate consistent with the community's ability to provide services in a fiscally sound manner and consistent with the other goals and policies expressed in this Plan.
2. It is the policy of the town that public funds in the form of subsidies may be necessary to preserve maintenance of or access to affordable housing. Where such projects involve public funds, they should only be encouraged when these investments result in developments which are affordable on a long-term basis and when a clear public benefit to the community can be demonstrated.
3. It is the policy of the town that priority should be given to the preservation and improvement of housing already in existence.
4. It is the policy of the town that multi-family housing should be encouraged within or adjacent to existing Village Center or Hamlet areas where municipal services are available.
5. It is the policy of the town to encourage the development of mixed-income housing.

**Recommendations**

1. Community leaders should work with state housing agencies, non-profit organizations, and lending institutions to insure the availability of loan or grant funds for Granville residents to acquire or improve their primary homes.
2. The Town should work with the Two Rivers-Ottawaquechee Regional Commission to evaluate Granville's role in supplying the region's housing stock by assessing its capacity for growth.



## V. Economic Development

### A. Background

Granville's original residents were homesteaders carving out places for sustenance on the hillsides. Where there was more arable land on the valley floor larger farms sprung up. Most of the local employment opportunities depended on the abundance of timber, which provided logs for export as well as for the mills producing shingles, clapboards, tool handles, chair stock, and later wooden bowls. Locals also worked in the three inns and two general stores. The ten schools each required a teacher and there were ministers, a town clerk, and several overseers. As in all rural towns there was a post office and a blacksmith shop. Cheese making and maple syrup production were usually undertaken by families.

Labor Statistics, Town of Granville (2008-2012)				
Year	Labor Force	Employed	Unemployed	Unemployment Rate
2008	190	180	10	4.3%
2009	200	180	20	9.7%
2010	190	180	10	6.8%
2011	200	190	20	7.8%
2012	200	180	10	6.1%

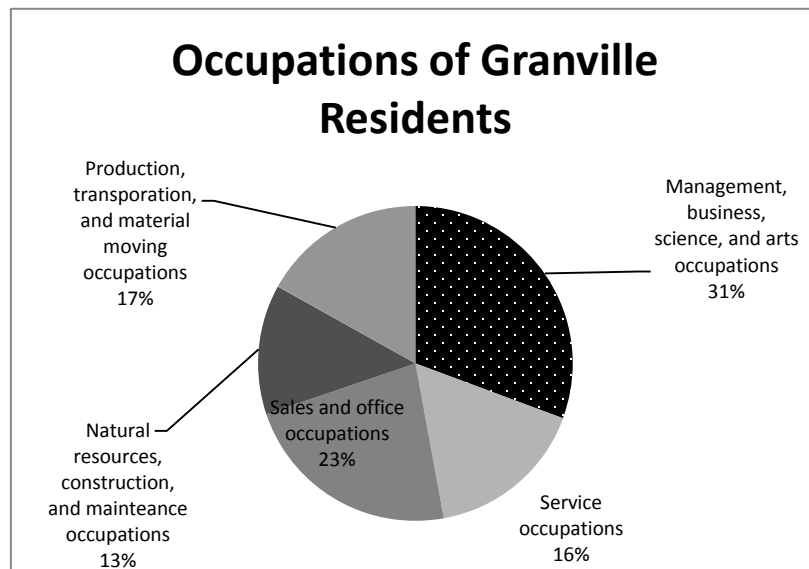
8- Town of Granville Labor Statistics (Source: VT Dept. of Labor)

### B. Employment Patterns

The number of Granville residents in the labor force has remained stable since 2011. Unemployment is slightly higher than in 2008, but the rate indicates a reduction in unemployment when compared to 2009 when much of the US was grappling with a recession. In 2012, Granville's unemployment rate of 6.1% was higher than either Addison County (4.6%) or Vermont (5%).

### C. Occupations

Management, business, science and arts occupations make up the highest percentage (31%) of occupations held by Granville residents; followed by sales and office occupations (23%); and production, transportation and material moving operations (17%). In the 2008-2012 American Community Survey, the majority (81%) of Granville's workers reported that they commute to work. 9% of residents indicate that they walk to work and another 9% work from home.



9 - Occupations of Granville Residents 2010 (Source: US Census)

Of those residents who commute to work, over half

(59.8%) commute 29 minutes or less, which implies that these residents work in nearby communities like Rochester, Randolph, Middlebury, Waitsfield and Warren.

#### D. Future Economic Development

To encourage continued economic growth, small communities like Granville must take advantage of local resources such as their location, physical setting and citizens. In order to continue this growth, the community must determine how to leverage the town’s assets. To do so, a comprehensive planning effort must be implemented to guide growth and improve the community.

Granville strives to have its local economy grow at a pace that benefits the community, but does not put a strain on municipal services or negatively impact its unique rural character. To encourage new growth and to improve the vitality of the Upper and Lower Granville Villages, the town of Granville has sought and received Village Center Designation through Vermont Downtown Program.

Businesses within the area identified by the Vermont Downtown Program as a Village Center are eligible for various tax credits, and the municipality is given priority for specific state and federal grant programs (see sidebar). While there are opportunities for infill development within the Village Center Areas, Granville’s topography and flood hazard areas make continued growth a challenge.

A 2012 study by the Urban Land Institute indicated that on a national level, businesses are making their location decisions based substantially on sense of place. Likewise, young adults have indicated that their primary motivation for moving to Vermont is the lifestyle associated with the working landscape. A small community’s best method of encouraging new business is to recognize its best assets, protect those assets, and support any efforts to promote those assets. It is Granville’s rural and natural (in particular, access to the Green Mountain National Forest) that are its greatest assets. As such, these assets should be prudently managed.

#### E. Goals, Policies and Recommendations

##### Goal

1. Preserve historic structures and historical sites.

Travel Time to Work	Estimate
Less than 10 mins.	16.9%
10 to 14 mins.	3.6%
15 to 19 mins.	9.2%
20 to 24 mins.	15.9%
25 to 29 mins.	13.3%
30 to 34 mins.	15.4%
35 to 44 mins.	6.2%
45 to 59 mins.	10.8%
60 or more mins.	8.7%
<i>Mean travel time to work</i>	

10 – Travel to Work (Source: US Census)

##### Village Designation Benefits

Because of its participation in the Vermont Village Designation Program, Granville’s Villages have the following benefits available:

- **10% Historic Tax Credits** - Available as an add-on to approved Federal Historic Tax Credit projects. Eligible costs include interior and exterior improvements, code compliance, plumbing and electrical upgrades.
- **25% Facade Improvement Tax Credits** - Eligible facade work up to \$25,000.
- **50% Code Improvement Tax Credits** - Available for up to \$50,000 each for elevators and sprinkler systems and \$12,000 for lifts. Eligible code work includes ADA modifications, electrical or plumbing up to \$25,000.
- **Priority Consideration for HUD, CDBG and Municipal Planning Grants** - Priority consideration for Municipal Planning Grants and funding from Vermont’s Community Development Program.
- **Priority Consideration by State Building and General Services (BGS)** - Priority site consideration by the State Building and General Services (BGS) when leasing or constructing buildings.
- **Special Assessment Districts** - May create a special assessment district (also known as special benefits district or business improvement district) to raise funds for both operating costs and capital expenses to support specific projects in downtown.

### **Policies**

1. The Town may work with businesses and non-profit housing corporations to help Granville better meet the demands for affordable housing.
2. The Town shall encourage the location of primary and vacation housing, related amenities, and planned land uses with due regard to the physical limitations of the site and location, setback guidelines, our social, economic, and architectural heritage, property values, environmental issues, and nuisance concerns and in relation to current or planned public and private services, such as roads and commercial/service centers.
3. The Town shall continue to participate in the Village Designation program.

### **Recommendation**

1. An education program should be developed to promote awareness by Granville's residents of the impact of existing and future land use actions on neighboring property values, the town's social, economic, and architectural heritage, environmental issues, and nuisance concerns.

## **VI. GRANVILLE LAND USE**

### **A. Current Land Use**

Granville and East Granville are a predominantly rural community of 33,420 acres located between the Green Mountain Range on the West and the eastern slope of the Braintree Mountain Range on the East (see maps). Nearly half the land (48%) in Granville is privately or publicly conserved, according to the 2000 Census. A few active farms and prime agricultural lands exist within the area. Recently, there has been a widespread return to small, part-time farming. This has been evident through most sections of the Town.

The upper reaches of the White River flow through the center of Granville for more than eight miles. The river is one of the Town's most important natural features, affecting economic, residential, and scenic values. Unfortunately, the river, river-bed and river-bank conditions have deteriorated over the past several decades. River gravels have accumulated, filling pools, causing flooding over Route 100, raising and widening the stream channel, and warming the water to the point where native fish habitat has declined. The flood of June 1998 further damaged the river channel and adjacent lands, but it did serve to focus attention of residents and state and federal agencies on the need for river restoration. In 1998 Granville became an active member of the White River Partnership, a citizen and community-based organization dedicated to the cultural, economic and environmental health of the river. The goal was to encourage stream bank vegetation, reduce future erosion of agricultural lands, and restore historic use of the river for fishing, swimming, canoeing and other recreational pursuits. A number of projects were completed with the financial and professional assistance of the Partnership, U.S. Forest Service and state agencies. Stream bank stabilization, stream channel reconfiguration, riparian tree plantings and fish habitat improvements were accomplished upstream of the Upper Village on Alder Meadow Brook, and in the main branch downstream from the Upper Village to the Bagley Bridge on VT Route 100. Unfortunately, much of this work was undone by the severe flooding caused by Tropical Storm Irene.

Approximately 46% of Granville consists of land owned by the Green Mountain National Forest. Activities and policies on the National Forest have a significant and immediate economic, social, and recreational impact on local communities such as Granville. The Green Mountain National Forest Plan, adopted in April 2006, sets activities and policies for the subsequent 15 years.

The majority of Granville is forested, including 14,446.6 acres of National Forest, approximately 1,171 acres of State Forest and Parks land, and 17,982.4 acres in private ownership including the L.W. Webster land, Montgomery Timber Company land, and the Yankee Forest Company land.

The geological characteristics of Granville, the current Vermont Department of Health Water and Septic Regulations combined with the Federal Wetlands Act (see map at town clerk's office) and the current flood plain regulations prohibit development of more than 90% of Granville lands. If these regulations are strictly adhered to, the Town of Granville will never lack open spaces. In addition, the current agricultural land can and should be protected through the Current Use Program and/or Vermont Land Trust. Enhancement of outdoor recreation opportunities and participation is to be promoted by supporting open access to a variety of well-maintained motorized and non-motorized trail systems on public lands.

## **B. Future Land Use**

Because such a substantial amount of Granville is part of the Green Mountain National Forest, there are limited locations where development can be encouraged. In order to facilitate orderly growth, minimize any undue burden on municipal infrastructure and encourage the vitality of Granville's Villages, the Planning Commission proposes two future land use areas. These land use areas are intended to describe how and where the community wishes growth to occur and to provide specific information in the event of an Act 250 review.

### **Village Center Areas**

Granville has three Villages – Granville Village (or Upper Granville Village), Lower Granville Village and East Granville Village. Upper and Lower Granville are located on Route 100. These two villages are Granville's most active village centers. Upper Granville is home to the town's post office, a general store and the public library. The Municipal Office is located in the Granville Town Hall in Lower Granville. All of Granville's villages are clustered around state highways. East Granville, which is located on Route 12A, is unique in that it is separated from the bulk of the town by Adams and Lost Mountains, with no direct access to Route 100.

The Village Center Areas are intended to act as small community centers with a mix of civic, residential, commercial and small-scale light industrial uses. Shops and services, tourist businesses, lodging, public facilities and business and industrial enterprises at a small scale with appropriate design characteristics that fit the context of the area are encouraged. None of Granville's Villages have public sewer or water systems; to fit with the pattern of existing development, new development should be at medium to high densities (A minimum of one acre density - allowing for individual septic systems).

### **Rural Areas**

All areas of Granville that are not part of the Village Center Areas are considered Rural areas. Granville's Rural Areas consist primarily of a mixed pattern of land uses, including residential, small-scale businesses, outdoor recreational, agricultural, forestry, and natural resource uses. Development within these areas has been largely dependent on site limitations, including soil composition, slope, and elevation, and ease of access to community services.

Home enterprises are appropriate land uses within Rural Areas. A home enterprise is intended to support the land use features noted above because these are attributes that are valuable to both the quality of life and the economic character of the region. Non-residential uses, including small service businesses, small professional offices and inns are acceptable land uses for Rural Areas provided that such uses are planned as relatively small in size or scale, are not primary or dominant uses in an area, do not unduly conflict with existing or planned residential, forestry or agricultural uses, and do not unduly affect rural character. Density in the Rural Areas should be mixed, with higher density development on existing 2<sup>nd</sup> and 3<sup>rd</sup> class roads and less-dense development in less populated areas that are not served by municipal roads.

### **Flood Hazard Overlay Area**

This area contains those lands which are considered subject to flood hazard as described and designated by the Federal Flood Insurance Administration on Granville's Flood Hazard Boundary Map. This map was issued in 2006 and serves as the official map. In order for Granville to continue participation in the National Flood Insurance Program, it has adopted and will continue to enforce a permanent flood plain zoning bylaw regulating development activities within the flood hazard areas. For more detail about

Floodplain, see the Chapter XIV, Natural Resources.

By definition the boundaries on the Flood Hazard Boundary Map represent the 100 year base flood or the flood having a one percent chance of being equaled or exceeded in any given year. It is the purpose of this land use area to:

1. Implement the goals, policies, and recommendations in this plan;
2. Avoid and minimize the loss of life and property, the disruption of commerce, the impairment of the tax base, and the extraordinary public expenditures and demands on public services that result from flooding related inundation and erosion;
3. Ensure that the selection, design, creation, and use of development in hazard areas is safe and accomplished in a manner that is consistent with public wellbeing, does not impair stream equilibrium, flood plain services, or the stream corridor;
4. Manage all flood hazard areas designated pursuant to 10 V.S.A. Chapter 32 § 753, the municipal hazard mitigation plan; and make the Town of Granville, its citizens, and businesses eligible for federal flood insurance, federal disaster recovery funds, and hazard mitigation funds as may be available.

As of the date this Plan was adopted, Granville’s Flood Hazard Regulations have been designed to exceed the minimum standards (for more information, see Chapter XIV, Natural Resources) set by the Federal Emergency Management Agency (FEMA) and the National Flood Insurance Program (NFIP). All new development within the floodway is prohibited. Within the 100-year flood plain, new structures are not allowed but additions to existing buildings and secondary structures are conditional uses.

### **C. Goals, Policies and Recommendations**

#### **Goals**

Future land use that;

1. Recognizes Granville as a place that is functionally and visually connected through work, family, and community.
2. Allows Granville to continue to be a socially, economically and physically diverse community.
3. Retains clear evidence of the community's history while giving consideration for future needs.
4. Respects the community's identity and shares qualities of scale and form with existing development.
5. Is adaptable to change, which inevitably must occur if the community is to be vital.
6. Allows easy access to the natural environment and protects it from destruction.

#### **Policies**

1. That shops and services, tourist businesses, lodging, public facilities and business and industrial enterprises at a small scale that fit the context of the surrounding area are encouraged in the Village Areas.
2. That residential uses and home occupations be the dominant form of development in Rural Areas. Non-residential uses, including small service businesses, small professional offices and inns are acceptable land uses for Rural Areas provided that such uses are planned as relatively small in

size or scale, are not primary or dominant uses in an area, do not unduly conflict with existing or planned residential, forestry or agricultural uses, and do not unduly affect rural character.

3. Strip commercial development is not appropriate as a land use activity or pattern. Such development occurs in a linear path along a right-of-way, which often restricts visual and physical access to interior lands.

## **VII. UTILITIES AND FACILITIES**

### **Town Offices**

The Granville Town Clerk's Office is located at 4157 VT Route 100 in Granville. The office moved into the space that had previously been the Granville Elementary School, and later, the Granville Campus of the Granville-Hancock Village School. The office houses the town's document vault and other town document storage, such as tax maps, and files for the different departments of town governance and services, such as Listers, Constable, Road Commissioner, and Planning Commission.

The building was built in 1857 in the Greek Revival style, as one of ten one-room school-houses within the boundaries of the town, and is on the State's Historical Register. The school closed in June of 2009, and the building was later transferred to the town of Granville. The voters subsequently approved using the structure for Granville's Town Office. The former school building consists of 1349 square feet of space on the ground floor with a full basement underneath. A new foundation and concrete floor were installed to replace the original basement during an extensive renovation of the building in 1993. New energy efficient windows replaced the old ones at that time as well as a new oil furnace heating system. Lighting in the basement and the ground floor is comprised of T12 linear fluorescent bulbs and antique pendant fixtures.

The renovation of the Granville Town Hall and the reconfiguration of the Granville School to become the new Town Clerk's office began in the summer of 2010. The Town Hall and the School became, essentially, one building, when a connector containing bathrooms and a kitchen was built several years previously. The new Town Clerk's office required a new and larger vault which was constructed behind the connector. This vault was designed to meet space requirements for at least 100 more years. In addition, ceiling insulation was added to make the building more efficient to heat. The town wanted to retain the historical evidence of the building having been a school, in fact, the longest continually open school in the state. As a result several historical artifacts remain including the classroom chalk boards and a section of plaster which displayed some writing from the 1800s. There are no renovations or needs expected for this building in the next five years.

### **Town Meeting Hall**

The first building on the site of the Town Hall, located at 4157 VT Route 100, was the Lower Granville Methodist Church, built in the Greek-Revival style in 1838. In 1871, the church was raised and the Town Meeting Hall was built underneath. It is a two and a half story white clapboard structure with large divided-glass double-hung windows and a steeple. It has corner pilasters and full entablature. This building is listed on the State's Register of Historic Places, and significant changes to the building should be reviewed by the Preservation Trust of Vermont and the Division for Historic Preservation prior to any work getting started. In 2001 the steeple was rebuilt and a concrete foundation and concrete floor were put in place under the structure. In 1993 a connector was built to join the Town Hall with the Granville School Building. A new oil furnace and cellulose insulation were installed in 2008, greatly reducing heating costs, and in 2009 interior storm windows were installed, further reducing heat loss through the single-pane glass. The interior was painted in 2008-09. The town's Select Board has developed a maintenance schedule and a capital improvements account in order to maintain this historic building in a timely manner, and future upgrades to the structure should take advantage of energy efficient options.

For six years the Town Hall was used as an adjunct classroom for the Hancock-Granville Village School, but at the end of the 2007-08 school year, the school vacated the meeting hall. The capacity of the Town



Hall and the adjoining kitchen and bathroom facilities make it a good choice for use as a community shelter in case of a town-wide emergency. The connector houses a kitchen and two handicap accessible bathrooms, creating a working community center. The hall is still used to hold the Annual Town and School Meetings on the first Tuesday in March, and the town rents out the hall for a fee. Currently, the second floor of the Town Hall building is not used due to the lack of handicap accessibility. In the future, a lift could be installed to allow handicap access to the second floor.

In 1999, the Town of Granville voted to acquire the land adjacent to the Town Meeting Hall and School Building. These lands, along with the town's property located to the south of the building have good potential for recreational use by the citizens of Granville, as well as being a potential location for a community garden.

When the town renovated the elementary school building several major issues in the Town Hall were addressed. The floor had a lot of 'bounce' movement with traffic which was reinforced with additional floor joists. There was unsightly heating duct work all across the ceiling of the first floor that was relocated to the basement. The fluorescent ceiling lights in the school and Town Hall all were replaced with new, hanging lights more in keeping with the building's history. The church steeple had been leaking for some time, causing significant rot of the support structure, resulting in a very noticeable tilt of the steeple. Major reinforcements and straightening of the steeple were required. The exterior of the building was painted after replacing rotted clapboards where needed. Handicapped accessibility was put in place for both the town clerk's office and the town hall. A brick walk was also installed. In 2007, 10 assorted crabapples and 5 red oaks were planted in the field south of the town hall. There are no renovations or needs expected for this building in the next five years.

The existing parking lot has room for 10 vehicles. During public meetings the parking capacity is not adequate and people are forced to park on the sides of VT Route 100. A larger parking lot would be warranted to allow for safe parking for events, for commuter use, and for people who are using the adjacent land for recreation or community interaction.

## **Town Garage**

The Granville Town Garage was built in 1975 and housed the Granville school bus and fire truck. It is a one and one half story metal building with two bays. The standing seam roof and the heating system were replaced in 2009. The building currently houses three fire trucks and a first responder vehicle, as well as an inventory of firefighting equipment. It does not have sewer or water, or a meeting room. A phone line was installed in 2008, and a fire alarm system was installed in 2009.

## **Cemeteries**

There are three cemeteries in Granville. One is located adjacent to the old Town Office on Route 100, another on Matson Hill Rd and the third on North Hollow Rd. (known as the South Hollow Cemetery). Maintenance is overseen by the all-volunteer Cemetery Commission. Major work on head stone repair has recently been completed at the South Hollow Cemetery. All cemeteries need continued attention, in particular, the removal or trimming of trees to minimize damage to ancient head stones due to falling branches.

## **Solid Waste Management and Recycling**

Granville is a member of the White River Solid Waste Alliance. Its goal is to plan for and manage solid waste generated within its member communities in an environmentally sound manner. Presently, seven municipalities are included in the district. Vermont statute requires municipalities and solid waste management districts to adopt a solid waste implementation plan (SWIP) that conforms with the State Solid Waste Management Plan. SWIPs are to be revised every five years after first submission to the State of Vermont. The Granville/Royalton landfill serves as the designated disposal site for Granville. All recyclables, demolition wastes, and household hazardous wastes are collected or processed at the same location. Granville pays approximately \$2,980.00 to the Alliance per year. The Alliance continues to conduct an educational program. Waste collection is provided by a number of private firms and paid for by homeowners. All recycling services are provided Benson's Rubbish Removal for which the town pays about \$6,200.00. Recycling is collected at the Fire Station twice per month. Residents and businesses are also free to transport their own trash or recyclables, or special wastes to their designated facilities. Recycling is an important municipal service to the residents of Granville, and should continue to be supported by the town.

## **Water Supply and Wastewater Treatment Facilities**

The Town of Granville does not own or operate any public water supply or wastewater disposal systems. All residences and non-residential uses are dependent on individual on-site water supply and disposal facilities. The Town does not plan to engineer or construct either of these facilities in the next five years.

## **Internet**

There are presently four ways to access the internet in Granville, they are: landline, DSL, satellite and cellular internet. Currently, Granville could be perceived as the poster child for “last mile connectivity.”

Dial-up - Dial-up access is the most commonly available service to residents, but speeds over a telephone modem are very slow, and given the ever increasing need for bandwidth in day-to-day use of the internet, it is not practical for more than checking email. The faster and more stable options available to some residents are via cable, satellite, DSL and cellular services.

Cable Internet – There is no cable coverage in Granville.

DSL (Digital Subscriber Line) - DSL is very similar to cable in speed. It is less subject to decreases in speed caused by heavy internet traffic because a certain amount of bandwidth is dedicated for each user. DSL is provided to those within the service area of Fairpoint Communications.

Satellite Internet - Provided by companies such as Dish Network and Wildblue, satellite internet is an option for residents who are unable to access the internet via cable or DSL provided they have a clear view of the southern sky from their location. Although bandwidth over satellite is on average three times faster than a dial-up connection, it is more expensive than other methods of access and it can be affected by heavy weather such as torrential rains and blizzards.

Cellular Internet – With the growing amount of bandwidth available to smartphone users via cellular phone networks, cellular providers are offering the ability to utilize their network for internet access. The nature of cellular connections is such that they are less susceptible to disruption from weather conditions as is the case with satellite internet. However, a clear and strong connection to a cellular tower is required in order to utilize this service. The State of Vermont has put a substantial amount of support behind the notion of providing internet access via this medium to those areas that are currently underserved.

It is likely that as many as three-quarters of the households in Granville have access to the internet only via landline or satellite modem. Because of the difficulties in convincing cable and DSL providers to extend their coverage areas, other towns have considered alternatives to those listed above. In some cases, wireless internet providers have placed towers in towns that provide wireless broadband access to those within line-of-sight.

ECFiber, a 23-town consortium is planning fiber to the home for all Granville homes. This organization has developed a long-term plan to extend fiber optic cable throughout the region. Fiber optic cables offer the fastest connection speed available. When asked to become an active participant in the EC Fiber project, the Town of Granville accepted and has a representative on the EC Fiber board. If successful, ECFiber will have completed this project within the next 5 years.

## **Cellular Communications**

A cell tower was recently built which gives Granville good cellular communications access. Granville has a cell tower ordinance that guides the design of any towers that might be developed; however, any cellular provider who is creating a network of cell towers is exempt from local land use regulations under V.S.A Title 30, Chapter 5, §248a. While these facilities are exempt from local regulations, due consideration to the municipal plan is supposed to occur as part of the permitting process.

### **A. Goals, Policies and Recommendations**

#### **Goals**

1. Upgrades to community facilities should be done keeping energy efficiency a priority, as long as the payback of the more efficient upgrade is within a reasonable timeline and won't unduly burden the taxpayer.
2. Granville has an important inventory of historically valuable buildings, which give our town a unique place in the world. These buildings must be maintained sensitively, so as to preserve this heritage. It would be a benefit to our community to educate residents and visitors of the local history through various means, and the town should support this endeavor.
3. The Town's Facilities including the town's green space have great potential to foster a sense of community by providing venues for events and activities to take place.

#### **Policies**

1. Town buildings should be maintained on a schedule in order to reduce the need for emergency repairs, which are not usually budgeted for and can be more expensive than prevention.

2. Any development that would adversely affect the historical nature of the town's facilities is discouraged.
3. The Town Hall should continue to be made available for renting, for purposes of private and community events and workshops.
4. Programs to educate the community and visitors about the history of the region should be supported and encouraged.
5. Activities at the town's green space should be allowed and encouraged, such as team sporting events, facilities for community meals, and a community garden space provided for residents that lack adequate garden space. Use of town facilities, where appropriate, for housing telecommunications equipment, i.e. a hub for fiber-optics network or a hidden cell phone tower to enhance connectivity for residents and visitors should be supported.

### **Recommendations**

1. A free, public computer lab that allows for high-speed Internet access for residents should be supported.

## VIII. Education

### A. Educational Facilities

The Town of Granville has no educational facilities. Granville voted to close its one room school house in 2009 and pay pre-kindergarten through 12th grade tuition for all Granville students. The families of most Granville students have chosen to educate their children in the public schools of Rochester or Randolph. In recent years, an increasing number of families have chosen to attend public schools in the Towns of Warren, Waitsfield and Duxbury (Harwood Union High School). East Granville families send their students to the public schools in the Towns of Braintree and/or Randolph.

### B. Student Enrollment

Enrollments of Granville students in the area are reported annually to the Vermont Department of Education. Based upon annual student resident counts from the Department, average daily membership (ADM) at the school for grades (K-12) over the past decade has been as follows:

Elementary level enrollment has remained relatively consistent for the past decade averaging about 17 students per year. However, secondary level enrollment has been on the decline for the past decade. In the school year spanning 2013-2014, only 9 students from Granville attended high school. When compared to the ADM of 39 during 2004-2005, there has been a decrease of nearly 77% in the number of students. Declining enrollments are being experienced as a state-wide trend, in great part due to Vermont’s aging population.

School Year	Elementary	Secondary
2013-2014	14	9
2012-2013	13	9
2011-2012	21	11
2010-2011	15	15
2009-2010	15	23
2008-2009	17	24
2007-2008	16	28
2006-2007	22	37
2005-2006	19	35
2004-2005	21	39

Figure 11: Average Daily Membership  
(Source: VT Dept. of Education)

### C. Childcare

An inventory of registered childcare facilities reveals that Granville has a very limited amount of childcare available to the community. The State of Vermont has two classifications of childcare that are regulated, they are:

- **Registered Family Child Care Home:** A child care program approved only in the provider's residence, which is limited to a small number of children based on specific criteria.
- **Licensed Program:** A child care program providing care to children in any approved location. The number and ages of children served are based on available approved space and staffing qualifications, as well as play and learning equipment. A Licensed program must be inspected by the Department of Labor and Industry's Fire Safety Inspectors and must obtain a Water and Wastewater Disposal Permit from the Agency

Town	Childcare Providers by Town (2013)	
	Registered	Licensed
Bethel	4	2
Granville	0	0
Hancock	0	0
Rochester	0	2
Randolph	6	6
Warren	1	4

Figure 12: Childcare providers by type, by town 2013 (Source: VT Bright Futures)

of Environmental Conservation. A Licensed program is considered a public building under Vermont Law. Types of licensed programs include: early childhood programs, school-age care, family homes and non-recurring care programs.

There are currently no licensed or registered childcare facilities in Granville. Most residents currently arrange for care with relatives, or take their children to childcare facilities beyond the borders of Granville to nearby towns like Randolph or Warren.

#### **D. Adult Education**

Granville has a fairly limited amount of adult education opportunities. Most adults take advantage of the opportunities that are available in Randolph as an alternative. These include:

Vermont Technical College (VTC) - Vermont Technical College is located in Randolph Center. VTC is part of the Vermont State College system and offers full and part time educational opportunities that range from computer technology, to agriculture to health services. Attendees may choose a two-year program that leads to an associate's degree, a four-year program that leads to a bachelor's degree, or the college's one-year program that leads to a Practical Nursing certificate.

Randolph Technical Career Center (RTCC) – Located in Randolph village, the RTCC is part of Randolph Union High School. RTCC offers adult education courses that range from the traditional tech center focuses of mechanical and woodworking, to computer technology, small business management, bookkeeping as well as arts, crafts and languages. RTCC's adult education classes are open to all for a fee.

Other, more extensive, opportunities are available in Rutland and the Upper Valley as well.

#### **E. Goals**

1. To encourage the creation of affordable childcare facilities that meet the established needs of residents in Granville.
2. To provide a safe and secure learning environment where quality educational opportunities are provided to all students.
3. To enable the best opportunity to educate our students at the most equitable cost to the Town's taxpayers.

## IX. TRANSPORTATION

Land use, energy, and transportation are related. Land use, both within and outside Granville's borders, drives the need for improvements to the transportation system. At the same time, local land use goals must be facilitated in part by providing the necessary transportation facilities to accommodate growth where growth is desired. In addition, a given land use can have very different impacts on the transportation system depending on how it is sited and designed. Land use and transportation are both linked to the town's economic well-being. Poorly planned land use patterns increase transportation costs and also the tax rate, whereas well planned development can add to the tax base of the town, providing additional funds for the transportation system.

### A. Public Highway System

Highway classifications determine the amount of state aid available to assist with repair and maintenance. The Vermont Agency of Transportation (VTrans) and the Selectboard determine road classes. Criteria include traffic volume, road condition, and function. Class two highways are the major connectors linking villages with each other and with state highways, and they receive a higher rate of State aid than Class 3 highways.

Miles of Roads in Granville	
Class 1	0
Class 2	1.65
Class 3	15.50
Class 4	12.84
<b>Total Town Roads</b>	<b>29.98</b>

Figure 13: Miles of roads in Granville  
(Source: VTrans)

When compared to other nearby communities, Granville has a small system of roads. For example, Rochester and Braintree both have over 40 miles of roads, respectively. Fewer than six percent (5.5%) of Granville's roads are Class 2. The majority (52%) of Granville's roads are Class 3. Class 3 highways are town roads that are maintained in a manner enabling them to be driven under normal conditions in all seasons by a standard car. Nearly 43% of Granville's highways are Class 4, which is substantial compared to most communities where Class 4 roads make up less than 10% of total roads.

Class 4 highways are generally in poor condition and are not maintained. No state aid is available for work on Class 4 highways. While not suited for regular traffic, these roads do represent a valuable asset for the town from a recreation standpoint. Such town-owned corridors will help ensure that there will continue to be a place to enjoy snowmobiling, ATV, cross country skiing, walking, hunting, horseback riding and other outdoor recreation.

### Road Management

Because of the small number of roads Granville has to maintain, the community has opted to utilize the services of private contractors to provide maintenance and upkeep. Annually, the Select Board appoints a road commissioner who arranges and oversees all Class 2 and 3 road maintenance activities. Two of the adjoining towns, Warren and Hancock, maintain small sections of Granville's Class 2 and 3 roads that connect to their own roads. All other road maintenance work is contracted out to private firms. Apart from education costs, public roads have been and will continue to be Granville's largest town asset requiring significant financial investments paid through municipal taxes. Transportation funding sources come from numerous combinations of the local tax base, state and federal gas tax receipts, state and federal allocations and registration fees. The most significant funding resource comes from the federal transportation bill, which passes through the State of Vermont and is distributed to towns by the Agency of Transportation. The federal and state government pays a percentage of project costs and the

community pays the remainder. This funding applies only to Class 1-3 roads. Maintenance of Class 4 roads is funded exclusively by the community. The Two Rivers-Ottawaquechee Regional Commission has compared programs throughout the region and recommends a program of early intervention using preventative maintenance because such a program has proven to be 75-85% less costly than larger reconstruction work after significant deterioration has occurred.

There has been \$700,000 worth of road repairs done on Town roads as a result of the damage done by Tropical Storm Irene. An additional \$471,000 of work is expected to be completed by September of 2015. This work has been authorized by the Selectboard and the Federal Emergency Management Agency (as part of the Federal Disaster Declaration related to Irene). The work involves major improvements in drainage, stream structures and culverts. As a result of the storm damage caused by Irene, Buffalo Farm Rd., a major class two highway, has been closed. It will be reclassified as Class 3 on either end and as a legal trail in the middle. The Town Plans to upgrade Buttz Road to reclassify it to a Class 2 highway. Major improvements are planned for the West Hill Extension Rd.

Proper and timely road and drainage system maintenance can help protect systems from most severe weather events. Maintaining a reliable and up-to-date inventory of existing culverts and structures, coupled with a short and long range plan for replacement and upsizing, is essential. Replacing deficient culverts and bridges also helps protect water quality – installing appropriately scaled and designed structures that can handle flood events, storm water runoff, promote fish passage, and minimize the discharge of road sediment. These upgraded culverts and bridges, operating in greater harmony with the natural environment, will also be less likely to fail during storm events. The Town has conducted a culvert and bridge inventory to plan for future upgrades and maintenance.

## **B. State and Federal Highways**

State highways in Granville include Route 12A and Route 100. Route 100 is a nationally designated Scenic Byway. There are just over 11 miles of state highways in Granville.

## **C. Ancient Roads and Trails**

As a result of Act 178 (the state law governing Ancient Roads), the town examined all ancient road information to determine which roads were considered valuable. Thirteen class 4 roads and legal trails, with a combined mileage of 7.63 miles were added to Granville's official town highway system. They are being managed appropriately based on their classification, along with other Granville roads and trails as is called for in the Town Highway Ordinance.

## **D. Access Management**

Access management is an important process to provide reasonable accessibility to adjacent land uses while maintaining a safe and efficient flow of traffic. The Town recognizes the value of access management and can implement access management strategies through its planning and public works related ordinances and policies. The following are some of these strategies for all public and private transportation and development projects impacting local and state public roads as well as private roads:

- Utilize State of Vermont design standards for all temporary and permanent access, to include emphasis on drainage, sight distance, and access for emergency services;
- Encourage use of shared driveways and/or permitting access that may result in a future shared driveway;



- Require the review of access for existing development whenever a change of use, or other application process is brought before the Town;
- Encourage commercial properties to use existing development nodes in order to preserve or create road segments with few accesses, unless additional replacement access better meets access management goals;
- When practical, approve subdivisions with private and public road designs that allow shared access with other adjacent subdivisions and/or have the private rights-of-way reserved so an access may be built to connect to existing and future development;
- Encourage permanent landscaping and roadside enhancements to visually define access points and contribute to the roadway's aesthetic character;
- Use sight-distance standards based on the actual travel speeds and not the posted speed limits. If no such data exists or is not current, then the Town will work with the Regional Planning Commission to obtain the appropriate data.

## E. Other Modes of Travel

### Bicycles and Pedestrians

Many residents bike or walk on town roads in Granville. The rural nature of most of Granville's roads makes bike/ped travel reasonably safe. Route 100 is considered a prime location for cycling due to the scenic nature of the valley. But, in some areas travel along Route 100 is less safe due to higher traffic volume and speed and a lack of available shoulders. Additional recreational opportunities can be found using trails maintained by VAST and VASA.

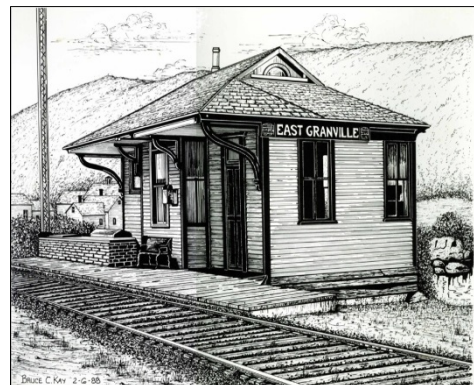
### Public Transportation

Granville, like most Vermont towns, has limited public transportation. Stagecoach, Inc. is the nearest public transit provider. They have regular transportation to West Lebanon, NH and Montpelier, VT. However, Stagecoach, Inc. offers weekly transportation from Hancock to Randolph, and monthly transportation to West Lebanon, NH. Stagecoach does offer limited public transportation in the form of special requests for individuals who need transportation for medical reasons. Stockbridge residents can take advantage of Stagecoach's "Ticket to Ride" Program which helps pay a substantial percentage of the cost of rides for senior citizens (60+) and persons with disabilities when there is not available transportation in the household or the person requesting the trips is unable to drive on the day of the trip. Ticket to Ride is available for a broad array of destinations, such as medical services, shopping, errands, and social purposes.

Given that Granville's elderly population is growing, the need for an affordable source of public transportation that can bring the elderly to major medical facilities like Dartmouth Hitchcock and larger commercial centers for day-to-day shopping needs is important.

### Railroads

A small section of railroad passes through the village of East Granville, which (as indicated in the historical drawing above) was at one point home to a rail station. The railroad is



maintained by New England Central Railroad (NECR), which operates 394 miles of railroad between the Vermont/Quebec border, and tidewater at the Port of New London, CT. The railroad no longer stops in Granville.

## **F. Goals, Policies and Recommendations**

### **Goals**

1. **Sustainability:** Minimize transportation energy consumption by encouraging carpooling and other creative alternatives for sharing transportation resources.
2. **Affordability:** To provide regular maintenance and upgrades to Town roads (Class 2 and 3 Highways) provided that the costs do not put an undue burden on the citizens of Granville, and to ensure that future development does not unnecessarily or unreasonably impact the public investment in Town and regional transportation systems or facilities, including highways, bikeways, trails, and rail.
3. **Preservation:** To recognize the importance of balancing the need to have safe roadways with the desire to maintain appropriate widths and the health of existing vegetation in its role as a structural and aesthetic component of the roads.
4. **Community and sense of place:** To maintain a road system that is safe, efficient, meets the needs of residents, and complements the other goals and policies of this Plan.
5. **Connectivity:** To support local, regional, and statewide efforts to provide public and private transportation systems that meet the needs of all population segments and not just those who use automobiles.

### **Policies**

1. Prior to a final decision to proceed with a major capital transportation project, policy makers shall first analyze the project against reasonable alternatives and include public input. In examining the alternatives, investigation shall focus on the environmental, energy, social and investment costs and the extent to which such costs meet the goals and policies of this Plan.
2. Any new access, new construction, change of use, and any development of a land parcel that would impact Granville's road system shall be reviewed by the Town. Where such development requires improvements to Town highways, such costs shall be borne by the developer, in consultation with the Select Board, and the Select Board shall have sole power to change the classification of the road.
3. The Town shall seek public input in any decision to substantially change the maintenance level or surface treatment of any town road.
4. The Town, as written in V.S.A. Title 19 Section 310, does not maintain Class 4 Highways. Granville has adopted the following ordinance: *“we may perform minimal maintenance/ improvement of bridges and drainage structures when necessary to avoid permanent or irreversible damage to public property, or to correct a decidedly unsafe situation.”* The policy of the Select Board is such that before the town would consider adopting a new road or upgrading an existing highway, the abutting property owners shall be responsible for the cost of improving and/or building the road to Town specifications. Final decision regarding the nature of the improvement rests with the Select Board.

5. Given the interest in and benefits from biking, hiking, snowmobiling, cross-country skiing, and similar outdoor recreational activities, the Town shall, as an alternative to complete discontinuance of a highway, give full consideration to preserving Class 4 Highways (roads) for recreational use by downgrading their status to a legal trail and thus retaining the public's interest in them.
6. An integral scenic element of the rural countryside is the network of back roads comprising the town's highway system. These byways are both visually and economically important to the Town. If improvements are needed to accommodate increased traffic, the Town shall consider the relationship of the road to the surrounding features of the landscape.
7. Strip development as a land use pattern is inconsistent with this Plan. Such development occurs in a linear path along a right-of-way, which often restricts visual and physical access to interior lands.

## **X. EMERGENCY MANAGEMENT**

### **“Imagining Vermont” Report of the Council on the Future of Vermont. – Spring 2009:**

*“More than ever before, firefighters, ambulance drivers, and emergency medical personnel must be highly trained. After September 11, 2001, the federal government added training requirements that include the sanction that reimbursements for federally-declared disasters will be lost if a department or municipality does not meet training requirements or operate according to set procedures. The State of Vermont also sets standards for what a volunteer service provider must know and be responsible for—standards that change as technology and training requirements change.*

*For small towns in Vermont and their local volunteers, it is becoming harder to find people with time to give plus the ability to pay for mandatory courses and training. As more people commute and fewer people work close to home or in jobs that allow them to leave for fire and rescue activity, there are fewer people standing ready as volunteers to provide emergency assistance. This puts a town in the position of hiring professional services. Very often the costs of wages, health care, energy, and transportation are prohibitive for a small town to continue to support, much less expand, services to meet the growing needs and expectations.*

*When it comes to providing emergency services, such as fire or ambulance, Vermont towns find themselves in a conflicted position. The value of immediate and local service under local control, especially in rural places that are difficult to serve, is threatened by the cost of maintaining those services and the lack of volunteers. This means that the future of local emergency services is similar to the future of local small schools: many Vermonters value them but at the same time, given rising costs and staffing challenges, question the need for duplication and prefer to see a concerted effort to consolidate and save costs.”*

### **A. 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. Rural locations such as Granville are served by small facilities that can assist residents with general health care needs but are not suited for more complex acute care services that require specialized services and equipment. The lower population density of Vermont's rural countryside and the larger the area over which the population is distributed can make providing adequate health care more difficult, particularly for the elderly who may not be able to drive themselves to major health care facilities. Likewise in rural areas, emergency care for severe trauma or major acute illnesses such as stroke and heart attack may take longer to arrive than in more populated locations, risking potential loss of life.

Because of Granville's limited population, there are no options in terms of town-based health care services; however, there is a family health clinic in Rochester. For more extensive medical services, residents can utilize Gifford Medical Center, which is located in the town of Randolph. Gifford Medical Center offers a wide range of services to serve most medical needs. In addition to Gifford, there are several smaller health centers in Randolph. There are large-scale community hospitals in Rutland and Berlin, and tertiary care facility in Lebanon, NH.

### **B. Law Enforcement**

In Granville, the primary law enforcement entity has been the Town Constable. The Constable is a paid employee of the Town of Granville and is a Vermont certified law enforcement officer working 20 hours

per month as directed by the Select board. The duties of the Constable are like those of any local police department, ranging from routine patrolling, responding to disturbances and motor vehicle accidents, and investigating small crimes. The Constable works closely with other area law enforcement agencies including Washington, Addison, and Windsor County Sheriff's offices, the Vermont State Police, and the Randolph and Rochester Police Departments. The Constable also works closely with the White River Valley Youth Organization to prevent drug and alcohol abuse among teens and young adults.

### **C. Emergency Medical Services**

Emergency medical services in Granville are provided by White River Valley Ambulance, Inc. (WRVA). WRVA is a not for profit emergency ambulance and rescue service composed of paid full-time, part-time and volunteer staff. Emergency medical service is provided to a geographical area encompassing 280 square miles and approximately 10,000 residents. In addition to Granville, WRVA covers Barnard, Granville, Braintree, Brookfield, East Granville, Randolph and Rochester. The Town of Granville pays WRVA for its services. It should be noted that those who use the ambulance will be charged for WRVA's service on an individual basis in addition to the fees paid by the town.

#### **Dartmouth-Hitchcock Advanced Response Team (DHART)**

The Dartmouth-Hitchcock Advanced Response Team is based in Lebanon, NH at Dartmouth-Hitchcock Medical Center. DHART crews provide air medical transportation services to the medical communities of Northern New England. In addition, DHART flight crews respond to public safety agency requests for medical evacuation of trauma patients from scenes of injury, and will transport to the closest Trauma Center in the region's five states. Operating 24 hours a day and seven days a week, DHART Crews transport adult, pediatric and neonatal patients to ANY appropriate medical facility in New England.

#### **Fire Protection**

The Granville Volunteer Fire Department was first established in 1951 with the aid of the Moss Glen Grange. The department was set up as an unincorporated association separate from the Town of Granville. In 1952, the Town of Granville accepted this department as its primary source of fire protection. It was not until 1975 that the fire department had a place to house its equipment in the Town Garage. In 2009, the Granville Volunteer Fire Department chose to become incorporated as a non-profit corporation to be known as the Granville Volunteer Fire Department, Inc. This corporation was then contracted by the Town of Granville to provide some of its emergency services.

Currently the department operates four kinds of apparatus; a fire engine which carries hoses, ladders, hydrant attachments, water, etc., a tanker truck which carries additional water, a brush truck which carries wild land fire equipment (rakes, shovels, hand pumps), brooms, traffic control equipment, etc., and a rescue vehicle which carries basic medical supplies, extrication equipment, etc. Services are provided to Granville (excluding East Granville) along with mutual aid to some of the surrounding towns. These services cover a wide range of emergencies from structure fires, vehicle fires, wild land fires, vehicle extrication, confined space rescue, and traffic and crowd control.

#### **Emergency Shelter**

In 2005 a generator was purchased with grant funds to establish an emergency shelter in the Lower Village of Granville. This shelter is located at the Town Clerk's Office and Town Hall located at 4157 VT Route 100. Facilities include two bathrooms, one of which is ADA compliant, and a kitchen. The purpose of this shelter is to provide housing for residents misplaced by a wide scale emergency, as well as being

the location to set up a command center for incident management. Emergencies like this might include natural disasters such as flooding or ice storms, man-made incidents such as a structure fire and HAZMAT or terrorism incidents. This shelter would also be available to the American Red Cross to set up shelter for those who are displaced by these incidents until a more permanent location can be found. Currently, Granville does not own any cots or bedding for the shelter, nor does Granville stock foodstuffs in the event of an emergency. However, the town of Rochester, located 10 miles south of Granville has designated their school building as a complete emergency shelter for the towns of Rochester, Hancock, and Granville.

#### **D. Emergency Management**

The impact of expected, but unpredictable natural and human-caused events to the region can be reduced through proper emergency management. Emergency management is generally broken down into four areas: preparedness, response, recovery and mitigation.

- Preparedness includes emergency personnel acquiring suitable equipment, and conducting training and exercises. Preparedness is also a responsibility of residents, business and government. Simple preparedness measures, like having disaster supplies on hand, installing smoke detectors and generators, having emergency fuel for generators and vehicles and knowing basic first aid will all help to lessen the impact of a disaster. Preparing emergency plans is also a preparedness activity.
- Response is the initial emergency response to save life and property during and immediately after the disaster, and is initiated by local emergency crews and then followed up by outside forces if necessary. Response operations are greatly enhanced by proper preparedness. Most emergencies of any scale will require towns to work together, and often to work with state or federal agencies. Practicing with all of these partners before an actual emergency is critical to smooth emergency operations.
- Recovery is the more long-term process of putting life back to normal, and includes many state and federal agencies, especially the Federal Emergency Management Agency (FEMA) in large disasters. As events like Tropical Storm Irene showed, recovery can take a long time and is hindered if a disaster is severe or widespread. Recovery also involves much less state and federal assistance than is commonly thought, and requires a substantial coordination effort at the municipal level, so the best strategy is to avoid disaster-prone behavior in the first place.
- Hazard mitigation means any sustained action that reduces or eliminates long-term risk to people and property from natural or human-caused hazards and their effects. Mitigation planning begins with an assessment of likely hazards, and then targets activities to reduce the effects of these hazards. Given that the largest threat in Vermont is flood related, good mitigation measures include proper road and drainage construction, as well as limiting development in flood prone areas.

Planning for emergencies is essential at the municipal level and should focus on all four of the areas outlined above. Over four out of five respondents in the residents' survey agreed with the statement: "I'm proud as a community how we responded to Irene." Reflecting the importance of emergency management in the future, a similar majority agreed that "the town should strengthen its emergency management capabilities."

### **Local Emergency Operations Plan**

Granville, like every town in Vermont, is has a Local Emergency Operations Plan (LEOP). This plan supplies a list of contacts to use during an emergency as well as information on shelters, vulnerable sites and which town officials might play which roles during a disaster. It is not typically a public document as it has private numbers in it, but the people expected to use it should have hard copies. The Selectboard should continue to keep the LEOP up-to-date and ensure that all parts of municipal government that are active during a hazard event are aware of what is in it. This includes the Selectboard, Fire and Rescue, Road Crew and Shelter coordinators.

### **Hazard Mitigation Plan**

Disaster mitigation covers actions done to reduce the effects of a disaster. For Granville, the primary hazard is flooding, with a variety of other lesser hazards. All hazards have been reviewed in the town's Mitigation Plan. There are many ways that the town can reduce damages, and since a disaster does not always result in state or federal assistance, the town should take sensible steps that can reduce disaster costs, damage to property and loss of life. The Town is in the process of developing a new HMP.

## **E. Goals, Policies and Recommendations**

### **Goal**

1. Quality Emergency Services for all of Granville.

### **Policy**

1. The Town of Granville shall provide quality Emergency Services on a town wide basis.

### **Recommendation**

1. The Select Board should form an independent committee to evaluate Granville's current Emergency Services delivery systems and present recommendations for the improvement of existing systems as well as offer sustainable and affordable alternatives.

## XI. Energy

### A. Background

Concern about the sustainability of our nation’s dependence on oil produced in foreign countries has grown greatly since the oil crisis of the mid 1970’s. As prices of fossil fuels continue to rise, everyday activities such as home heating and travel by car become increasingly burdensome for the average Granville resident.

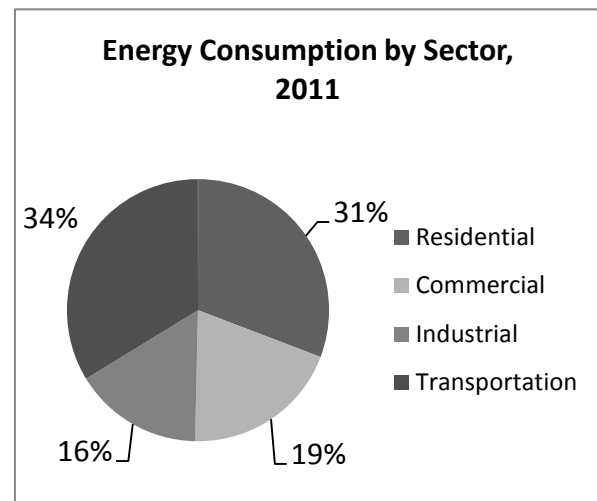
While the Planning Commission recognizes that energy supply and demand are directed largely by economic forces at the state, federal, and international levels, the manner in which Granville plans for future growth can have an impact on how much energy is needed and used in this community. For example, a highly dispersed and unplanned pattern of land use can waste both land and energy resources. By planning the location of jobs, public services and housing in close proximity to growth centers, the consumption of fuel and the need for additional roads can be reduced. The siting and design of buildings and the selection of energy systems can influence efficient use and conservation of energy.

Theories such as the Hubbert Peak Theory (a.k.a. Peak Oil), suggest that at some point – perhaps sooner than later – the worldwide consumption of oil will outpace the existing supply. Although new technologies may enable energy providers to extract oil from locations that were previously impossible to reach, there is most likely a finite amount of oil, which means that Granville, like the rest of the world, should prepare for a much less oil-dependent future.

### B. Energy Demands

According to the 2011 Vermont Comprehensive Energy Plan (CEP), energy demand grew at 1.8% from 1990 to 1999, but has been close to 0% for the past 10 years. The combination of state energy efficiency programs and the 2007–2009 recession probably helped to reduce energy demand across most end-use sectors in Vermont. The 2010 American Community Survey indicates that the major heating fuels consumed in Vermont are oil (47%), electric (5%), wood (15%) and LPG and gas (30%).

In terms of per capita energy consumption for residential and transportation purposes, the North East is about the same as the rest of the U.S. In Vermont, almost 80% of residential energy is dedicated to space heating and domestic hot water, while approximately 34% of the state’s total energy usage goes toward transportation.



14 - Source - US Energy Information Administration, 2009

Of the energy dedicated to transportation, over 50% is used to fuel private cars for residents (as opposed to being used for public transit, road maintenance, or another public purpose). This fact reinforces the need for clear policies that take into account the transportation implications of land use decisions in this community.

According to data collected by Efficiency Vermont in 2010, the town of Granville is 2nd out of 30 towns in terms of average annual energy use levels in the TRORC region. In 2010, this data (limited only to



residential energy use) determined that Granville used 5,347 kWh of energy, which is 1,343 kWh less than the average usage of all the towns in the Two Rivers-Ottawaquechee Region. When compared to other communities of similar size, such as Hancock and Pittsfield (the latter having 250 more residents than Granville, but still smaller than the remaining towns in the region), this level of residential energy use seems low.

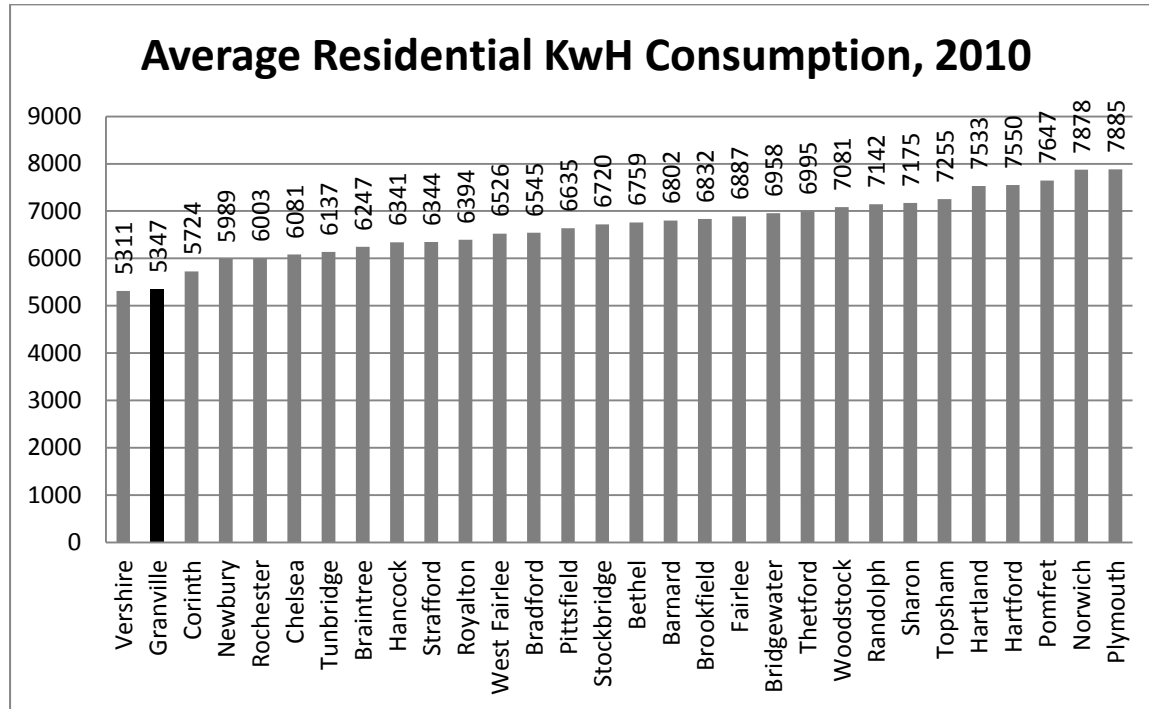
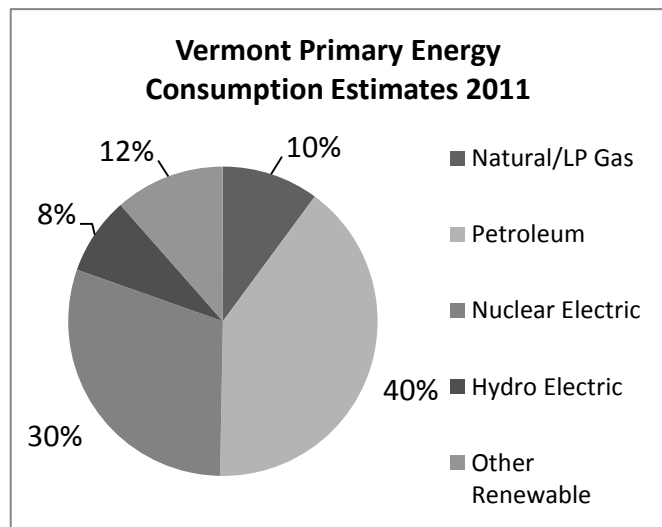


Figure 15 – Source: Vermont Energy Atlas and Efficiency Vermont, 2011

### C. Current Energy Sources

#### Fossil Fuels

Granville, like most other towns in Vermont, depends primarily on fossil fuels for heating and transportation. As shown in the chart to the right, fossil fuels account for more than 50% of all energy consumed in Vermont, much of which is used in transportation, but a substantial portion of non-transportation related fossil fuel use is used in heating.



16 - US Energy Information Administration, 2011

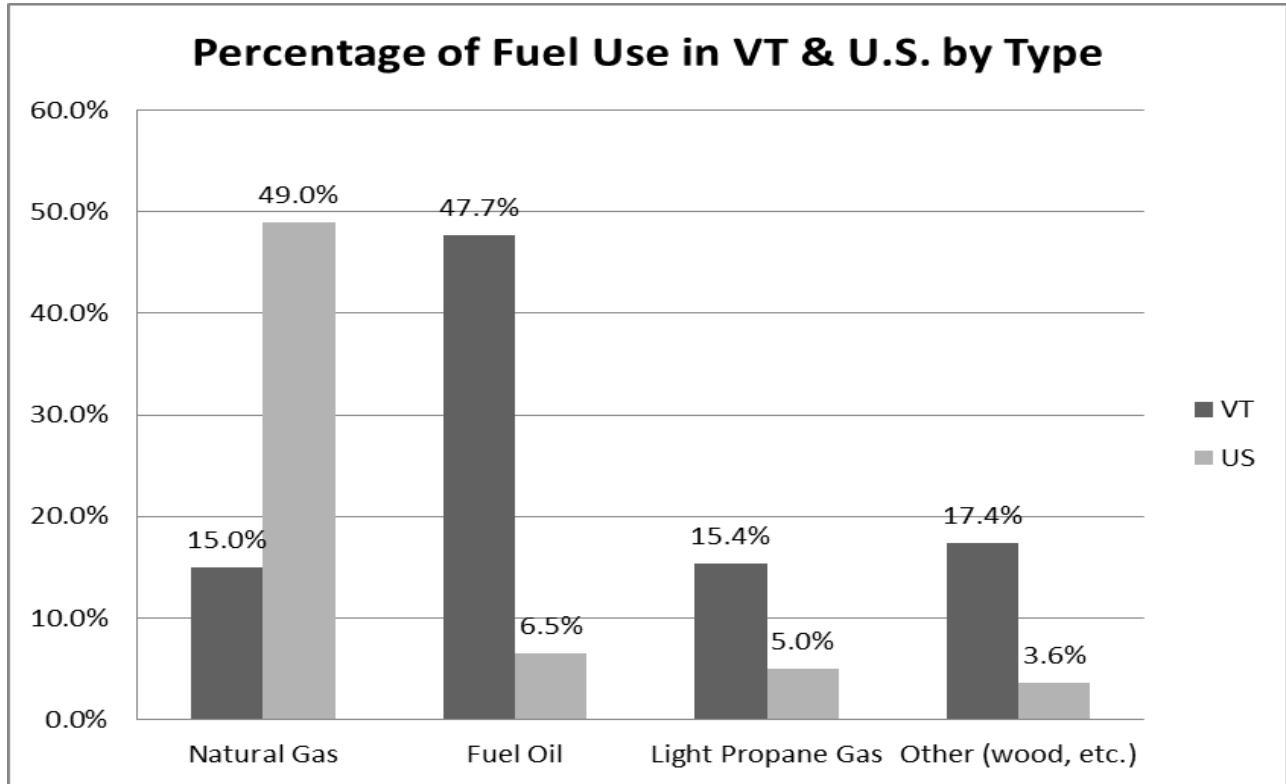


Figure 17: Vermont Energy Profile, U.S. Energy Information Administration, 2011

Of greater concern is Vermont’s high usage of oil as a fuel for heating. Nearly 3/5 of all Vermont households (154,026 of Vermont’s 256,711 total households) use fuel oil, which means a substantial portion of Vermonters are subject to the price and availability instabilities of a reliance on oil. Of the total \$885 million spent on residential energy in the state of Vermont, just over 50% (445.8 million) were spent on fuel oil, kerosene or light propane gas. Vermont’s economic system is so closely tied to the availability of fossil fuels that even modest price increases can lead to inflation, a slowdown in economic growth, and monetary instability. This can have unanticipated adverse impacts at the municipal and residential level in all communities, including Granville. For example, increasing fuel prices make it more expensive for a town government to provide traditional public services and maintain existing facilities. Additionally, rising prices can also make it difficult for residents to heat their homes and put enough food on the table (the price and availability of food is usually influenced by fuel prices).

**Nuclear Energy**

Vermont Yankee Nuclear Power Station has been generating electricity since 1971, but is scheduled to close in 2014. The power from Vermont Yankee accounted for about three-fourths of the electricity generated within Vermont in 2011, a higher share than any other State. The loss of this power producer, however beneficial from an environmental standpoint, puts the state in the position to find other sources of local production or buy additional energy on the open market, which can be expensive.

A properly maintained nuclear power facility can, to some extent, represent a cleaner form of energy production than fossil fuels. However, the mining, processing and disposal of nuclear materials continues to raise questions regarding the viability of nuclear energy; nuclear generated electricity produces various long-lived radioactive wastes that are highly toxic and require extraordinary precautions for safe storage.

Existing technology does not assure safe disposal. The industry has not completely resolved safety issues regarding the decommissioning of nuclear power plants.

## **Renewable Energy**

Vermont can successfully claim that a substantial amount of the power used statewide comes from renewable sources when compared to other states. Although the majority of Vermont’s renewable energy is generated through Hydro-Quebec (see below), some hydroelectric power is generated in Vermont. Additional sources of renewable energy include several utility owned commercial-scale wind, solar farms, landfill and on-farm methane projects.

### **D. Renewable Energy Resources**

The 2012 Vermont Comprehensive Energy Plan has set the goal for Vermont to utilize 90% renewables by 2050. This is a lofty goal, but one that will benefit all Vermonters if achieved. For the municipality, individual, or small group of homeowners, the key to sustainable energy production will be renewable sources of energy. The term “renewable energy” refers to the production of electricity and fuels from energy sources that are naturally and continually replenished, such as wind, solar power, geothermal (using the earth’s heat to create power), hydropower, and various forms of biomass (trees, crops, manure, etc.).

Although initial set-up costs for renewable energy generation systems can be high, these systems can save users money over the long term, and they reduce the consumption of carbon-based fuels, which helps to protect our environment and reduce our reliance on centralized energy. In Vermont, some of these energy sources are more readily available than others, and some are more cost-effective for the individual energy producer.

The types of renewable energy found in Vermont are:

#### **Solar Energy**

Solar energy has the potential to provide clean, reliable, and safe energy, even in Vermont's climate. Most areas in Vermont have the potential for some solar energy production, at least at the residential scale. According to the Vermont Energy Atlas, in Granville, if all potential opportunities to develop roof top solar energy production were taken advantage of, the town would have the potential to generate roughly 339,903 kWh of power.

Passive Heating and Lighting – Good building and site design are essential to taking advantage of the sun’s energy through passive methods. Granville could encourage use of solar in this fashion by drafting language for zoning bylaws and subdivision regulations that require the appropriate placement of buildings, landscaping and building design.

Water Heating – Solar water heating is the most common form of residential-scale solar use in Vermont. Solar systems are not regulated at the state level and are subject to local regulations. State statute forbids the creation of land use regulations that prohibit renewable energy generation.

Electricity Generation – Decreasing costs of equipment have made solar electric generation systems more prevalent. Solar systems are no longer utilized exclusively by “off-grid” buildings. The advent of net-metering allows buildings to be connected to the grid while utilizing renewable

energy. Systems that are net-metered are overseen by the Public Service Board and are not required to get a local permit.

There are no commercial-scale solar electricity generation facilities in Granville. Because of the nature of solar arrays, they are in some ways more desirable than wind towers. This is primarily due to the fact that they do not need to be located on high ground and are therefore less visually prominent. In addition, these facilities can be located in areas that are less rural in nature, requiring fewer access roads and reducing adverse impacts on wild lands.

If not properly sited, large solar facilities can impact soil and water resources, as well as wildlife habitat and corridors. Considerations must also be given to public safety. Because photovoltaic collectors are reflective, they have the potential to create harsh and blinding lights that could be a hazard to nearby buildings or road traffic. Commercial solar facilities should be developed so as to avoid negative impacts on the rural character of the area in which they are proposed to be located. Developers should make all possible efforts to minimize damage to important natural areas as identified in the Natural Resources section of this Plan. Additionally, such facilities should be located as close to existing roads as possible to avoid creating an increased need for town services, such as road maintenance.

**Wind Energy**

Power generated from wind is done through a wind turbine, which is installed on top of a tall tower, where it collects and converts wind into electricity. Towers for home use are generally 80-100 feet in height and are far less obtrusive than larger, commercial “wind farms” that have become a subject of great debate throughout Vermont.

Potential Wind Development Areas (Acres)							
	Class 1 (10-11 mph)	Class 2 (12-13 mph)	Class 3 (13-14 mph)	Class 4 (15-16 mph)	Class 5 (16-17 mph)	Class 6 (17-18 mph)	Class 7 (19-25 mph)
Residential (30-meter)	7441	3612	1929	1147	306	209	0
Small Commercial (50-meter)	0	1087	1179	1017	609	689	359
Large Commercial (70-meter)	0	0	9	1164	755	1027	655

Figure 18: Potential Wind Development Areas in Granville (Source: Vermont Energy Atlas)

Similar to solar, wind energy is an intermittent resource and its generation fluctuates in response to environmental conditions. The amount of energy produced by a specific wind tower can depend greatly on location, height of the tower, and proximity to other obstructions. Nevertheless, most modern wind turbines (when properly sited) are able to generate electricity 95% of the time.

There are multiple levels of potential wind energy generation, ranging from Class 1 (10-11 mph) to Class 7 (19-25 mph). Granville’s topography and distance from the more windy areas of the state, makes it a poor location for wind energy generation, even on the residential level. Based on an analysis of these potential areas for wind development, the community should be concerned with the development of commercial-scale wind energy in town.

## **Biomass & Biogas Energy Generation**

The term ‘biomass’ refers to biologically-based feed stocks (such as algae, food or vegetable wastes, grass, wood, methane, and more). Biomass can be converted into an energy source to fuel vehicles (e.g. biodiesel), heat homes, or even generate electricity. According to the 2011 Vermont Comprehensive Energy Plan, those using wood for primary heating consumed about 5.4 cords in 2007–2008, while those using wood as a supplementary source used 2.25 cords. In that same year, Vermont households burned about 20,155 tons of wood pellets, with primary-heat-source consumers burning 3.8 tons and supplementary-heat-source consumers burning 1.2 tons for the season.

There are no biomass energy generation facilities in Granville. Community-scale biomass has the potential to offer cost-effective heating in small, clustered areas. Some towns have implemented combined heat and power systems that run on biomass to heat multiple municipal buildings, which may be of interest to Granville.

Commercial biomass energy generation facilities should be located close to available biofuels to reduce transportation impacts and costs. A biomass power plant would require a great deal of space to accommodate the various stages of collection and conversion of the mass into fuel before burning it to produce electricity. Water can also pose a problem as biomass facilities require large quantities to handle the recycling process of waste materials. Materials would have to be transported to and from the facility; therefore, truck traffic should be a consideration in selecting a site. Additionally, before a biomass energy generation facility is located in Granville, developers should prove that their proposed project will not negatively impact the rural character of the community or the local road system.

## **Biofuels**

In addition to using biomass for heating, the use of biofuels, particularly biodiesel, is becoming an increasingly popular option for municipalities attempting to cut costs and reduce the environmental impacts associated with vehicle emissions.

According to the Vermont BioFuels Association, biodiesel is a clean-burning alternative fuel, produced from domestic, renewable resources, such as soybeans, sunflowers, canola, waste cooking oil, or animal fats. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend, which can be used in colder weather. It can be used in compression-ignition (diesel) engines or oil-fired boilers or furnaces with little or no modifications.

Growing biomass to use in biofuels may be a viable way to encourage farming in Granville as well; however, balance should be sought between growing for energy demands and for human and animal consumption.

## **Agriculture**

The agricultural sector has the potential to become a net generator of energy by growing crops that can be used for biofuel, by contributing cow manure to the process of methane digestion (also known as “Cow Power”), or by using fields for the location of large-scale wind power (cows can graze up to the base of wind turbines).

Cow Power is especially popular in Vermont; however, it requires a significant upfront financial investment and is generally only effective when utilized by a large scale farm. One of the key advantages of methane digestion is that it reduces the amount of methane released into the environment. However,

large-scale cow farms can also have adverse impacts on the environment, which should be carefully considered when weighing the benefits and drawbacks of setting up a methane digestion system in the community.

## **Hydropower**

Many locations in Vermont, including Granville, once depended on hydropower to grind grain, run mills and even supply electricity to homes. But, with the onset of centralized power, most of these small-scale power generation facilities have been replaced by massive hydro facilities, such as Hydro Quebec.

There are two main forms of hydropower. The first form of hydropower is run-of-river, which uses the natural flow of water to generate power and facilities that store water behind an impoundment. The second form of hydropower is run-of-river systems, which rely on seasonal rainfall and runoff to produce power, resulting in periods of low production. Impounding water behind a dam allows for control of the water flow, resulting in consistent electric production.

There are no sites in Granville that are considered “in-service” hydropower facilities, meaning that they are not actively producing power but have the basic infrastructure to do so. Retrofitting such sites presents the most effective means of adding potential hydropower while keeping environmental impacts low.

Hydroelectric development necessitates balancing priorities. While the benefits of generating electricity from local renewable resources are evident, they are not without associated costs. The power output from a given stream must be moderated by environmental considerations. A minimum stream flow that is adequate to support aquatic life needs to be maintained and impoundments need to be designed with water quality, land use, and recreation considerations in mind.

Hydropower generating facilities are regulated by the Federal Energy Regulatory Commission and stringent federal water quality standards. As a result, the regulatory process for hydro facilities is extensive and time consuming. Further, streams are public trust resources, and the potential impacts of hydro projects warrant significant consideration. Any hydropower development proposed in Granville shall not result in an undue adverse impact to riverine ecosystems and water quality.

## **E. Permitting Considerations**

Energy generation in Vermont is subject to a number of different permitting requirements, most of which are limited to state level permitting. On the municipal level, state statute protects residential renewable energy generation systems from regulations that will completely prohibit their development.

### **Section 248**

Distributed power generation facilities, such as hydropower dams, fossil fuel plants, as well as wind power or solar systems owned by utilities, are subject to review and approval by the Vermont Public Service Board (30 VSA §248). Under this law, prior to the construction of a generation facility, the Board must issue a Certificate of Public Good. A Section 248 review addresses environmental, economic, and social impacts associated with a particular project, similar to Act 250. In making its determination, the Board must give due consideration to the recommendations of municipal and regional planning commissions and their respective plans. Accordingly, it is appropriate that the Town of Granville actively participate in any proceeding.

## **F. Residential Energy Efficiency**

There are a number of ways that the Town of Granville can meet its local energy demand, first by lowering that demand, and then by working to meet the remaining need with local, untapped energy resources.

### **Decreasing Energy Use by Changing Behavior**

Raising awareness to replace wasteful energy behaviors with energy saving ones can reduce the strain on existing energy resources, and help residents and businesses save money, making the town a more affordable place to live with a higher quality of life.

Examples include:

- Turning off lights when you leave a room.
- Using a programmable thermostat.
- Use a laundry line.
- Use a cold-water laundry wash.
- Don't make multiple car trips for errands.

### **Decreasing Energy Use by Implementing Energy Efficiency**

For those necessary or desired services that require energy, we can apply the principles of energy efficiency to ensure that we use less energy to provide the same level and quality of service. Examples include:

- Having an energy audit done to identify the greatest ways to save energy;
- Implementing the air-sealing and insulations recommendations of the energy audit;
- Not heating unused areas of your home;
- Insulating with high R-value (or heat flow resistance) material;
- Using high-efficiency windows;
- Installing energy efficient appliances like refrigerators, freezers, front loading washing machines, gas heated clothes driers and heating systems without blowers;
- Using high efficiency lighting;
- Using gas and/or solar hot water heaters;
- Siting buildings to make use of existing wind blocks and natural cooling patterns derived from the landscape's topography; and
- Siting buildings with maximum southern exposure to capture passive solar energy.

New residential development in the State of Vermont is required to comply with Vermont Residential Building Energy Standards (RBES). Commercial development is subject to similar code regulations. Some examples of the types of development the RBES applies to include:

- Detached one- and two-family dwellings;
- Multi-family and other residential buildings three stories or fewer in height;
- Additions, alterations, renovations and repairs;
- Factory-built modular homes (not including mobile homes).

In order to comply with the RBES, a home, as built, must meet all of the Basic Requirements and the Performance Requirements for one of several possible compliance methods. If the home meets the technical requirements of the RBES, a Vermont Residential Building Energy Standards Certificate must be completed, filed with the Town Clerk and posted in the home. If a home required by law to meet the RBES does not comply, a homeowner may seek damages in court against the builder.

## **G. Municipal Role in Energy Efficiency**

Although communities are unlikely to have an impact on energy consumption at the global level, they do have an impact at the local level, given their demand for and use of energy. The relationship between a municipality and its energy use creates opportunities to have an impact on local energy use reduction.

### **Form an Energy Committee**

Granville does not have an energy committee, but towns are statutorily enabled to create one. An energy committee (EC) is a volunteer group that is formed for the purpose of establishing and implementing the town's energy goals; the group can act independently or can be formally appointed by the Selectboard. The work that can be done by an EC includes conducting energy audits on municipal buildings, tracking energy use for these buildings, providing outreach to homeowners on energy efficiency and renewable energy generation and working with the Planning Commission on the Energy Plan. Most importantly, an active EC can help the town and residents save money while saving energy.

### **Property Assessed Clean Energy (PACE)**

Vermont enacted legislation in May 2009 (Act 45) that authorizes local governments to create Clean Energy Assessment districts. Once created, municipalities can offer financing to property owners for renewable energy and energy-efficiency projects. Eligible projects include the installation of solar water and space heating, photovoltaic panels (PV), and biomass heating, small wind, and micro-hydroelectric systems. Property-Assessed Clean Energy (PACE) financing effectively allows property owners to borrow money to pay for energy improvements. The amount borrowed is typically repaid via a special assessment on the property over a period of up to 20 years; if the property owner wishes to sell the parcel before fully repaying the obligation, then the obligation is transferred to the new property owner at the time of sale. Granville is not currently part of the PACE program.

### **Policy Making for Change**

In addition to reducing the energy use related to facilities, Granville can implement policies that lower energy use by town staff or encourage greater energy efficiency. Examples include:

**Energy Efficient Purchasing Policy** – A policy of this nature would require energy efficiency to be considered when purchasing or planning for other town investments. For example, purchasing Energy Star-rated equipment is a well-documented way to increase energy efficiency. Devices carrying the Energy Star logo, such as computer products and peripherals, kitchen appliances, buildings and other products, generally use 20%–30% less energy than required by federal standards.

**Staff Policies** - Towns can also implement policies that are designed to reduce wasteful energy practices. Through policy making, local government can set a clear example for townspeople and encourage sustainable behavior that will ultimately result in both energy and financial savings. Please see the goals, policies, and recommendations section (F, below) for more ideas.



## **H. Energy and Land Use Policy**

The Vermont Municipal and Regional Planning and Development Act (24 V.S.A. Chapter 117) does not allow communities to impose land use regulations that prohibit or has the effect of prohibiting the installation of solar collectors or other renewable energy devices. However, statute does enable Vermont's municipalities to adopt regulatory bylaws (such as zoning and subdivision ordinances) to implement the energy provisions contained in their town plan.

Zoning bylaws are designed to control the type and density of development. It is important to acknowledge the connection between land use, transportation, and energy, and creating zoning ordinances and subdivision regulations that encourage energy efficiency and conservation. Encouraging high-density and diverse uses in and around existing built-up areas will lead to more compact settlement patterns, thereby minimizing travel requirements. At the same time, zoning bylaws must be flexible enough to recognize and allow for the emergence of technological advancements, which encourage decreased energy consumption, such as increased use of solar and wind power.

Zoning bylaws may contain provisions for planned unit developments (PUDs). PUDs are a grouping of mixed use or residential structures, pre-planned and developed on a single parcel of land. The setback frontage and density requirements of a zoning district may be varied to allow creative and energy efficient design (i.e. east-west orientation of roads to encourage southern exposure of structures, solar access protection, use of land forms or vegetation for wind breaks, and attached structures), and to encourage the construction of energy efficient buildings.

Subdivision regulations are one of the most effective tools for encouraging energy efficiency and conservation. Subdivision regulations, like PUDs, involve town review (through the DRB) in the design process. Because subdivision regulations govern the creation of new building lots, as well as the provision of access and other facilities and services to those lots, a community can impose requirements that a developer site their building to maximize solar gain. Likewise, subdivision regulations can require that landscaping be utilized to reduce thermal loss.

## **I. Energy and Transportation Policy**

It is important that communities recognize the clear connection between land use patterns, transportation and energy use. Most communities encourage the development of residences in rural areas, and these are in fact coveted locations to develop because of the aesthetics that make Vermont special. However, this rural development requires most of our population to drive to reach schools, work, and services.

Because transportation is such a substantial portion of local energy use, it is in the interest of the community to encourage any new developments that are proposed in Granville to be located adjacent to existing roads. In particular, dense residential developments should be located within or adjacent to existing village centers or within designated growth areas. Commercial development that requires trucking and freight handling should only be located on roads which can effectively handle the size of vehicle needed.

## **J. Goals, Policies and Recommendations**

### **Goals**

1. To ensure the long-term availability of safe, reliable and affordable energy supplies, to increase energy efficiency, and to promote the development of renewable energy resources and facilities in the Town of Granville to meet the energy needs of the community and region.
2. A pattern of settlement and land use that is energy efficient.

### **Policies**

1. Town officials should participate in the Public Service Board’s review of new and expanded generation and transmission facilities to ensure that local energy, resource conservation, and development objectives are identified and considered in future utility development.
2. Any commercial energy generation facility proposed in Granville must be developed so as to avoid negative impacts on the rural character of the surrounding area. Developers should make all possible efforts to minimize damage to important natural areas as identified in the Natural Resource section of this Town Plan. Additionally, such facilities should be located as close to existing roads as possible to avoid any increase in the services provided by the town.
3. Granville supports the development and use of renewable energy resources – including, but not limited to, wind, solar, biomass, micro-hydro and cogeneration – at a scale that is sustainable; that enhances energy system capacity and security; that promotes cleaner, more affordable energy technologies; that increases the energy options available locally; and that avoids undue adverse impacts of energy development on the local community and environment.
4. The visual effects of electrical generation, transmission, and distribution facilities should be minimized whenever feasible.
5. It is the policy of the Town that generation, transmission, and distribution facilities or service areas should be encouraged only when they complement the recommended land use patterns set forth in this plan.

### **Recommendations**

1. The Select Board should formally designate the Energy Committee as a Town committee so that they may develop an Energy Action Plan as a supplement to the municipal plan.
2. The Selectboard should discuss PACE at a future meeting and decide whether the program should be placed on the ballot for Town Meeting.

## **XII. NATURAL RESOURCES**

### **A. Wetlands**

Wetlands are ecologically fragile areas and how these lands are managed have a direct bearing on the quality and quantity of water resources. The Vermont Water Resources Board estimates that wetlands comprise less than 5 percent of the surface area of Vermont. In addition to being Vermont's most productive ecosystem, wetlands serve a wide variety of functions beneficial to the health, safety and welfare of the general public, including the following:

1. Retaining storm water run-off, reducing flood peaks and thereby reducing flooding;
2. Improving surface water quality through storage of organic materials, chemical decomposition and filtration of sediments and other matter from surface water;
3. Providing spawning, feeding and general habitat for fish;
4. Providing habitat for a wide diversity of wildlife and rare, threatened or endangered plants; and
5. Contributing to the open space character and the overall beauty of the rural landscape.

In 1986, Vermont adopted legislation for the protection and management of wetlands [10 V.S.A., Chapter 37]. Determination of whether a wetland merits protection is based on an evaluation of the extent to which it serves the general functions outlined in the bulleted list above. Under the Vermont's Wetland Rules, if land development can be expected to impact a protected wetland, such activity cannot commence unless the Vermont Agency of Natural Resources first grants a Conditional Use Determination (CUD). A CUD will be granted when the proposed use will not have an undue adverse impact on the function of the wetland. In many cases, such approvals are granted with conditions to mitigate impacts and to more readily protect wetlands.

For Granville, as well as the State, the most significant wetlands have been mapped and are included as part of the National Wetlands Inventory (NWI) prepared by the U.S. Fish and Wildlife Service. These wetlands have been delineated on USGS topographic maps, and by reference are made a part of this Plan (see Map 5, Natural Resources). Other smaller wetlands often do not show on these maps, so a field determination by a qualified biologist is needed for most activities that involve state permits. There are approximately 139 acres of mapped wetlands in Granville.

### **Goal**

1. Encourage land use development practices that avoid or mitigate adverse impacts on significant wetlands.
2. Protect and provide for long-term stewardship of wetlands that support functions and values for natural communities, rare habitat, or wildlife habitat and prevent the additional loss of wetlands.

### **Policies**

1. It is the policy of the Town to abide and adhere to state wetlands regulations.
2. It is the policy of the Town that structural development or intensive land uses shall not be located in mapped wetlands or within buffer zones to significant wetlands.

3. It is the policy of the Town that development adjacent to mapped wetlands should be planned so as not to result in undue disturbance to wetland areas or their function. Mitigating measures to protect the function of a wetland are an acceptable measure.
4. It is the policy of the Town that no development is to be located in or allowed to fill in or alter any mapped wetland area.

## **B. Water Resources**

Water resources include aquifers (the supply of fresh water beneath the ground) and surface waters (includes rivers, streams, ponds and lakes). Sustainable yields of quality water are necessary for the lives and livelihood of citizens of Granville. Granville has no mapped groundwater information.

The process for mapping groundwater is complicated. It involves multiple scientific methods including using technology to create a detailed picture of groundwater situations and use patterns, analysis of well data provided to the state by well drillers and site specific analysis. Unfortunately, there is no easy method.

The health of Granville's surface waters is essential to maintaining quality groundwater, as well as an important element for outdoor recreation and natural beauty. Vermont law declares that the lakes and ponds of the state and the lands lying underneath them are held in trust by the state for the benefit of all Vermonters. The state, as trustee, cannot sell or give away these public resources to individuals or corporations for purely private purposes. A permitting program for large groundwater withdrawals was implemented by the state in 2011. Those seeking permits will have to show that their withdrawals will not have an adverse impact on water resources. They must also show that their withdrawals must be consistent with local and Regional Plans.

### **Goals**

1. Maintain or enhance the quality and quantity of drinking-quality resources.
2. Allow use of groundwater resources by new development in such a manner to protect the public right to adequate quality and quantity of the resource.
3. Consider surface water and groundwater impacts and effects related to proposed or existing uses of land.
4. Maintain or improve surface water quality and quantity.

### **Policies**

1. Land use activities which potentially threaten groundwater quality should be carefully reviewed and monitored to prevent undue loss of groundwater quality.
2. Preservation of the natural state of streams should be encouraged by:
  - a. Protection of adjacent wetlands and natural areas;
  - b. Protection of natural scenic qualities; and
  - c. Maintenance of existing stream bank and buffer vegetation including trees, together with wildlife habitat.

## **C. Floodplains**

Floods are inevitable and uncontrollable natural events which occur sporadically and affect lands adjacent

to watercourses. It is therefore in the public interest to plan for floods, and to implement land use strategies which will protect these areas and minimize the risks to public health, safety, and property. Floodplains, lands adjacent to watercourses (rivers, streams and brooks), are periodically inundated by heavy rains or during spring thaws. They are porous and can absorb considerable water before reaching flood stage. Floodplains make excellent agricultural land but are poorly suited for development, both because of their propensity for flooding and because of their proximity to watercourses, which creates the potential for pollution. Approximately 363 acres in Granville are within the floodplain area, which is just over 1% of the total land in the community.

Vermont has experienced more than fifteen statewide and regional floods since 1973. All but one of these were declared federal disasters, and economic losses were significant. Damage was not limited to designated floodplains, but often occurred along unstable river systems and steep streams, and in areas where stream debris was excessive. In some cases, recovery costs to the Town of Granville alone amounted to several million dollars per flooding event. Public interest dictates that every reasonable attempt should be made to avoid or reduce such exposure to flood damage.

### **National Flood Insurance Program (NFIP)**

Under the provisions of the National Flood Insurance Act (1968), the Federal Emergency Management Agency (FEMA) has conducted a series of evaluations and hydrologic engineering studies to determine the limits of flood hazard areas along streams, rivers, lakes, and ponds expected to be inundated during the 100-year base flood, meaning that the flood level has a 1% chance of being equaled or exceeded in any given year. The calculations do not take into account the impact of ice dams or debris, and may, therefore, actually underestimate the areas which are subject to flooding damage.

FEMA has prepared a Flood Hazard Boundary Map for the Town of Granville, which includes flood hazard areas for the Main Stem of the White River and for major streams and ponds. This map is on file at the Town Office and at the Two Rivers-Ottawaquechee Regional Commission. The Flood Hazard Area is indicated in Map #2, Future Land Use. If in doubt when developing, contact the Granville Flood Hazard Administrator.

FEMA also administers the National Flood Insurance Program, which provides flood hazard insurance at subsidized rates for property owners in affected areas. In order to qualify for federal insurance, towns must adopt and retain a by-law to control land development within these areas. Minimum standards must be included and approved by FEMA. Coverage is only available to landowners in town if a town elects to participate in the program. The Town of Granville maintains a stand-alone Flood Hazard regulation, and is recognized as a participating community in the National Flood Insurance Program. Granville's current Flood Hazard Bylaw prohibits the development of new primary structures (commercial and residential) in the floodplain. Accessory structures and additions to existing structures are allowed.

Two Rivers-Ottawaquechee Regional Commission has determined that approximately 37 structures (including 31 houses and 6 businesses) have been identified as being located within the mapped flood hazard areas. The majority of these buildings are located in Granville's Villages. Mortgage lending institutions require as a prerequisite to financing that flood insurance be purchased on property subject to flooding. Because of the potential for severe damage to public health and safety, Granville maintains that no new primary structures shall be developed in the FEMA Floodplain. Other structures, such as accessory structures, are allowed but only if they are properly flood-proofed and do not raise the existing flood level more than one foot.

## **Fluvial Erosion Hazards**

Much flood damage in Vermont is associated with stream channel instability, also known as the fluvial erosion hazard (FEH), as opposed to inundation related losses. This is a reflection of Vermont's natural geography and its man-made landscape consisting of steep, relatively narrow valleys with agricultural land uses, highway infrastructure, private residences and commercial properties located in close proximity to stream channels. River channels that are undergoing an adjustment process as a result of historic channel management activities or floodplain encroachments oftentimes respond catastrophically during large storm events.

Historically, landowners and local government have relied on the standards and the flood hazard boundary maps provided by FEMA through the National Flood Insurance Program (NFIP) to determine areas within river corridors susceptible to flood damage. The maps are also used to delineate the allowable (floodway) limits of river corridor encroachments and human land use investments. However, the NFIP maps address only inundation issues by applying a water surface elevation based standard. For this reason the NFIP maps are often inadequate as an indicator of flood hazards, especially erosion. The NFIP standards do not recognize the danger present in unstable channels which may be undergoing a physical adjustment process. The stream bed may be eroding or it may be actively aggrading due to erosion occurring upstream.

The NFIP standards often allow for significant encroachment within floodplain areas and river corridors that may prevent the stream from ever reestablishing its stability. Special mapping and geomorphic assessments can identify FEH areas along rivers, more comprehensively defining high-hazard areas. The Main Stem of the White River have mapped fluvial erosion hazard (also called River Corridor Area) data. This area is not subject to specific regulatory conditions in the Granville Flood Hazard Bylaw, but the Planning Commission may adopt new language that protects development against fluvial erosion hazards.

## **Severe Flooding Events**

In 2011, Vermont was struck by Tropical Storm Irene, which inundated the region with heavy rains and severe flooding. Regional damage was severe enough to warrant a federal disaster declaration. In Granville, significant impacts were felt in multiple places in town. Surprisingly, a significant portion of the impact of Irene's damage was not in the area mapped by FEMA as flood plain or fluvial erosion hazard areas. Instead, the flood waters did substantial damage along several brook in Granville, in some instances completely destroying entire stretches of town road (Buffalo Farm Rd.). Stream valleys are common locations for rural roads, and as such, much of the damage that occurred in Granville was to roads. Inundation and flood damage caused along the White River was also quite severe.

## **Goals**

1. Maintain use of flood hazard areas as open space, greenways, non-commercial recreation and/or agricultural land.
2. Ensure no net loss of flood storage capacity in an effort to minimize potential negative impacts. These impacts include the loss of life and property, disruption of commerce, and demand for extraordinary public services and expenditures that result from flood damage.

## **Policies**

1. It is the policy of the Town that the preferred uses for flood hazard areas shall be for open space, greenbelts, pastureland, recreational and agricultural uses.
2. It is the policy of the Town that any land use activity (filling, or removal of earth or rock) within flood hazard areas which would result in net loss of flood storage or increased or diverted flood levels or increased risk to adjacent areas shall be prohibited.
3. It is the policy of the Town that utilities or facilities serving existing development (e.g. water lines, electrical service, waste disposal systems, roads, and bridges) may be located within these areas only when off-site options are not feasible and provided that these utilities or facilities meet the flood proofing requirements in Granville’s Flood Hazard Bylaws.
4. It is the policy of the Town to maintain its membership in the National Flood Insurance Program.
5. It is the policy of the Town to recognize that upland areas adjacent to unstable rivers and to steep streams may be at risk of erosion during floods.

## **Recommendation**

1. The Planning Commission should consider revising the Granville Flood Hazard Bylaw to include River Corridor Protection (FEH).

## **D. Wildlife Resources**

Wildlife is one of the popular attractions to the area that provides some citizens of Granville with direct and indirect livelihoods from sports, tourism and direct harvest of wildlife. Wildlife management requires management of human activities around animals as much as management of animals around human activities. Managing for specific species is not as desirable as managing for the entire ecosystem supporting the species.

Granville’s fields, forests, wetlands and streams are home to a diverse and healthy wildlife population that includes bear, bobcat, moose, deer, otter, geese, ducks and mink, to name only a few. Nearly all open space provides habitat for game and non-game species. There are, however, some areas in Granville which provide critical habitat that should remain intact. These areas include wetlands, deer wintering areas, bear mast stands, and edge (the transition zone between two cover types, such as field and forest). Development or logging in or adjacent to these areas should consider wildlife implications during the planning process.

Wintering areas are an important habitat requirement for deer during the critical winter months when snow depth and climate are limiting factors to survival. Typically these areas consist of mature softwood stands, at low elevations or along stream beds, which provide cover and limit snow depths. Southerly facing slopes are also beneficial due to good sun exposure and may be utilized even in areas of limited softwood cover. More specific factors, such as percent of canopy closure, species of softwoods, and stand age, also figure into the quality of the wintering area. Granville has 2500 acres of deer wintering areas, much of which is part of the Green Mountain National Forest. Most important when considering development and its impact

on wildlife is the concept of habitat fragmentation. Albert Todd, the Environmental Protection Agency liaison, in the February 1999 issue of *Journal of Forestry*, summed up the impact of forest fragmentation:

"Forest fragmentation affects water quality and quantity, fish and wildlife populations, and the biological health and diversity of the forest itself. When many small habitat losses occur over time, the combined effect may be as dramatic as one large loss. Forest fragmentation can disrupt animal travel corridors, increase flooding, promote the invasion of exotic vegetation, expose forest interiors, and create conflicts between people and wildlife. Habitat loss reduces the number of many wildlife species and totally eliminates others."

To help mitigate the effects of human population growth and land consumption, many scientists and conservationists urge governments to establish protected corridors, which connect patches of important wildlife habitat. These corridors, if planned correctly, allow wildlife to move between habitats and allow individual animals to move between groups, helping to restore or maintain genetic diversity that is essential both to the long-term viability of populations and to the restoration of functional ecosystems. Some studies focusing on wildlife fragmentation have been conducted in Vermont, but only on a limited basis. At some point, it may be wise for Granville to attempt to study this important element of wildlife preservation.

### **Goals**

1. Maintain or enhance the natural diversity and population of wildlife, including natural predators, in proper balance.
2. Restore stable populations of endangered or threatened wildlife in appropriate habitat areas.
3. Maintain or improve the natural diversity, population, and migratory routes of fish.
4. Allow sport and subsistence hunting of ecologically sound intensities to provide continued success of the species.

### **Policies**

1. Significant wildlife populations and natural diversity should be maintained or enhanced.
2. Long-term protection of major habitats through conservation easements, land purchases, leases and other incentives is encouraged.
3. It is the policy of the Town to protect deer wintering areas from developments and other uses that adversely impact the resources.
4. Development other than isolated houses and camps shall be designed so as to preserve continuous areas of significant wildlife habitat. Fragmentation of significant wildlife habitat is discouraged. Effort shall be made to maintain connecting links between such areas.
5. Preference shall be given to development that utilizes existing roads and field lines.

## **E. Mineral Resources**

The use and management of Granville's earth and mineral resources are matters of public good. Maintenance of sustainable quantities of gravel, sand, crushed rock, and other materials are essential for business development, as well as state and local highways. In spite of this, public and private interests are oftentimes in conflict over use of the resource. It is in the interest of the Granville business owners and



residents to enable utilization of these resources when such uses do not significantly inhibit or conflict with other existing or planned land uses, or are in conflict with other stated goals in this Plan.

### **Goal**

1. To support extraction and processing of mineral resources only where such activities are appropriately managed and the public interest is clearly benefited.

### **Policies**

1. Existing and proposed mineral extraction and processing facilities shall be planned, constructed, and managed:
  - a. So as not to adversely impact existing or planned uses within the vicinity of the project site.
  - b. To not significantly interfere with the function and safety of existing road systems serving the project site.
  - c. To minimize any adverse effects on water quality, fish and wildlife habitats, view-sheds and adjacent land uses.
  - d. To reclaim and re-vegetate sites following extraction.
  - e. To minimize noise impacts on adjacent uses including residential areas.

### **F. Plant Communities**

In Granville, there are a broad range of communities that exist in the older forests, early successional forests, open fields and valley floors. The breadth and diversity of wildlife and plant communities indicate a healthy, thriving ecosystem. Yet, plant communities are usually strongly affected by the surrounding environment. Plants respond to soil structure and chemistry, hydrology, and climate. The effects of unmanaged development can have a negative impact on plant communities, which in turn will harm the overall ecosystem in the area affected. Good management practices, such as requiring developers to locate their projects in less sensitive areas, maintain buffer areas and protect against silt runoff from excavating, are a few of the ways that these communities can be maintained.

Invasive species are a growing problem in Vermont. Invasive species are defined as those species which spread from human settings (gardens, agricultural areas, etc.) into the wild. Once in the wild, invasive species may continue to reproduce and displace native species, causing biodiversity to suffer and throwing entire ecosystems out of alignment. Both Federal and State governments have guidelines in place for handling invasive species, and there are resources available to interested parties through the University of Vermont. While the list of invasive species in Vermont is extensive, the most common invasive plants in Granville seem to be Wild Chervil and Wild Parsnip.

### **Goals**

1. Minimize the spread of invasive plant species in Granville.

**Recommendations**

1. Research what other communities in Vermont and elsewhere have done to minimize the spread of invasive plant species.
2. Advise road crews to take care when ditch cleaning to minimize the spread of invasive species such as Japanese Knotweed, Wild Chervil, Wild Parsnip and Purple Loosestrife
3. Whenever possible, have the road crew mow roadsides before invasive species go to seed.
4. Educate landowners as to what invasive plant species look like and how to control their spread, possibly through the printing of a basic document which illustrates these species.

## **XIII. Agriculture and Forestry**

### **A. Background**

Agriculture and forestry define the character of Vermont and comprise major industries in the Region. Over time, changes in these industries have led to instability. The shape of Vermont agriculture and forestry are changing and the pressures for change come from both inside and outside the state. These changes pose difficult challenges, not just for landowners, but for all who desire a rural lifestyle and working landscape. And yet, opportunities for new and innovative farm and forestry businesses are on the rise. How we maintain the working landscape and support the agriculture and forest industries will have a long term impact on our landscape and our local economy.

### **B. Farm and Forest Land Issues**

#### **Land and Taxation**

An economic restructuring or a shift away from agriculture to the service and tourism industries has placed economic pressure on farm owners. The higher cost of owning land makes it difficult to rationalize conventional farming. Owners of forestland most often are faced with a tax bill on land that exceeds its economic value for timber production. This coupled with a need for house lots or development land in general, has prompted landowners to place their land on the market for these purposes.

#### **Current Use Taxation**

For farmland and forestland conservation to be successful, the pressures posed by the market value approach to taxation must be solved for both the landowner and municipality. One means to address this issue has been the Vermont Current Use Program administered by the State which sets the valuations on farm and forest land based on their productivity values rather than their development values. There are nearly 13,000 acres of land in Granville enrolled in the Current Use Program, this amounts to 39% of all lands in Granville.

### **C. Agricultural Trends**

An analysis of the United States Census of Agriculture data between 2007 and 2012 (2012 being the most recent period of data collected) shows that farming in Vermont is slowly shifting away from the larger scale farm that developed as a result of trends toward consolidation. Between 2007 and 2012, the number of farms in Vermont increased by 5%. The average size of farms decreased from 177 acres to 171 acres between ag censuses. Thirty-seven percent of Vermont's farms in 2007 were considered "small-scale" farms that sell under \$2,500 in agricultural products per year. While the number of small-scale farms continues to grow, these farms only produce slightly less than 3% of Vermont's agricultural income.

Despite this decrease in farm size, over the past 10 years a growing movement in sustainable agriculture—involving increased local food production and consumption, value-added processing, and diversified farms—has taken off. In 2009, the State of Vermont created legislation which created the Farm to Plate Investment program, part of which included the creation of the Farm to Plate Strategic Plan. In 2012, USDA data indicated the estimated agricultural revenue in Vermont to be \$776 million per year.

Many other businesses in Vermont depend on the “farm economy.” According to the Vermont Farm to Plate Strategic Plan (F2PSP), which was released in 2011, Vermont has at least 457 food processing establishments that employ at least 4,356 people and is the second-largest manufacturing sector employer in the state, behind computer and electronic products. In addition, Vermont has at least 263 wholesale distribution establishments that collectively employ at least 2,288 people. The farm-related food industry is clearly connected to the farm economy.

In Granville, as in the rest of Vermont, the scale and style of farming has changed. The most recent Census of Agriculture (2007) reports that there are 6 full and part-time farm operations, with 3 identified as full-time. About 2/3 of these operations utilize less than 50 acres of land. Products grown or produced on farms in Granville include hay, cattle, horses, chicken, pigs and sheep.

*For census purposes, a farm is defined as “a place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.”*

Though federal law recognizes the importance of farmland and farmland protection, local planning and zoning regulations often neglect the issue of prime agricultural land and the conflicts that arise between expanding development and successful farming. The distinctiveness of the working landscape gives Vermont its beauty. Farms provide open space for wildlife habitat, scenic views and a connection to the land that is hard to find in other places. They also help our towns avoid sprawl and maintain small town and village settlement patterns. As such, to continue to receive the benefits farming has to offer, a community must encourage farming.

#### **D. Forestry Trends**

Three primary trends have affected the region’s forestland and its productivity. First, forests and farms are being increasingly “parcelized” or subdivided into small lots which threaten the economic viability of forestry. Development pressure in the region has relaxed since the early 1990’s, but the economy is predicted to rebound and the trend of land moving out of forest use to other uses will continue, particularly in those areas where access and development suitability are not severe.

Funding of the Current Use Program has been identified by the Northern Forest Lands Council as vital to landowners keeping their patience, not over harvesting the forests or opting for liquidation cutting of tracts. High taxes contribute to a low rate of return on timber sales, and have prompted some conversion to non-forest uses. Second, markets for timber and wood have been responsive to a glut of some products affecting prices, at least in the short run. While the numbers of mills in the region have declined, there has been a move to new markets, one being an export demand for hardwood logs and another being a demand for pulpwood and other specialty types. For a state mostly known for hardwood, the demand for pulp has led to better managed forests because it is generally the lower grades or poorer cuts that are being used. Third, federal and state estate and inheritance tax laws have placed family landowners into financial predicaments where they need to subdivide or develop forest land in order to cover taxes. Current tax law bases estate values on the market value of land rather than at use value. By allowing land to be assessed on the basis of current use, family landowners are able to realize a more reasonable return on investment for long-term timber management.

Forest products continue to be a significant share of the region’s manufacturing sector, although the way statistics are kept makes it hard to quantify. Overall, according to the Vermont Department of Employment and Training, jobs in the lumber and wood products industries have increased statewide. In looking at the Vermont forest products industry, it is worth noting that the industry, like agriculture, has virtually no impact in setting trends as it is a relatively small national producer.

A major long-term issue for the Vermont forest products industry is how to keep it from drifting into the position of selling wood as a raw material without benefiting from the higher paying jobs that come from value-added wood products.

### **Agriculture and Land Use Regulation**

Land use regulation has a definite impact on farming. For example, a zoning ordinance that allows for large tracts of land to be sold for residential purposes could conceivably help protect open space, but that open space might no longer be available for agricultural use without considerable forethought and design. The same ordinance calling for much smaller lot sizes (such as one acre) would, over time, lead to an incremental decrease in the amount of usable farmland.

Therefore, if agricultural uses are to be preserved, we need to protect them. V.S.A. Title 12, Chapter 195, Section 5753 is intended to protect farmers against nuisance law suits. However, there have been circumstances where the state statute has not offered enough protection.

### **Current Use**

The Current Use Program provides tax incentives for qualifying landowners who enroll in the program and agree not to develop their forest lands and to manage them in accordance with a forest management plan developed in cooperation with the Vermont Department of Forests, Parks and Recreation.

## **E. Sustaining Agriculture and Forestry**

Planning policy and implementation efforts should be directed at sustaining agriculture and forestry pursuits and not just conservation of the resource. This is not only because it is the best way to keep the land open, but also because agriculture and forestry are critical industries in the Town and Region. Just as there is a variety of interests, there is a variety of tools than can be used to conserve these resources. Some are directed primarily at sustaining agriculture, others forestry, some are regulatory in nature, others are compensatory, and others voluntary. It is in the public interest to encourage conservation groups, landowners, local officials, and policymakers to utilize all of these tools.

### **Conservation Easements**

Conservation easements are a common method used to ensure that the working landscape gets preserved. The Vermont Land Trust (VLT), Vermont's largest non-profit conservation organization, has conserved more than 590 parcels of land in agricultural use throughout the state, totaling 145,109 acres. Most land purchased with the intent of applying a conservation easement to it is funded, at least in part, by some form of grant funding from either state or private sources. The use of conservation easements has both pros and cons for municipalities, they include:

#### **Pros**

- Easements are flexible; they can be written to achieve specific goals of the town involved.
- They are perpetual, and restrictions put on the conserved lands will remain in force even when the property is sold to a new party.
- They conserve scenic beauty and environmentally sensitive areas.
- Eased property remains on the tax rolls.

Cons

- Establishing an easement involves up-front costs, such as paying for legal counsel, biological analysis, etc.
- There are long-term expenses involved with monitoring the easement.
- The easement holder is responsible for ensuring that the restrictions placed on the easement are followed.

The Granville Planning Commission acknowledges that conservation easements are one potential solution to preserving the working landscape.

## **F. Farming, Forestry and the Economy**

In addition to preserving Granville’s working landscape and maintaining the community’s aesthetic beauty, farming and forestry can have an economic impact. Vermont is within easy reach of millions of people in cities like Boston and New York City. Additionally, Vermonters are increasingly seeking locally-sourced, sustainably-produced farm and forest products. Rising fuel prices have led to an increased interest in food and energy security. Vermont is a national leader in innovative education programs based on local food, agriculture and healthy eating. It is also widely recognized for its strong network of land trusts and other nonprofits that are models for conserving farm and forest lands.

There is already a growing mix of emerging entrepreneurs and long-time land-based businesses that are constantly evolving to stay competitive. They’re producing biofuels, artisan cheese, specialty wood products, produce, breads and other value-added items. It is in the best interest of Granville to encourage the continued development of these industries and to foster local interest in these products.

For Granville, it is essential to encourage the growth of both forestry and agricultural industries within the community. These enterprises will continue to sustain the natural character of the town while adding the potential for jobs and unique and creative attractions that will bring people into the community for recreation and education. If tourists come to Granville to visit a new organic farm or specialty wood or forest product producer, they will need a place to stay for the night; they will buy dinner at local restaurants, adding additional capital to the economy.

## **G. Goals, Policies and Recommendations**

### **Goals**

1. Encourage the conservation, wise use and management of the town's agricultural and forestry resources, to maintain its environmental integrity, and to protect its unique and fragile natural features.
2. Protect the Region's rural agricultural character, scenic landscape, and recreational resources.
3. To encourage the economic growth of agricultural and forest operations at a scale that is appropriate for Granville.
4. To recognize the value of the regional forest products economy and its ability to provide stewardship for its natural heritage of fish, wildlife, plants, ecological systems.

## **Policies**

1. Where contiguous areas of high value farming or forestry exist, or have significant potential to exist, fragmentation of these areas into uses other than those incidental to agriculture or forestry should be discouraged.
2. Where high value agricultural and forested land are identified, clustered or peripheral development is especially encouraged to protect such resources and prevent fragmentation and sprawling settlement patterns.
3. Contiguous forest and significant agricultural areas should remain largely in non-intensive uses unless no reasonable alternative exists to provide essential residential, commercial and industrial activities for the Town's inhabitants.
4. The construction of utilities, roads or other physical modifications should skirt tracts of productive agricultural land rather than divide them.
5. Farmers, loggers, and foresters should use Accepted Management Practices (AMP) and are encouraged to implement Best Management Practices (BMP) in their operations and to minimize point and non-point source pollution.
6. Support the development of value-added farm and forestry products in Granville.

## **Recommendations**

1. To promote a better understanding of the farming and forestry practices, and natural resource management in general; the industry, conservation organizations, public schools and the tourism and recreation industries should sponsor continuing educational opportunities to the public.
2. To explore all reasonable opportunities to promote those lands that are greater than 25 acres and meet any of the following criteria:
  - a. Enrolled in Current Use
  - b. Owned by persons willing to consider the sale of a conservation easement
  - c. Are being managed in accordance with an approved forest management plan.

## **XIV. Relationship to Other Plans**

### **A. Relationship to Municipal Plans**

The Municipal Plan focuses primarily on development and policy within the community's boundaries. However, it is important to recognize that how a community grows and changes can be directly impacted by development that takes place outside of the community. For example, many places had large and vibrant villages that were negatively impacted by the location of the railroad in outside areas. In order to analyze the potential for outside impacts on Granville, the Planning Commission has reviewed the Municipal Plans and, if available, the land use regulations of surrounding towns for consistency with this Plan. These communities include:

- **Braintree** – The Town of Braintree has had a long history of planning and zoning. Their current Plan was adopted in 2012. The Braintree Unified Bylaw (zoning and subdivision) was adopted in 2010. A portion of Granville's boundary is adjacent to Braintree. Much of that land in Braintree is treated as a conservation area, where density is low and most development is discouraged in an effort to maintain the rural nature of the land. There are no conflicts between the Granville and Braintree Plan.
- **Hancock** – The Town of Hancock has maintained a Town Plan for roughly a decade. Their only land use regulation is a Flood Hazard Bylaw. Hancock's land use patterns are very traditional in that they focus concentrated mixed-use development within their village. Outside of the village, they envision a mix of low density residential and home businesses. This pattern of development is consistent with the Granville Town Plan.
- **Lincoln** – The Town of Lincoln has a municipal plan (adopted in 2010) and zoning regulations (adopted in 2011) which guide development. Much of the land in Lincoln which borders Granville is part of the Green Mountain National Forest, and therefore is permanently conserved by the Federal Government. The Town has designated these areas as Conservation areas, which are intended to be open, with limited development. This pattern of development is consistent with the Granville Town Plan.
- **Ripton** – Ripton has a Town Plan which was adopted in 2010, and a Unified Bylaw (Zoning and Subdivision combined) which was recently amended (2013). Like Lincoln, much of the lands between Granville and Ripton are part of the Green Mountain National Forest and are therefore closed to development. Ripton's land use designations of lands adjacent to Granville are 25 acre conservation areas, which are very similar to the diffuse pattern outlined in the Land Use chapter of this plan. Uses encouraged in Granville are likewise similar. There are no potential conflicts between these plans.
- **Rochester** – The Town of Rochester has had a Town Plan, Zoning and Subdivision Regulations since the 1970's. Granville and Rochester share a small amount of bordering lands. Areas of these communities which are adjacent to each other have similar types, featuring disperse development that is primarily residential in nature.



- **Roxbury** – The Town of Roxbury’s last Town Plan adoption was in 2008 (this plan has expired). According to the 2008 Plan, much of the upland areas between Granville and Roxbury are reserved for forests and disperse limited residential development. There are no potential conflicts between these plans.

## **B. Relationship to the Regional Plan**

Granville is a member of the Two Rivers-Ottawaquechee Regional Commission (TRORC). It is one of thirty (30) municipalities that comprise the Region. The TRORC Region covers northern Windsor County, most of Orange County and several Addison County towns including Hancock and Granville. The Commission was chartered in 1970 by the acts of its constituent towns. All towns are members of the Commission, and town representatives govern its affairs. One of the Regional Commission’s primary purposes is to provide technical services to town officials and to undertake a regional planning program. As is the case in many areas of the State, the extent of local planning throughout the region is varied. Some municipalities are more active than others. Thus, the level of services to each of the towns changes with time.

The Regional Commission adopted its Regional Plan in June, 2012. It will remain in effect for a period of five years. This Plan was developed to reflect the general planning goals and policies expressed in the local plans. It is an official policy statement on growth and development of the Region. The Regional Plan contains several hundred policies to guide future public and private development in the Region. Policies for land use settlement are identified. These areas are: Town Centers, Village Settlement Areas, Hamlet Areas, Rural Area, and Conservation and Resource Areas. Delineation of each land use area is mapped or charted.

## **C. Goals, Policies and Recommendations**

### **Goal**

1. Work with neighboring towns and the region to encourage good land use and environmental policy that benefits the citizens of Granville.

### **Policies**

2. To encourage continued communication and cooperation between Granville and its neighboring towns.
3. To continue participation in the Two Rivers-Ottawaquechee Regional Commission.
4. To exchange planning information and development data with neighboring communities.

## **XV. IMPLEMENTATION: PUTTING THE PLAN INTO ACTION**

The character of Granville, its people, and landscape has been created over the years through the individual and collective decisions of its citizens and public officials. The efficiency, attractiveness, and well-being of the community are determined, in part, by the ability of the town to plan for its needs and to find a mechanism to put planning goals into action. Previous elements of this plan have been centered on existing conditions, probable trends, and policy development which, when combined, represent a vision for the kind of town Granville desires for the future. One thing is certain: the community will change. The Town Plan provides the opportunity for citizens and town officials together to direct this change consistent with their desires, using a variety of mechanisms. The following sections describe the tools and techniques that could be used to implement the Granville Town Plan.

### **A. Adoption of the Plan**

Adoption of the Granville Town Plan by the Select Board, in accordance with the procedures outlined in the Vermont Planning and Development Act [24 V.S.A., Chapter 117], is the first step in putting this Plan into action. Through its adoption, the town accepts the principles and policies as set forth in this Plan as in the public interest and as a guide for the future growth and development decisions affecting Granville.

### **B. Ongoing Planning**

Planning for change is a continual process for Granville that will require the involvement of the Planning Commission and the public to ensure that the goals and policies of the Plan are integrated into the decisions affecting land use, taxation, and public investments in Granville.

The quality of a Town Plan is reflected in the amount of public involvement in its creation. Regular community meetings held by the Planning Commission that discuss important issues relevant to the Town Plan will ensure that the document truly reflects the vision of the residents of Granville.

The Granville Town Plan is a dynamic document reflecting the community's visions and values. By statute [24 V.S.A., Section 4387] the plan must be revisited at least every five years to be kept relevant. The Planning Commission is responsible for the maintenance and amendment of the plan. Within the next five years following adoption of the plan, the Planning Commission will need to evaluate the plan in light of new conditions and needs. Re-adoption of an updated plan will require notice to the townspeople and action by the Select Board. At any time following adoption of the plan, the Select Board may request the Regional Planning Commission to approve the Plan or amendments to the plan. Before approving the plan, the Regional Commission shall find that the plan meets four basic tests [24 V.S.A., Section 4350(b)]. Approval of the plan provides an improved legal standing for Granville to influence and integrate its planning policies with State agency planning affecting land use.

### **C. Implementation Tools**

Vermont law enables Granville to implement the adopted Granville Town Plan through a variety of ways. Regulation of land use and development through rules adopted by the voters is one possible method. Because these regulations are susceptible to legal challenge and must clearly benefit the public, discretion must be used. Well recognized and utilized means include, but are not limited to, zoning bylaws and subdivision regulations. Potential implementation tools include those described below.

## **D. Zoning Bylaws**

Zoning bylaws are a commonly used method for guiding development at the local level. Zoning may regulate:

- Uses of land
- The placement of buildings on lots
- The relationship of buildings to open space
- The provision for parking, signs, landscaping and open space.

Zoning generally involves partitioning the town into districts or zones that have a different set of uses, densities, and other standards for development. Zoning districts must be reasonably consistent with the Town Plan. As an alternative to conventional methods, Granville may opt to implement a set of measurable performance standards for specific uses as opposed to dividing the town into districts. This technique, referred to as "performance zoning", is designed to be more flexible and to recognize the specific conditions of each site proposed for development.

## **E. Subdivision Regulations**

Granville does not currently have subdivision regulations. These regulations, if adopted, would be administered by the Planning Commission. Such regulations govern the division of parcels of land and the creation of roads and other public improvements. Furthermore, subdivision regulations can ensure that land development reflects land capability and that critical open spaces and resources are protected from poor design or layout.

## **F. Flood Hazard Bylaws**

Under Vermont law [24 V.S.A., Section 4412], the Town of Granville may regulate the use of land in a defined flood hazard area adjacent to streams and ponds. These bylaws can be established to ensure that design and construction activities within the limits of the 100 Year Flood Plain are designed so as to minimize potential for flood damage and to maintain use of agricultural land in flood-prone areas. As noted in the Natural Resources section of this Plan, property owners are eligible for federal flood insurance on buildings and structures at relatively low federally subsidized premium rates. However, such insurance cannot be obtained for properties in Granville unless the town has a Flood Hazard Bylaw in effect, which Granville has.

## **G. Highway Ordinances**

Granville has a Highway Ordinance in effect setting forth the standards and conditions for the maintenance, improvement, discontinuance, laying out and acceptance of town highways. In addition, the ordinance includes provisions related to the reclassification of town highways (Classes 2, 3 and 4, and Legal Trails). Lastly, Granville does have, through its Select Board, the ability to regulate private access to municipal roads through the issuance of "curb cut" permits to landowners. "Curb cuts" are places where a private driveway or road connects to a town highway. In granting a cut onto town roads, the Select Board can give consideration to safety issues such as adequacy of sight distance and proximity to intersections as well as conformance with this plan.

## **H. Capital Budget**

A capital budget and program is a financing approach that benefits the town greatly in the selection, prioritization and costing of capital projects. Under the capital budget, a project is selected (e.g. bridge refurbishment), a funding source determined (e.g. general taxes, and general obligation bonds) and a priority year given for each activity (e.g. construction in 2010). Collectively these capital projects make clear when public facilities will be placed to accommodate projected growth. When used in conjunction with the Town Plan and local bylaws, it can be a powerful mechanism for limiting the rate of growth in accordance with the fiscal capacity of taxpayers and other funding sources.

In addition, it is noted that under Vermont's Act 250 law, in granting a Land Use Permit for a major development or subdivision, the District Environmental Commission must first find that the project is in conformance with the town's capital budget. [See 10 V.S.A., Section 6086(a) (10).] Accordingly, this mechanism gives the town an indirect method of implementing its policies and priorities as set forth in the Plan. While Granville and the school district has an informal system of capital programming, it is recommended that a Capital Budget Committee be established to work with the Select Board in the development of a list of capital needs and expenditures, and to formally present a Capital Budget and Program for adoption.

## **I. Vermont Community Development Program**

Since the mid-1970's, the Vermont Community Development Program (VCDP) has made grant funds available to towns for community projects. Historically, the major focus of the program has been on housing rehabilitation and affordable housing projects benefiting low and moderate-income families. Granville should investigate the Vermont Community Development Program and its potential to assist the community in addressing its housing needs. The Regional Commission and the Vermont Agency of Commerce and Community Development are resources available to assist. (PH: 802-828-3217).

## **J. Act 250**

Since 1970, Vermont has had in place a statewide review system for major developments and subdivisions of land. Exactly what constitutes a "development" or "subdivision" is subject to a rather large and involved set of definitions. However, generally, commercial and industrial projects on more than one acre of land; construction of 10 or more units of housing; subdivision of land into 6 or more lots; construction of a telecommunication tower over 20 feet in height; and development over 2,500 feet in elevation qualifies.

Prior to these activities being commenced, a permit must first be granted by the District Environmental Commission. In determining whether to grant a permit, the Commission shall evaluate the project in relation to ten specific review criteria. These criteria relate to the environmental, economic, and social impacts of the proposed project on the community and region. Parties to Act 250 proceedings include Granville, through the Planning Commission and Select Board, the State, and the Regional Commission. One criterion that needs to be addressed is whether the project is in conformance with the Granville Town Plan. If a project were determined not to be in conformance with the plan, the District Environmental Commission would have a basis to deny a permit. As such, Act 250 reviews can take into consideration protection of those types of resources considered important to the well-being of the community. Accordingly, it is in the interest of the Town to evaluate Act 250 projects affecting Granville and to offer testimony, as appropriate.

## **K. Guidelines for Growth**

The following guidelines are intended to help town officials, residents and developers work together to plan and design developments consistent with the goals and policies of this plan. These guidelines are suggested ways to implement the plan. They are not mandatory and are not intended to be strictly adhered to in every case. They are offered to give landowners and officials a common, but flexible framework for preparing plans and making decisions.

**Siting New Development** - New development should be sited to:

1. Be compatible with the historic settlement pattern;
2. Maintain functional integrity of deer wintering yards and wildlife corridors;
3. Be cost efficient for municipal services; and
4. Conserve the agricultural potential of primary agricultural soils by
  - a. Keeping primary agricultural soils available for agricultural production unless the only economically viable use of the land would be from incompatible uses.
  - b. Utilize creative planning and design to minimize the reduction of agricultural potential.

**Designing New Development** - Landowners should design and phase new development, particularly large residential development to:

1. Avoid overloading public facilities and services.
2. Be compatible with desired habitat condition and public outdoor recreation.
3. Take advantage of opportunities to enhance and/or restore habitats by establishing native vegetative diversity or provide other wildlife benefits.
4. Mitigate the effects of proposed actions on identified archeological sites.
5. Be compatible with the qualities that make historic areas, structures or sites significant.
6. Protect the community trail system from activities which would unduly compromise desired trail experiences and uses.
7. To promote the design, siting and construction of buildings and structures that are energy efficient and minimize the need for costly energy sources.
8. Incorporate the following visual elements:
  - a. Unobtrusive heights of buildings.
  - b. Vegetative screening.
  - c. Preservation of native vegetation.
  - d. Unobtrusive location of utilities; and
  - e. Minimal alterations to topography.