

Rochester Town Plan

Rochester Planning Commission
February 2020

The Rochester Town Plan was prepared by the Rochester Planning and Zoning Board with assistance from the Two Rivers-Ottawaquechee Regional Commission with partial funding through a Municipal Planning Grant from the Vermont Department of Housing and Community Development.

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I. Introduction

This Rochester Town Plan is a comprehensive document which replaces the 2018 Town Plan. It is required by state statute to be updated every eight years and is prepared in conformance with the provisions of Chapter 117 of the Vermont Municipal and Regional Planning and Development Act. The Town Plan provides a guide for the future of Rochester's natural and human environment.

Rochester is a small but vibrant community. Its thriving village center provides a strong cultural and commercial center for its residents. Development outside of the village center remains primarily residential in nature and is generally clustered around existing roads. It is sparsely organized, blending in with the landscape in such a fashion that it does not negatively impact the scenic quality of the community. Most town roads are dirt roads that are more appropriate for the types of traffic common to residential development than large-scale commercial development.

The rural nature of the community is a mix of forests, agricultural land, and valley floor, all of which create an aesthetically pleasing natural environment. The valley floor is rich in soil quality as well as open, scenic beauty. To the West, much of the land is unpopulated forest that is part of the Green Mountain National Forest.

A. Why Have a Plan?

The Town Plan provides the basis for the implementation and administration of the zoning bylaws and subdivision regulations. As such, it represents one element in the ongoing planning process, which must respond to changes within the community and to trends and factors which influence it from the outside. The Plan must serve to promote the health, safety and welfare of all the Town's residents. It also serves as a guide for development review within the Town. It provides a basis for funding initiatives and grant applications. Equally important it articulates planning goals and objectives and outlines steps for fulfilling them. The Plan, however, is only a document. It is the people of the community who will put the Plan into action, in striving to sustain and enhance the special quality of life we value and experience in Rochester.

A municipal plan is intended to act as a vision for the community. 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. Their lack of local control leaves them subject to decisions made at the state level that might not accurately reflect their vision. Rochester, like every town, has choices in the way it provides for orderly growth and in the way it balances growth with natural and built environments. Planning is done to meet the needs of the people who are here now and for those in the future.

The Plan includes a comprehensive analysis of Rochester's demographics, jobs, economy, schools, roads, housing, natural resources, and land use. This analysis of current conditions, in the context of goals for our community, leads to policies and recommendations that can help our community make wise choices and provide direction for the patterns of its future growth.

Here are some specific reasons to have a Town Plan:

- Guide for local regulations - State statute requires that all land use regulations (zoning, subdivision, etc.) must be consistent with the goals of the local plan. The municipal plan functions as the framework under which these regulations operate.
- A guide for community investments - 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 Selectboard for such things as community services, emergency services, recreation and municipal facility development, to name a few. It also serves to guide the decisions made by the Zoning Board of Adjustment when permits come before that board.
- Support for grant applications and planning studies - Many of the state-run grant programs available to Rochester consider whether 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 state sources as well.
- A guide for future development - The District Environmental Commission considers Town Plans during an Act 250 hearing under Criterion 10. The Plan should clearly define what is and is not appropriate in terms of development within the community.

B. Vision Statement

With input from the community, the Rochester Planning Commission has attempted to capture the eight-year vision for the future of Rochester in this document. This Plan describes a vision of a community that works together for the good of our town: where people respect and use the land sustainably; where forestry, agriculture, recreation, and small businesses live comfortably together; and where our resiliency is supported through planning.

C. Overall Goals and Policies

Goals

- Provide for the orderly growth of the Town of Rochester while protecting its unique setting, environmental integrity and scenic beauty.
- Protect the quality of the White River and its tributaries.
- Encourage the active and sustainable use of our agricultural and forest lands.
- Encourage business enterprises compatible with the character of Rochester that improves the economic base and provide employment opportunities.
- Maintain the Rochester Village area as a center for commercial activity for the Town.
- Preserve the character and historic setting of the Village Park.
- Establish procedures to coordinate with other town agencies and groups that affect Rochester, such as schools, parks, sewer, etc.
- Maintain public recreation facilities and encourage open space, both public and private.
- Consider long-term solutions to effective sewage and solid waste disposal needs.
- Encourage the development of alternative energy resources at an appropriate scale that fit with the character of the Town.

- Develop resiliency strategies to protect the citizens of Rochester, their homes and businesses, and public infrastructure from the damage that can occur during natural disasters, particularly in the Erosion Hazard Areas and in mapped flood plains.
- Support the health and wellness of community members.

Policies

- Maintain communication with the United States Forest Service concerning our mutual planning interests.
- Support our school system and public library, which are major factors in the building of a cohesive community.
- Consider the needs and capacities of emergency services.
- Ensure the Planning Commission welcomes continued input from the citizens and business community for ideas and expertise to assist in the performance of its duties.

II. Demographics

To get a real-time snapshot of the town it is important to have the most up-to-date data available. In the case of this Town Plan, we have used the most up-to-date data available from the US Census and American Community Survey, or more recent state-level data whenever possible.

A. Population

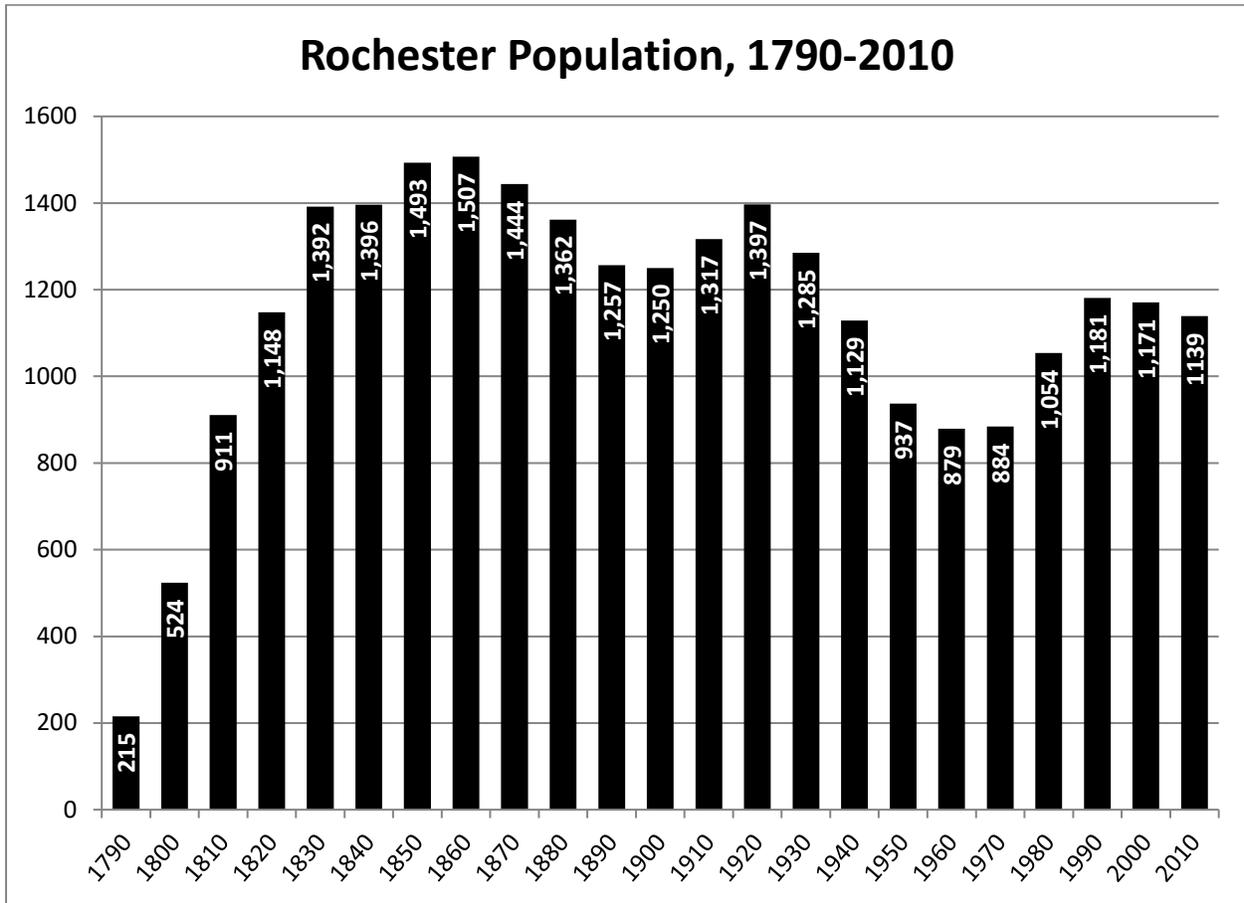


Figure 1 - Rochester Population, 1790-2010 (Source: US Census)

Population, when considered in terms of past, present, and future, represents an important factor in the overall development of our Town. Rapid and unanticipated population increases can compromise rural character, create a demand for new and expanded municipal services, and strain the financial ability of a town to provide public services economically.

When local populations are small, as in Rochester, land use and economic factors affecting migration rates are far more influential on short-term population changes than the more stable birth and death rates. For example, a single industry, subdivision or trailer park added to or subtracted from our community will more radically change Rochester's short-term population than the effect of our natural birth or death rate. Such an event, however, cannot be forecast in the standard demographic analysis, which is why population projections can only serve as a planning guide. During the twenty-year period from 1970-1990, Vermont saw population increases in most communities. Because of this trend, projections indicated a continued rise in population growth. However,

between 1990 and 2010, real changes in population have not matched projected increases, with many towns (including Rochester) losing population.

Population Change, Rochester and Surrounding Area				
	1970-1980	1980-1990	1990-2000	2000-2010
Bethel	1715	1866	1968	2030
	27.32%	8.80%	5.40%	3.15%
Granville	288	309	303	298
	12.90%	7.20%	-1.90%	-1.65%
Hancock	334	340	382	323
	18%	1.80%	12.30%	-15.40%
Pittsfield	396	389	427	546
	59%	-1.70%	9.70%	27.80%
Rochester	1054	1181	1171	1139
	19.20%	12%	-0.80%	-2.73%
Stockbridge	508	618	674	736
	30.00%	21.00%	9.00%	9.19%

Figure 2 - Population Change, Rochester and Surrounding Area (Source: US Census)

According to the US Census, Rochester’s year 2010 population numbered 1139 compared to a population of 1171 in 2000, resulting in a decrease in population of -2.73%. During the same ten-year period, Rochester’s neighbors to the North (Hancock and Granville) also lost population, while communities to the South and East gained. Windsor County overall reflected a slight loss of population (-1.3%).

Rochester’s population change over time is reflective of many communities in Vermont. During the mid to late 1800s many Vermont towns reached their peak population. A mass exodus as citizens moved south caused a steep drop that finally stopped during the 1970s. Throughout the 1980s and up to 2000, most communities experienced a steady influx of new residents.

Between 2000 and 2010, however, the trend reversed. As is the case in most of Vermont, the primary factor influencing population change is people moving into or out of Rochester rather than an unusually high rate of births or deaths.

B. Age of Population

In general, the age of Rochester's population is similar to that of Vermont, with much of our population over the age of 35. The number of residents in the 20-24 age-group in Rochester remains virtually the same (4%) between 2000 and 2010. In general, about 35%-45% of residents who are high school age leave Rochester and do not return while they are 20-24 years of age, most likely due to college and careers in other locations. It does appear that residents age 25-34 either return to or move to Rochester and many stay in Rochester (noted by the fact that the number of 25-34-year olds in 2000 remains virtually the same as 35-44-year olds in 2010).

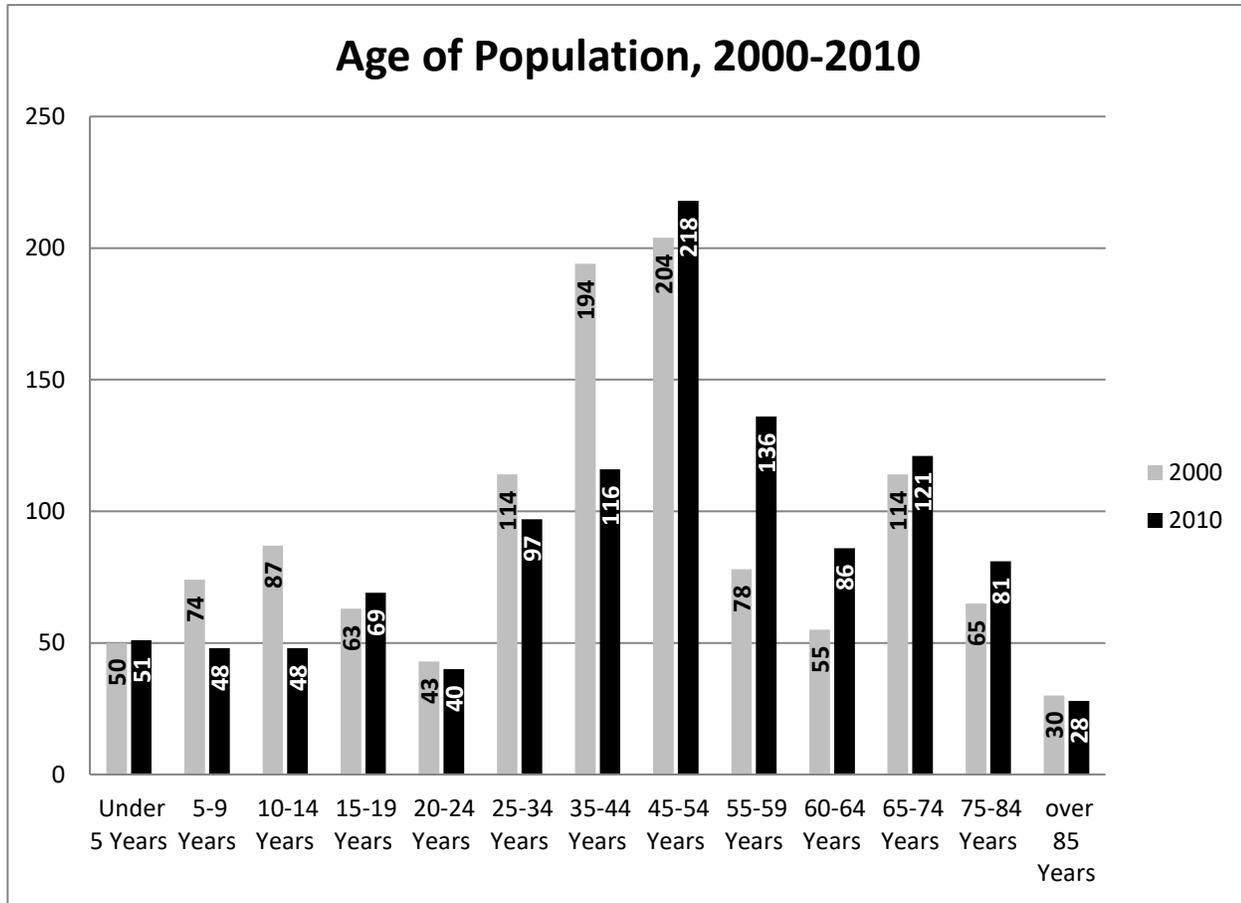


Figure 3 - Age of Population, 2000-2010 (Source: US Census)

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 by people of their age group, such as reliable high-speed 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.

However, it should be noted that 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, but it does not appear that the 25-35 age group is returning to Rochester.

In another trend that mirrors statewide trends, Rochester also has an aging population. In 2010, 20.2% of the population was over 65 years of age, which is a higher percentage than Windsor County (17.8%) and 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 in-migration of residents over 65, results in an aging population that will need services not readily available in a town like Rochester. The need for elder housing will increase as well as health care and associated services such as accessibility and transportation.

III.Housing

A. Introduction

Like many towns in the State, Rochester has seen a sharp increase in the cost of single family residences, driven primarily by the demands of the second home market. At the same time, much of the existing housing, which was built at a time when larger families required larger structures, has become increasingly difficult to properly heat and maintain. Both forces have called attention to the need for more affordable housing (at all socio-economic levels) and housing that needs to be updated in regards to size and energy efficiency.

For many years, it has been the Town's policy to encourage partition of existing structures into more than one living unit to preserve our rich heritage of 19th century architecture and to provide additional affordable housing units. Although the Town adopted density limitations, multi-family dwellings are permitted in all zones of the Town.

One of the most successful conversions of a historic structure in the Village was the renovation of the former Rochester Inn (originally the Pierce residence) into congregate housing for the elderly. With its location right next to the Rochester Park, it enhances the appearance of our "downtown" area and provides its residents with easy access to services.

A major function of local housing planning is to meet two community objectives - first, safe and affordable housing for its present and future population and second, suitable density and distribution of housing throughout the community. Growth in housing affects the Town's character and capacity to provide facilities and services.

B. Housing Units

The U.S. Census defines a "housing unit" to include: conventional houses, apartments, mobile homes, condominiums, and rooms for occupancy. According to Vermont Housing Data, Rochester has a total of 832 housing units. Like most of the towns throughout Vermont, the housing units in Rochester are predominantly single-family homes, with multi-family homes being a distant second.

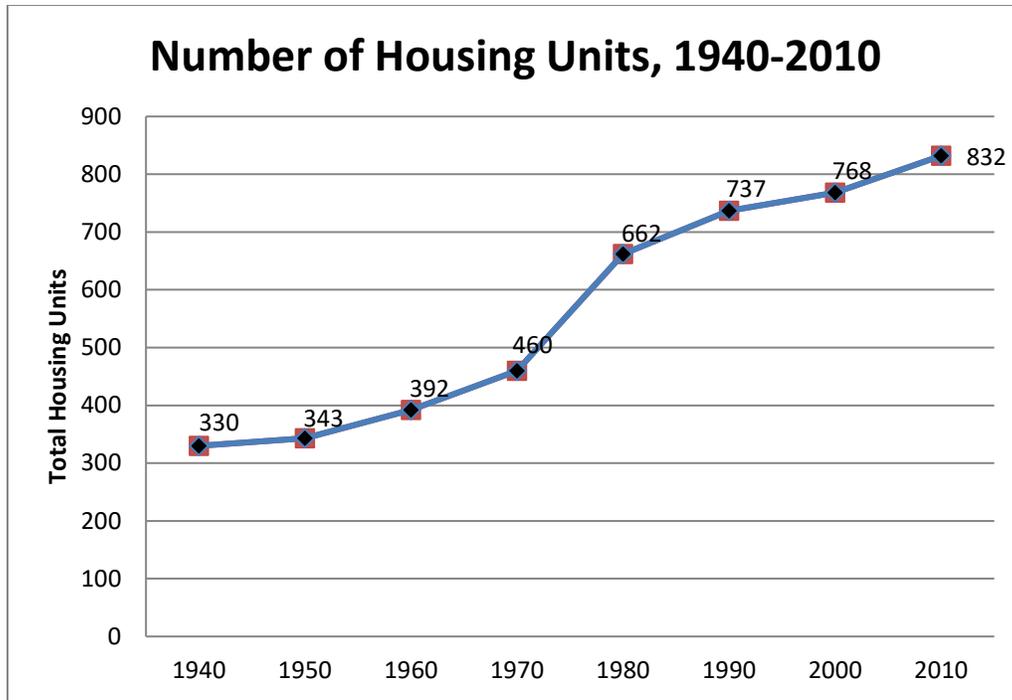


Figure 4- Number of Housing Units, 1940-2010 (Source: US Census)

As noted in Figure 5 (following page), 48% of the housing stock in Rochester is owner occupied. An additional 28% of the housing is dedicated to seasonal, recreational or occasional use (such as camps and second homes), making Rochester unique when compared to nearby Bethel (11%) or 21% in Windsor County and 15.6% in Vermont. Yet, when compared to its Quintown neighbors, such as Stockbridge (35%) and Hancock (23%) or Granville (34%), Rochester’s percentage of vacation homes is not out of the ordinary. The very nature of the Quintown area, with its distinct natural beauty and proximity to major ski areas like Killington and Sugarbush, makes it a desirable place to have a vacation home.

When a town has many homes that are not occupied year-round, it can have unforeseen impacts on town services. While second homes add to the tax base and part-time residents provide community support through commerce, volunteerism and philanthropy, it is important to consider the balance needed between primary and secondary residents in order to keep the town functioning. For example, communities that have a volunteer fire department depend on full-time residents to staff their fire departments; a lack of full-time residents can make acquiring staff difficult because the pool of candidates is reduced. This is also true for many positions in our largely volunteer town government.

The low percentage of homes that are currently unoccupied (6% - for sale or for rent) indicates that in 2010 Rochester was experiencing a shortage of available housing stock. Anything below 5% is functionally considered a zero.

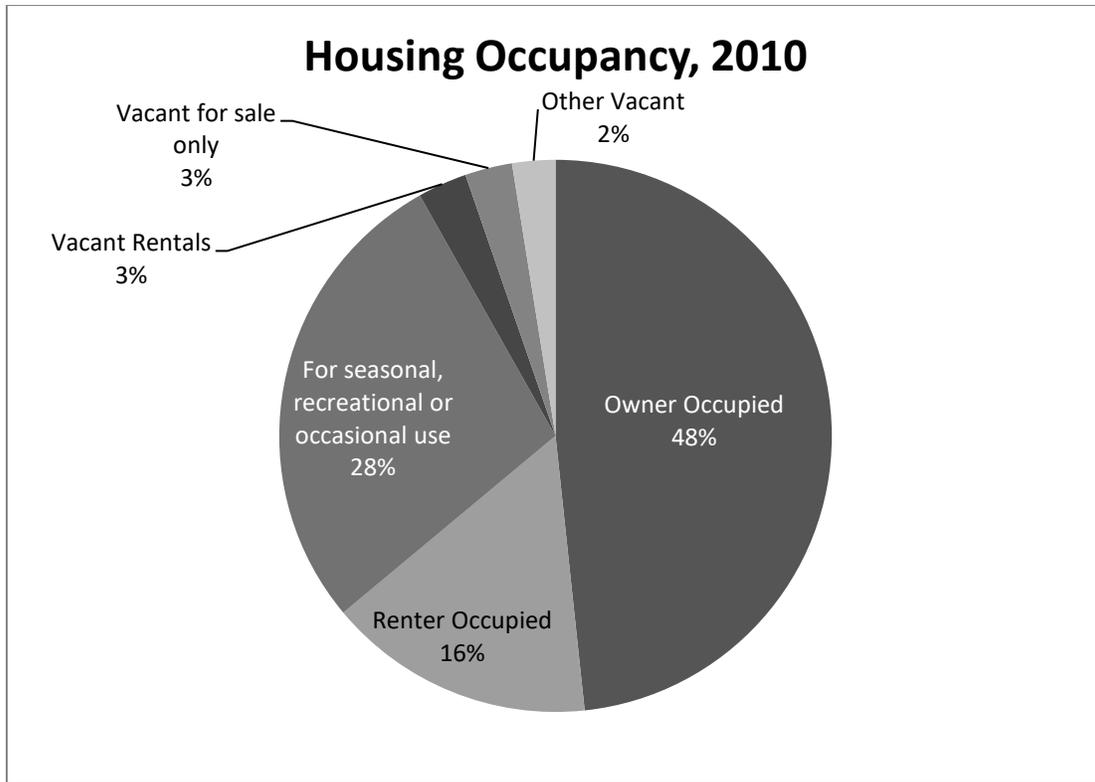


Figure 5- Housing Occupancy, 2010 (Source: US Census)

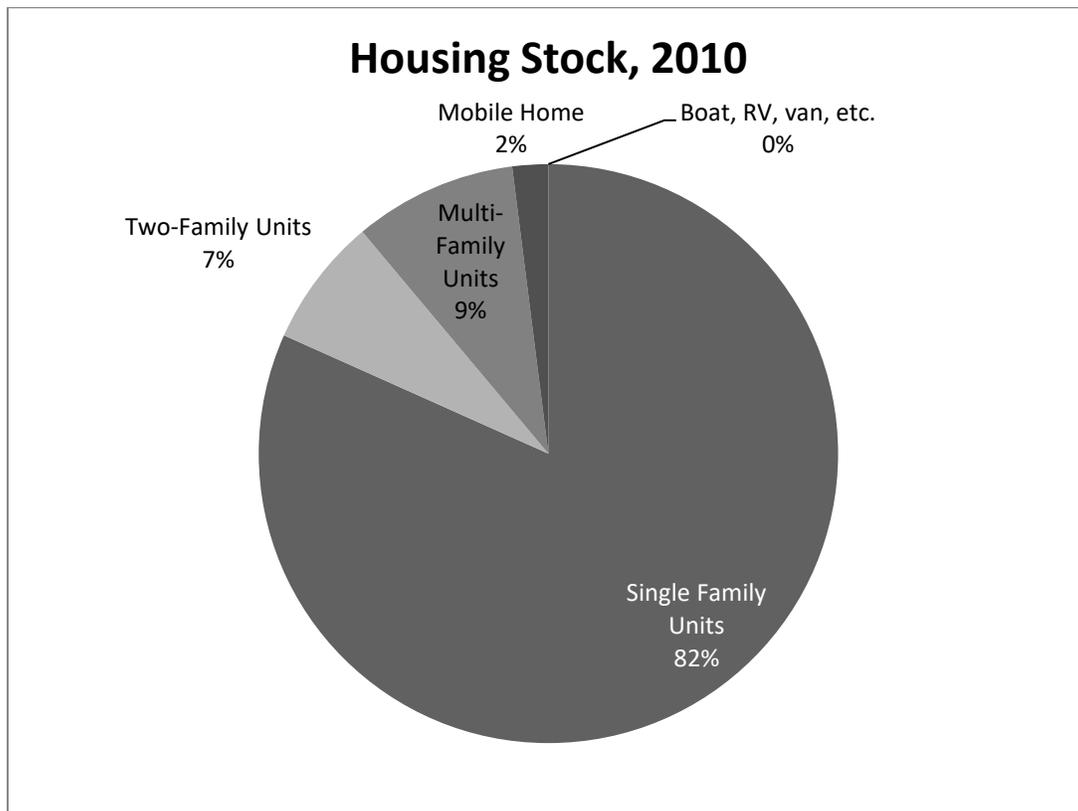


Figure 6 - Housing Stock, 2010 (Source: US Census)

A. Rental Housing

Only 19% of Rochester’s housing stock in 2010 was rental units. The tight housing market and lack of unoccupied apartments continue to drive up rental costs. In 2000 the US Agency of Housing and Urban Development (HUD) calculated the fair market rent for a modest two-bedroom apartment in Rochester at \$498 per month. In 2016, that cost had risen nearly 110% to \$1,097. For a renter in Rochester to be able to afford rent at this rate, he/she would have to make at least \$41,200 annually. Given that 54% of Rochester’s households made less than \$35,000¹ in 2016, it may be difficult to find affordable rental housing in Rochester.

B. Housing Affordability

Price of Primary Residences* in Rochester and Surrounding Area, 2011 and 2016						
	2011	2011	2011	2016	2016	2016
	# Sold	Average	Median	# Sold	Average	Median
Bethel	18	\$141,861	\$128,000	15	\$178,871	\$170,000
Braintree	22	\$206,000	\$105,000	9	\$197,611	\$155,000
Granville	3	\$111,147	\$125,000	2	\$126,500	\$126,500
Hancock	3	\$74,414	\$66,000	5	\$73,028	\$38,245
Pittsfield	3	\$173,667	\$175,000	2	\$197,500	\$197,500
Randolph	26	\$192,894	\$178,000	54	\$195,799	\$179,250
Rochester	6	\$153,833	\$155,000	12	\$257,333	\$170,750
Stockbridge	4	\$201,250	\$186,250	7	\$243,286	\$260,000

Figure 7- Value of Primary Residences Sold in Rochester & Surrounding Area, 2011 & 2016 (Source: VT Dept. of Taxes)

Affordable housing is defined as that which a household making the county's median income could afford if no more than 30% of its income were spent on housing costs. For homeowners, housing costs include mortgage payments, taxes, etc. For renters, housing costs include rent and utilities.

In Rochester, the average price of primary residences sold in 2011 was \$153,833 which is less than the Windsor County average of \$219,009 and the statewide average of \$223,496. This figure can fluctuate widely from year to year based on the number and types of homes sold. According to information collected via the American Community Survey (2012-2016), 45% of Rochester households were paying more than 30% of their income for their housing expenses.

When compared to surrounding communities, the apparent percentage of increase in home sale values between 2000 & 2011 is substantial; primary residences were roughly seventy-percent (70%) more expensive in 2011 than in 2000. However, the increase of home values in other communities such as Stockbridge (159%) was more substantial.

The median price of a home in Rochester in 2011 was only \$155,000. In its annual publication “Between a Rock and A Hard Place: Housing and Wages in Vermont”, the Vermont Housing Council notes that the median purchase price of a primary home in Vermont in 2011 reached \$195,000. A Vermont household would need an annual income of \$58,000 as well as \$16,000 in cash (for closing costs and a 5% down payment) to purchase a

¹ Source: VT Department of Labor, Vermont Personal Income Tax Return data for Rochester in 2010.

home at that price. The average value of annual home sales in Rochester peaked in 2007. Rochester and most neighboring towns have seen decreasing home sale values since then; this is primarily due to the mortgage crisis of 2008. While housing prices have decreased moderately in the last decade, income and employment opportunities have dramatically decreased, making housing even less affordable.

Rochester, like many communities, has experienced a trend toward fewer home occupants. This trend is unlikely to be reversed and will result in an increased demand for housing. The elderly, single-member households and other special populations are oftentimes in need of special types of housing, including that which is affordable and accessible. When surveyed by the Planning Commission in 2012, respondents were fairly split on whether Rochester should try to promote the development of affordable housing. Those who indicated that the town should support such efforts felt that the best way to do so was to work with a housing trust to encourage the development of low income housing.

Another barrier to affordable housing is the age of homes in Rochester. “Between a Rock and A Hard Place” points out that overall, “Vermont’s housing stock is among the oldest in the United States. 63% of owned homes and 74% of rentals in Vermont were built in 1979 or earlier, before newer energy efficiency technology was available; housing codes were laxer, and the use of lead based paint was wide-spread. These factors make an important impact on the cost of operating housing, assuring the health and safety of all residents, and providing access to Vermonters with different abilities.”

C. Elder Housing

Section B of Chapter II discussed Rochester’s trend toward an aging population. As the elderly (citizens aged 65 and 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 may need to enter a nursing home or a residential care facility. As is indicated in Figure 11, there are very few options in Rochester or the surrounding area for this type of care. Elderly Rochester residents in need of full-time care are forced to move away from their community. This is, of course, not just a local issue; there is a lack of elder housing throughout the State of Vermont.

The Vermont Department of Disabilities, Aging and Independent Living classifies residential care homes in two groups, depending upon the level of care they provide. Level III homes provide nursing overview, but not full-time nursing care. Level IV homes do not provide nursing overview or nursing care. Nursing homes, which have full time nursing care, are considered Level II. At present, there are no options for elderly care located in Rochester. The nearest options are in Randolph (Number of beds: 30 Level II, 18 Level III) and Hancock (Number of beds: 6 Level III). However, given the size of the populations in both Randolph and Hancock, it is likely that there are many people waiting for vacancies at these locations.

Locally, the Park House of Rochester offers a shared living residence, with no onsite medical care. Park House is equipped, primarily, to serve the needs of people over age 60. The facility, which is located on the park in the village center, has 17 rooms and offers independent family-style living. Residents have their own bedroom furnished with their own furniture and either a private or semi-private bathroom. Meals are served in the Park House’s dining room, and residents share common areas such as the living and dining rooms, front porch and grounds. Residents are encouraged to assist with the household and outdoor tasks as they are able. While an excellent resource for an active and independent elderly population, Park House does not fill the role of assisted living that is often needed as people age. As Rochester’s population continues to age, the need for such housing, both assisted and unassisted, will only increase.

In the Vermont Housing Finance Agency's issue paper "Housing and the Needs of Vermont's Aging Population", it is acknowledged that more seniors today want to "age in place," which means choosing to remain at home or in a supportive living community without having to move each time their needs increase. Having the right housing

fosters the ability to stay active and engaged in community life, which is a great benefit not only to the individual, but to the community.

Several municipalities have benefited from planned retirement communities which provide for older persons. Such land usages are best located near existing village centers where basic services are available rather than in outlying areas. The recently completed Morgan Orchards Senior Living Community in Randolph provides independent living apartments, assisted living facilities and end of life care. This facility, while not in Rochester, would serve the entire Central Vermont area.

To ensure that housing in Rochester does not become entirely unaffordable, it is important for the community to maintain diverse types of housing stock. A reasonable mix of single family (including mobile homes), multi-family and rental units is necessary to provide housing options for residents with varying income levels. When surveyed in 2012, 46% of residents indicated they felt there was sufficient diversity of housing in Rochester, while 21% did not (the remaining 32% were unsure). While this diversity is important, it is recognized that some types of housing are more appropriate in specific areas than others.

Survey responses made it clear that residents seek to maintain the land use pattern that Rochester has promoted for decades – denser development within the Village Center Area and more dispersed development outside of the Village Center Area. Residents indicated that apartments and housing for the elderly (independent or assisted) are more appropriate when located in the Village Center Area. This is good planning policy as many of the users of these types of housing (particularly independent elder housing) are less likely to drive and will benefit from being able to access community services and facilities by walking. Additionally, these dense residential developments benefit from being able to access town water and sewer.

D. Goals and Policies

Goals

1. Encourage suitable and affordable housing for all of Rochester's residents.
2. Encourage the conservation of existing structures, especially in the Village Area.
3. Provide for orderly growth in housing, considering neighboring uses and available services.
4. Encourage the creation of accessory dwelling units for providing additional housing for the community.
5. Protect existing and future housing from flood damage.
6. Encourage multi-family housing in Rochester.
7. Encourage safe and sanitary housing.

Policies

1. Ensure that the timing and rate of new housing construction or rehabilitation does not exceed the community's ability to provide adequate public facilities (e.g. schools and municipal services).
2. Encourage housing that is affordable for a mix of households having moderate, low, and very low incomes.
3. Work with businesses and non-profit housing corporations to help Rochester better meet the demands for affordable housing.
4. Encourage the provision of housing for special needs populations, such as the elderly and people with disabilities.
5. Plan the location of primary and vacation housing, related amenities and land uses with due regard to the physical limitations of the site and location of current or planned public and private services such as roads and commercial/service centers.
6. Encourage the development of appropriate multi-family housing in the Village.

IV. Current and Future Land Use

State statute requires that all municipal plans include a Land Use Plan. This Plan is intended to be a guide for municipal policies and regulations that relate to appropriate land use.

Rochester, with its location in the heart of the Green Mountains, has many areas which do not lend themselves to land development. Much of this land is characterized by steep slopes and shallow soils allowing little potential for development. However, there are areas in Rochester, like the valley corridor and less rugged hill sides, which are suitable for some development. Any new growth located outside the immediate village where town water and sewer services are available will likely utilize individual on-site systems of sewage disposal and individual wells for water. For this reason, the land's capacity for safely disposing of sewage and, more generally, its ability to support development have weighed heavily in determining the land use areas.

Thoughtful land use planning can help maintain Rochester's agricultural and forest land resources, its rural character, and the viability of its village area as a beautiful community center. Consideration of these and other factors, including but not limited to topography, soils, access, present water and sewer systems, existing land use problems, business needs, and housing opportunities, results in the land use pattern illustrated on the map entitled "Land Use".

Preservation of Agricultural Lands

Although the number of active farms has steadily declined in the past years, agriculture and forestry continue to exert a strong influence on Rochester's economy and the day-to-day life styles of many of its residents.

With the cost of transporting food and other products into the valley rising sharply, it would seem prudent for us to work toward a higher degree of self-sufficiency through protection and preservation of both existing farms and potentially suitable agricultural lands. A means to accomplish this is through the Use Value Appraisal Program, also known as Current Use. Started in 1980, it enables owners of bona fide farm and forest land parcels to apply to the State of Vermont for land assessment based on its current use for farming and forestry rather than its maximum value if subdivided and developed. This program eases the tax burden placed on farm and forest land owners, and hopefully, helps keep land from being subdivided and sold.

Development above 2,500 Feet

Land in Vermont above 2,500 feet in elevation is generally recognized as being part of a more fragile environment and natural ecosystem than land below this elevation. Land at this elevation is often characterized by steep slopes, shallow to bedrock soils and subtle changes in plant and animal species that have adapted to the more severe physical conditions that exist at this elevation. It is a fact that sudden and unchecked disturbances to the land surface in these areas can have a long-term damaging effect on the ecology of the mountain environment.

Susceptibility to erosion is high at these altitudes and recovery from the same is a slow process. Any activity proposed for these areas should respect these important physical qualities and not upset the delicate balance of nature.

There are several mountain peaks within Rochester that exceed 2,500 feet in elevation. Some of these are within the Green Mountain National Forest while others, like Braintree Ridge, are privately owned.

Cooperation with the U. S. Forest Service, GMNF

As managers of roughly 34% of the total land area in Rochester, the U.S. Forest Service (USFS), Green Mountain National Forest (GMNF) has a major influence on Town affairs. Logging activity on the Forest Service lands has a direct impact on the local economy. Recreation is another benefit of having the GMNF. Hiking, skiing, snowmobiling and hunting are only a few of the many activities enjoyed by both residents and non-residents alike.

The lands in the National Forest are subject to jurisdictional control of the U.S. Forest Service and managed under the Land and Resource Management Plan.

Planned Unit Development (PUD)

Making Planned Unit Development (PUD) a part of this Plan is intended to offer land developers an alternative to conventional land subdivision where every house is placed on a lot which must meet minimum area, frontage, and setback requirements.

PUD is a development style which allows flexibility in site plan design in which a modification of the zoning regulations is permitted by the Planning Commission. Residences may need to be clustered together within a PUD and valuable open space preserved, but in no case can the overall density of the project exceed the number of units that would be permissible if conventionally subdivided.

The advantages of PUD are that it provides for a more economic arrangement of streets and utilities, helps preserve the natural and scenic qualities of open land, and provides for the development of those lands which are most able to support building. A PUD may also offer a variety of housing types and varying densities

A. Overall Land Use Goals, Policies, and Recommendations

Policies

1. Encourage the preservation of historic buildings and sites wherever possible.
2. Encourage developers to utilize cluster planning principles to minimize any adverse impacts on agricultural and forest lands.
3. Discourage development of lands about 2,500 feet in elevation.
4. Maintain regulations which allow a developer increased density for siting structures along the edge of tillable and high forested areas.

Recommendations

1. Continue to work cooperatively with the United States Forest Service on planning and decision making on land use within the Green Mountain National Forest.
2. Ensure that Rochester zoning regulations is consistent with state law regarding the regulation of agricultural structures.

B. Section 248a –Telecommunications Facilities

Telecommunications facilities are subject to review and approval by the Vermont Public Utilities Commission (PUC) under 30 VSA §248a. Under these laws, prior to the construction of a generation or telecommunications facility (that is part of a network), the Board must issue a Certificate of Public Good. A Section 248a review addresses environmental, economic, and social impacts associated with a project, like Act 250. In making its determination, the Board must give due consideration or substantial deference to the recommendations of municipal and regional planning commissions and their respective plans similar to the Act 250 process. Accordingly, it is appropriate that this Plan address these land uses and provide guidance to town officials, regulators, and utilities.

For all telecommunications facilities, the following policies shall apply:

1. **Preferred Locations:** New telecommunications facilities shall be sited and designed in locations that reinforce the town’s traditional patterns of growth, of Rochester’s compact village center surrounded by a rural countryside, including farm and forest land.

2. **Prohibited Locations:** Because of their distinctive natural, historic or scenic value, telecommunication facility development shall be excluded from the following areas:
 - Floodways shown on FEMA Flood Insurance Rate Maps (except as required for hydro facilities)
 - Fluvial erosion hazard areas shown on Fluvial Erosion Hazard Area maps (except as required for hydro facilities)
 - Wetlands as indicated on Vermont State Wetlands Inventory maps or identified through site analysis.
 - Rare, threatened or endangered species habitat or communities.
3. **Significant Areas:** All new telecommunications facilities shall be sited and designed to avoid or, if no other reasonable alternative exists, to otherwise minimize or mitigate adverse impacts to the following:
 - Historic districts, landmarks, sites and structures listed, or eligible for listing, on state or national registers.
 - Public parks and recreation areas, including state and municipal parks, forests and trail networks.
 - State or federally designated scenic byways, and municipally designated scenic roads and viewsheds.
 - Special flood hazard areas identified by National Flood Insurance Program maps (except as required for hydro facilities)
 - Public and private drinking water supplies, including mapped source protection areas.
4. **Zoning Compliance:** New telecommunications facilities shall be sited in accordance with municipal zoning regulations.
5. **Natural Resource Protection:** New telecommunications facilities must be sited to avoid the fragmentation of, and undue adverse impacts to the town's working landscape, including large tracts of undeveloped forestland, open farm land, and primary agricultural soils mapped by the US Natural Resource Conservation Service.
6. **Protection of Wildlife:** Designers must gather information about natural and wildlife habitats that exist in the project area and take measures to avoid any undue adverse impact on these resources. Consideration shall be given to the effects of the project on: rare, threatened, and endangered species; the impacts of human activities at or near habitat areas; and any loss of vegetative cover or food sources for critical habitats for rare, threatened or endangered species.
7. **Site Selection:** Site review should not be limited to the telecommunications facilities; other elements required of the facility need to be considered as well. These include access roads, site clearing, onsite power lines, substations, lighting, and off-site power lines. Development of these elements shall be done in such a way as to minimize any negative impacts. Unnecessary site clearing, and highly visible roadways can have greater visual impacts than the telecommunication facility itself. In planning for facilities, designers should take steps to mitigate their impact on natural, scenic and historic resources and improve the harmony with their surroundings.

When surveyed in 2012, residents were very supportive of increasing cell coverage throughout the community depending on the location of the proposed telecommunications towers. Residents indicated that Deer Mountain, Alexander Hill and Mount Reeder would be the most acceptable locations for a telecommunications tower, while Mount Cushman, Rochester Mountain and Austin Hill would be the least. Developers should locate telecommunications towers accordingly.

C. Land Use Areas

In order to meet the goals and objectives of the residents of Rochester as outlined in this Plan, the land area of the Town of Rochester has been divided into the following five land use areas:

Business Residential Area

This land use area comprises the Village as well as some of the adjacent areas. Rochester Village has historically been a closely knit residential and small business community. Such a pattern of future development will help support the viability of the town center, prevent strip development and assist in maintaining Rochester's current small-town character.

Density of development should be highest here, depending on the availability of water and sewer, off-street parking, open space, and compatibility with surrounding land uses. One half acre per principal building is appropriate based on existing lot sizes of the village area. The Business-Residential area should be the location for a broad mix of uses including civic, commercial (including primary retail), higher-density residential, light industrial, and professional services.

Goal

1. Encourage new residences and business to locate in or adjacent to the village.

Policies

1. Ensure new growth or intensification of existing land uses does not have a damaging effect on the qualities that now make the village an attractive place to live or do business.
2. Ensure growth and density of development does not exceed the town's capacity to provide services, particularly sewage disposal.
3. Discourage strip development because it does not align with the vision set forth in this Plan.
4. Maintain the minimum area requirement as a means of controlling the density and spacing of structures.

Commercial – Agricultural Area

The purpose of this zone is to provide a location for future commercial development that would serve to complement existing business already well-established in the village area. The location near the intersection of Route 100 and 73 with its proximity to the village center makes this area most favorable for expansion of business interests, provided that these businesses do not negatively impact the health of the Village Center Area. Because of the perceived need for increased business areas, this zone has been expanded to also include the valley floor north of the business-residential zone.

Proper site planning, screening and control of access and egress points will be necessary to protect public safety and preserve the beauty of the area. Much of the land within this area is within the Flood Hazard Overlay Area.

The types of commercial development that are appropriate for this area include services related to agriculture, small hotels or bed and breakfasts, non-retail studios and workshops, professional offices, light industrial, outdoor recreation, and wholesale or service establishments. Businesses in this area may have a retail component, but only if it is clearly secondary to the primary use of the building. For example, a veterinarian's office may sell pet food and pet products, but its primary use is to provide health services to animals. Both residential and agricultural uses are also compatible with the purpose of this land use area.

Recommendations

1. Establish minimum area dimensional requirements including setbacks to avoid any strip or cluttered appearance at the intersection of the Town's two main arteries and along the southern and northern entrances to the village.

2. Maintain the one acre minimum lot size and establish a maximum building footprint not to exceed 3,000 square feet.

Agricultural – Residential Area

This zone covers the river valley in two separate areas. Agriculture and residential development are to be the major types of development in this area. The contrast between these open, undeveloped areas and the more built-up hamlet area is what helps maintain the character and identity of a small New England village.

Parts of this area are located within the Flood Hazard Overlay Area and development within the Overlay is subject to Rochester's Floodplain Bylaw. Non-residential uses that are appropriate in this area include non-retail studios or workshops and outdoor recreational facilities. A minimum lot size of two acres is required.

Policies

1. Encourage clustered housing and shared driveways are for new residential development.
2. Encourage home occupations (home businesses and work at home businesses).

Aquifer Recharge Area

To protect the quality of the public water supply serving Rochester Village, the 13 acres surrounding the Town well south of the village have been designated as the Aquifer Recharge Area. These are the lands whose surface and ground water serve to recharge the well that provides the village with its municipal water supply.

Policy

1. Agricultural and outdoor recreational uses shall be the only allowable use provided they do not require the construction of sub-surface sewage systems.

Residential – Conservation Area

Any land not covered by one of the other four land use areas listed above falls within this category. From a physical standpoint these lands exhibit the least potential for supporting high density development since most of the land is characterized by steep slopes, shallow and fragile soils, high elevations and remote locations. An estimated 13,104 +/- acres within this zone are publicly owned or part of the Green Mountain National Forest. Uses compatible with the purposes of this land use area include: agriculture, forestry, recreation and properly sited residential development.

Policies

1. Consider soil suitability in determining lot sizes and home placement.
2. Encourage house sites that take into consideration elements such as grade, screening, access and energy conservation.
3. Discourage development of lands above 2,500 in elevation.
4. Maintain a minimum three acre lot size.

Flood Hazard Overlay Area

This area contains those lands which are considered subject to flood hazard as described and designated by the Federal Emergency Management Agency on Rochester's Flood Hazard Boundary Map. This map was issued in 2006 and serves as the official map. For Rochester 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 Flood Resilience chapter of this Plan. The boundaries on the Flood Hazard Boundary Map represent the 100-year base flood or the flood level having a one percent chance of being equaled or exceeded in any given year. For more detail about floodplains, refer to the Flood Resilience chapter of this Plan.

Rochester's Flood Hazard Regulations have been designed to meet 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). New development within the floodway is prohibited. Within the 100-year flood plain, uses allowed require a conditional use permit; uses include single and multi-family residences, utilities, public buildings, quarries and home industries to name a few.

When surveyed in 2012 nearly 60% of responders felt that the Planning Commission should revise the Rochester Zoning Bylaw to prohibit all new development in the Special Flood Hazard Area. The severe damages and complete loss of homes caused by Tropical Storm Irene in 2011 highlighted the need for Rochester to reevaluate the requirements of the Flood Hazard Area, both in terms of uses allowed and in terms of the area designated as Flood Hazard Area. Much of the flood damage from Irene occurred in locations outside the mapped flood hazard area. Because FEMA mapped floodplains are not as accurate as the community would like, alternative ways of interpreting the flood hazard area, including improved maps or expanded stream buffers need to be considered in the future.

The Planning Commission has analyzed existing map data and has determined that the area designated as 100-year floodplain touches a limited number of parcels in Rochester. Appropriate uses for this area would be agriculture, forestry and recreation.

Policies

1. Avoid and minimize the loss of life and property, the disruption of commerce, the depletion of the tax base, and the extraordinary public expenditures and demands on public services that result from flooding related inundation and erosion.
2. 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 function, or the stream corridor.
3. 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 Rochester, its citizens, and businesses eligible for federal flood insurance, federal disaster recovery funds, and hazard mitigation funds as may be available.
4. Prohibit all new development in the 100-year floodplain.
5. Allow the development of small out-buildings or similar structures provided they are properly flood-proofed and meet the thresholds required by the National Flood Insurance Program for flood hazard regulation.
6. Allow renovations to existing structures unless the proposed renovations expanded the footprint of the existing building by more than 10% or exceed substantial improvement thresholds required by the National Flood Insurance Program for flood hazard regulation.

V. Education

A. Educational Facilities

Rochester has its own Elementary School. Grades K – 6. The school also has a preschool which includes an early essential education program. There are two buildings – the elementary school and the middle and high school. A combination gym and cafeteria with a commercial sized kitchen provides a breakfast and hot lunch program to the entire student body. The middle and high school building includes an auditorium and music room that serves all grades.

At the close of the 2017-2018 school year, the Rochester Middle and High School closed due to declining enrollment. High school and middle school students now have school choice. The elementary school consolidated with Stockbridge under Act 46; each town will maintain its own campus and share resources as appropriate.

Behind the school is a Little League baseball field, bicycle pump track and skating rink and the nearby Town recreation field contains softball and baseball fields, tennis courts and soccer fields.

A. Student Enrollment

Declining enrollments in public schools have been a state-wide trend. An increasing diversity in the needs and interests of students and their families and higher expectations for public education are all contributing to more conversations about how small communities are educating their children while managing the associated costs.

School Year	Enrollment
2017-2018	90
2016-2017	98
2015-2016	95
2014-2015	111

Table 1: Rochester School Enrollment | Vermont Department of Education

Enrollments in the Rochester School System are reported annually to the Vermont Department of Education. Based upon annual student counts from the Department, average daily membership (ADM) at the school for grades (K-12) has shown a continued decline over the past four years.

The Rochester School has actually been experiencing a steady decline in student enrollment since the early 2000s, with the 2004 school year having had 250 students. This decline led to the decision to close the high school and middle school.

B. Childcare

An inventory of registered childcare facilities reveals that Rochester has limited resources available. 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

Childcare Providers by Town (2018)		
	Registered	Licensed
Bethel	1	2
Braintree	1	0
Randolph	2	5
Rochester	0	2
Stockbridge	1	2

Table 2: Childcare providers by type, by town 2018 (Source: VT

Industry's Fire Safety Inspectors and must obtain a Water and Wastewater Disposal Permit from the Agency 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 only two licensed childcare services in Rochester, both associated with Rochester School (WNWSU Early Ed Program-Rochester & Ex.C.E.L. Rochester). Most residents currently arrange for care with relatives and neighbors or utilize childcare facilities out of town.

It is important to note that there are in-home childcare providers that are not registered with the state. These are usually more affordable than licensed and registered facilities.

C. Adult and Continuing Education

Rochester does not host adult and continuing education facilities, therefore adult residents must seek their educational opportunities elsewhere. Vermont Technical College, located in Randolph, is the nearest institution for higher education, followed by Middlebury College in Middlebury and a branch of the Community College of Vermont in Rutland. There are many other colleges and higher education institutions throughout Vermont and in neighboring states. Another opportunity is Bethel University in Bethel, Vermont. This is a pop-up “Community University” that takes place every March offering a variety of free classes. These courses are not accredited.

Students may also attend college or take classes online; this may be more feasible because of driving distances. Residents who wish to seek their GED may do so at the Vermont Adult Learning center in Rutland. The center also provides services that include; work readiness, English language learning, college transition training, and basic skills such as math, computers, and reading².

D. Goals and Policies

Goals

1. Provide a safe and secure learning environment where quality public educational opportunities are provided to all students.
2. Provide the best educational opportunities to our students in the most cost effective manner.
3. Encourage the creation of affordable childcare facilities that meet the needs of residents in Rochester.
4. Encourage the use or repurpose of the middle and high school building as an educational and/or economic asset to the community.

Policies

1. Support efforts to keep the Rochester Elementary School open.
2. Support the development of additional facilities to meet the childcare needs of its residents.
3. Ensure that Rochester zoning regulations continue to support increasing childcare capacity.

² <http://www.vtadultlearning.org/services/>

VI. Economic Development

A. Income Statistics

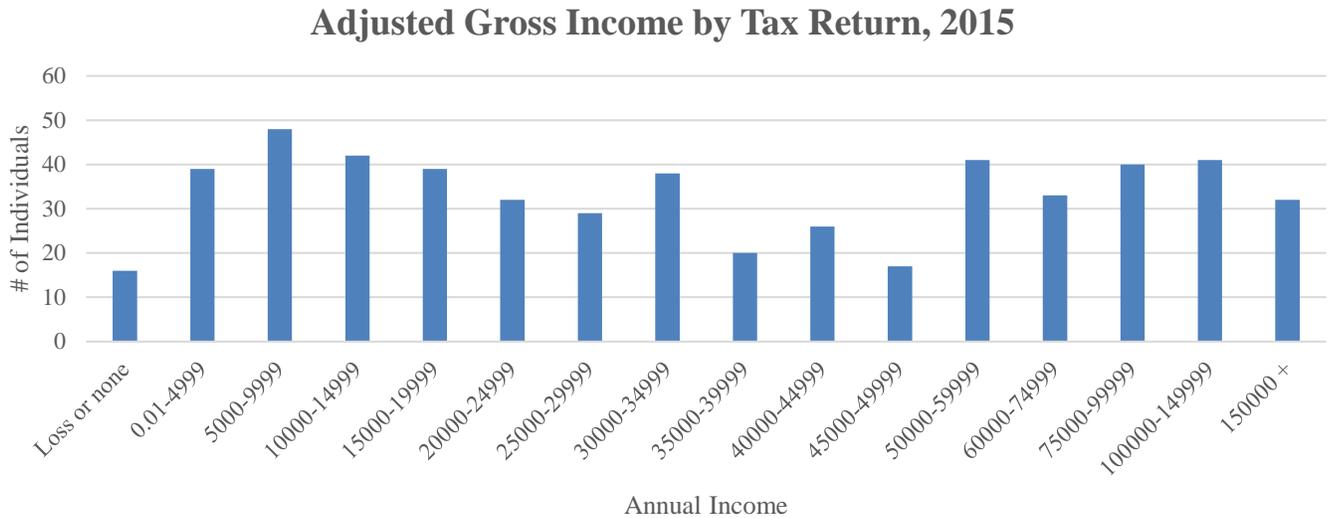


Figure 1: Adjusted Gross Income by Tax Return, 2015 (Source: VT Dept. of Taxes)

The Vermont Department of Taxes annually publishes Vermont Tax Statistics, which includes a summary of personal income tax returns filed with the State. In 2015, five hundred thirty-three (533) income tax returns were filed in Rochester. Rochester residents have a median income of \$32,627. When income data for 6 of Rochester’s neighboring communities is analyzed, Rochester is in the middle of the income scale with the third lowest median income.

According to the Vermont Department of Taxes, Rochester’s median adjusted gross income per tax filer in 2011 was \$27,798.

In the 2017 American Community Survey 5-Year Estimates, 77% of the total household income generated in Rochester was by filers earning \$35,000 or more and 22.7% were earning less than \$35,000.

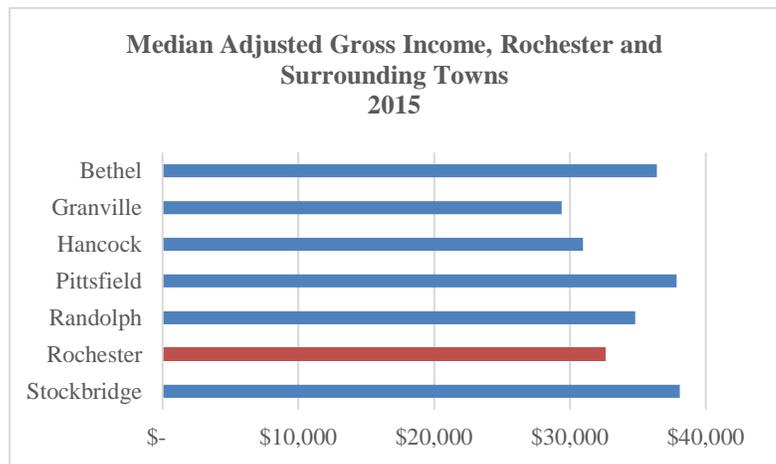


Figure 2: Median AGI, Rochester & Surrounding Towns, 2015 (Source: Vt Dept. of Taxes)

B. Occupations in Rochester

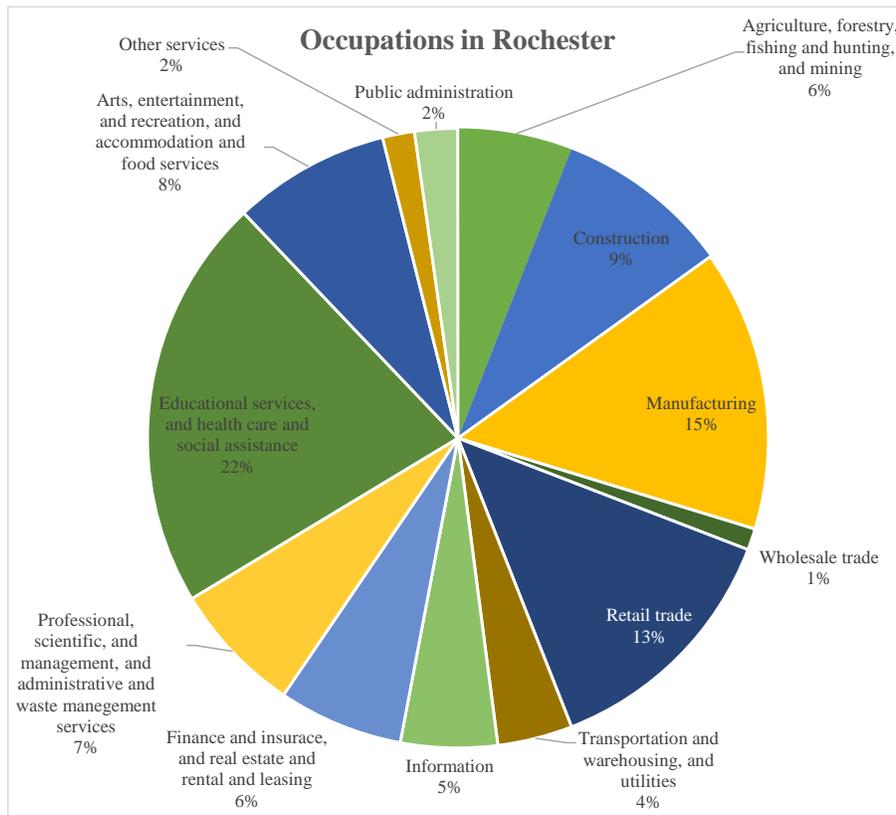


Figure 8: Occupations in Rochester (Source: 2017 American Community Survey 5-Year Estimates)

To some extent, Rochester serves as a hub for employment and services within the Quintown area (which includes the Route 100 Towns of Granville, Hancock, Rochester, Stockbridge and Pittsfield). Most residents utilize services in larger towns such as Randolph and the nearest city of Rutland.

Many residents commute to work, but according to the 2010 U.S. Census over 60% of those who do commute reported their driving time as 20 minutes or less, which indicates that residents are working either in Rochester or one of its immediate neighbors. The most likely locations for work within 20 minutes driving time are Hancock, Randolph and Bethel. It should be noted that 38% of Rochester’s residents work in town. Available data does not reflect employment changes since the closing of the Rochester middle and high schools.

C. Present Day Economy

Rochester has always been a community of independent means. In the early years, agriculture, forestry, mills and mining were the primary sources of industry in the Town. The small village, located on the valley floor of the White River, served as the commercial center of the Town with small businesses servicing the needs of the people. Thirteen one-room schools educated the children of large homestead families. Then in the 1950's, an elementary school was built in the village, increasing the daily traffic and activity there.

The rate of new home construction is slow. Because of this, land values and taxes have continually risen. Many citizens commute to surrounding towns for employment including Randolph, Rutland and Middlebury.

Many construction businesses (carpentry, electrical, plumbing, excavation) serve the needs of Rochester citizens and the surrounding areas. There are several light manufacturing facilities located outside of the village. Agriculture, forestry and mining are lesser economic factors, although there are a growing number of small farms. One dairy farm remains along with two beef cattle operations. Timber management takes place in the National Forest and on private property. The rare Verde Antique marble is quarried in North Hollow.

The State of Vermont owns 629+ acres in the Town. The U.S. Forest Service lands comprise a total of 12,394 (May 2006) acres, or about 34% of the land area in Rochester. These agencies and others have worked to promote Rochester as a recreational use area. The Rochester-Randolph Area Sports Trail Alliance (RASTA) is a local group creating recreational multi-use trail opportunities. Campgrounds, nature trails, snowmobile and biking trails, the mountains and rivers attract people to the area year-round.

Several lodging options are available in Rochester, include Bed & Breakfasts and AirBnB's. Sugarbush and Killington ski areas are approximately thirty miles north and south of Rochester respectively.

Currently, Rochester has more self-employment and small businesses per capita than most communities its size. In the past several years, there has been a small boom in service establishments, including a bakery, art gallery, coffee house, bookstore and restaurant.

In 2005, Rochester's village was granted "village center designation" by the Vermont Downtown Board. This allows businesses within the village to take advantage of State income tax credits for such revitalization and improvement efforts including the substantial rehabilitation of historic structures, code improvements and handicapped accessibility upgrades. Rochester has continued with this designation.

D. Future Economic Development

Rochester offers residents and visitors a unique combination of rural character and prospering commerce. Historically, there has been a balance between the two. In order to continue to support this healthy balance, land use policies must consider the relationship between Rochester's aesthetic character and the need for goods and services.

Business development is important to the community. However, residents value the rural character of the Town. Therefore, the types of businesses that Rochester should encourage are those that will exist in harmony with the character of the village and Town. Businesses such as Inner Traditions, Advanced Illuminations and LCS Controls are examples of appropriate businesses for Rochester. In the more rural parts of Town, small-scale agricultural operations, bed and breakfasts and home occupations continue to allow the Town to maintain its unique rural character. With the desire to create new businesses in the village, the town needs to be prepared to face infrastructure challenges such as water and sewage hookups and parking issues.

The pattern of economic development in Rochester should remain as it has historically been, with the bulk of the community's mixed commercial development located within the Village (Business-Residential Area). As stated in the Land Use section of this Town Plan, some business development is encouraged outside the village area along the Route 100 corridor; businesses that locate outside the village could include secondary retail, light industrial, professional offices, small service establishments and home businesses based on their proximity to town services. The farther away from town roads and services, the lighter the type of commercial development should be.

E. Village Designation

Village Designation Benefits Because of its participation in the Vermont Village Designation Program, Rochester's Village has 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.
- 50% Technology Tax Credits – Available for up to \$30,000 for installation or improvements made to data and network installations, and HVAC reasonably related to data or network improvements.
- Priority Consideration for various ACCD, VTrans and ANR grants and incentives including, ACCD's Municipal Planning Grants, State Historic Preservation grants, Vermont Community Development Program (VCDP) grants, VTrans Bike/Ped and Transportation Alternatives grants, Northern Border Regional Commission Grants, ANR Water and Wastewater subsidies and loans, and various other state grants and resources.
- 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.

Participation in the Vermont Village Designation Program provides benefits to businesses located within the designated boundary. This program offers tax credits for the revitalization of buildings within designated areas, which is beneficial to existing commercial landowners within the designated area and the designated village receives priority consideration for some state grants (see text box for a list of the benefits). The residents of Rochester recognize the economic importance of their Village Center; therefore, to continue access to these benefits for the commercial landowners and the village, it is the intention of the Town to continue to participate in the Village Designation program. Being a designated village supports the traditional Vermont development pattern of a compact village center surrounded by rural countryside, as well as the Town Plan's goals of continuing to support historical economic and land use patterns of Rochester itself.

F. Goals, Policies and Recommendations

Goals

1. Encourage a strong and diverse local economy that provides satisfying and rewarding employment opportunities for residents while maintaining the community's rural character.
2. Strengthen and maintain the town's agricultural, forest and recreational economies and ensure continuance of village and rural character.

Policies

1. Cooperate with neighboring towns, regional planning commissions and economic development groups to plan for and maintain a balance between
 - a. The type of jobs created.
 - b. The number of jobs created.
 - c. The population growth in the area.
2. Support the development of local enterprises that create markets for locally produced goods, recreational uses and services.
3. Encourage new business development in appropriate locations where services such as roads, fire protection and power supply are available or planned.
4. Support creation of regional economies that do not place unreasonable financial burdens on the taxpayers of Rochester to support those economies.

5. Attract diverse and sustainable businesses to Rochester which would provide jobs and contribute to the small-town quality of life.
6. Maintain reasonable zoning standards to enable home occupations and home businesses to be developed.
7. Primary retail development shall be in designated Village Area.
8. Prohibit development that has the effect of creating sprawl.

Recommendations

1. Investigate options for increasing the amount of available parking.
2. Renew Rochester's village designation when it expires in 2023.
3. The Selectboard should consider establishing an Economic Development Committee to implement the Plan's Economic Development goals, policies and recommendations.

VII. Transportation

Land use, energy, and transportation are related. Land use, both within and outside Rochester'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 can increase transportation costs and the tax rate. 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 2 highways are the major connectors linking villages with each other and with state highways. They also receive a higher rate of State aid than Class 3 highways.

Twenty-one percent (21%) of Rochester's roads are Class 2.

Class 3 highways are other town roads that are maintained in a manner enabling them to be driven under normal conditions in all seasons by a standard car.

11% of Rochester's highways are Class 4. Class 4 highways are generally in poor condition and are limited in maintenance due to their relative low level of use or seasonal nature. No state aid is available for work on Class 4 highways. While not suited for regular traffic, Class 4 roads do represent an 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, cross country skiing, walking, hunting, horseback riding and other outdoor recreation.

Apart from education costs, public roads have been and will continue to be Rochester'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 governments each pays a percentage of project costs and the Town pays the remainder. This funding applies only to Class 1-3 roads. Any maintenance of Class 4 roads is funded exclusively by the Town. 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% cheaper than larger reconstruction work after significant deterioration has occurred. Such a program should be a part of a maintenance program.

Replacing deficient culverts and bridges carries the greatest potential for addressing water quality and flood resilience—by designing appropriately scaled structures that can handle flood events and stormwater runoff, promote fish passage, and minimize the discharge of road sediment. These upgraded culverts and bridges will also be less likely to fail during storm events.

B. Class 4 Roads & Trails

Miles of Roads in Rochester	
Class 1	0
Class 2	12.24
Class 3	38.78
Class 4	6.61
Total Town Roads	57.63

Figure 1: Miles of roads in Rochester
(Source: Vtrans)

Class 4 roads and trails primarily offer access to Town and conservation resources and provide unique insights into an agrarian landscape that has since been long abandoned. Many Class 4 roads have been incorporated into the natural landscape and very little development has occurred along these roads. The Town does not plow these roads during the winter. Public utility services or other municipal infrastructure that typically accompany roads are nearly nonexistent. Often these roads are scenic travel corridors for hikers and bicyclists and provide limited access to hunting and conservation lands.

The Town also has 6.6 miles of legal trails. Trails are used exclusively for recreational purposes and are not intended for vehicle access; therefore, they are not maintained.

C. Road Standards

The Town currently uses highway rules and regulations based on state standards that were adopted by the Selectboard in 2013. This policy details road construction standards and policies for road classifications, rights-of-way, access, road acceptance, and numerous other construction and maintenance related activities. The responsibility of ordinance compliance rests with the Selectboard and the Rochester Road crew. Since local and state road construction follows State of Vermont design standards, private roads should be constructed to those standards, thereby minimizing changes if the road is accepted by the Town later.

D. Access Management

According to the VTrans definition, access management is a process that provides or manages access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity needs, and speed. Access management is an important process to provide reasonable accessibility to adjacent land uses while maintaining a safe and efficient flow of traffic. Transportation professionals have established that a single, well-designed access to a public highway presents few concerns for the traveling public. However, if access has been poorly designed and/or its frequency increases, the road's health declines proportionally. The result is increased traffic congestion, crash rates, and road maintenance obligations to handle surface water improperly channeled to the road surface or shoulders. Ironically, these factors eventually compromise access to all land uses along the affected roadway. In many instances, towns are forced into costly highway expansion projects.

Developers must get a permit from the Town to access Town roads, but there are no formal criteria for design of these access points. 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 to preserve or create road segments with as few accesses as possible;
- Support approval of 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 Rochester. The rural nature of most of Rochester's roads makes bike/ped travel outside of the village's system of sidewalks 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, low visibility curves, speed and a lack of available shoulders.

Rochester has 6.8 miles of legal trails, all of which can be used by the public for hiking. Additional recreational opportunities can be found using trails maintained by the Green Mountain National Forest, Vermont Association of Snow Travelers (VAST) and Rochester Randolph Area Sports Trail Alliance (RASTA).

Public Transportation

Rochester, like most Vermont towns, has limited public transportation. Stagecoach, Inc. offers one daily weekday roundtrip to the Hartford, VT/Lebanon, NH area, with a stop in Sharon for students attending The Sharon Academy. Stagecoach also has weekly transportation from Hancock to Randolph (stopping in Rochester), and monthly transportation to West Lebanon, NH. Additionally, limited public transportation in the form of special requests for individuals who need transportation for medical reasons, etc. is available. Rochester 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. This is especially helpful when there is not transportation available 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. There is now a Park & Ride across the street from the Fire Department. At the time of this writing there are also plans to install Electric Vehicle (EV) chargers at this location.

Given that Rochester'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.

Air and Rail

There are no airports in Rochester. Residents have to go to Burlington International Airport, Rutland Regional Airport, or to the Lebanon Municipal Airport. There are also no rail lines in Rochester; residents have to go to Rutland or Randolph to use Amtrak. Amtrak provides service to Washington D.C. to the south and St. Albans in the north.

F. Vermont Scenic Byway

Rochester has been designated as part of the Scenic Route 100 Byway (Route 100 and Route 100A). This Vermont Scenic Byway designation offers travelers historic, cultural, scenic and recreational information and waypoint centers about the towns and villages along the Byway. The Scenic Route 100 Byway is a joint effort of representatives from towns along Route 100 and local business organizations with support from the Southern Windsor County Regional Planning Commission and the Two Rivers-Ottawaquechee Regional Commission. The Scenic Route 100 Byway was designated as Vermont's 8th Scenic Byway in April 2011 and was expanded in the

spring of 2013 to include Rochester and several neighboring communities. The byway runs from Jeffersonville south to the Massachusetts border.

The Scenic Route 100 Byway has a Corridor Management Plan which outlines the management goals for economic development, transportation, natural and scenic, land use and historical areas. All towns have approved these Corridor Management Plans which aim to enhance the village areas and promote tourism and economic development, while still preserving the rural character along the Byway.

G. Parking

Parking within the Village of Rochester presents some challenges to the community. The limited number of parking spaces that are available along the Park and around the commercial core are often full. During major events parking overflows onto the Park. In addition, the only public lot (in front of the Town Clerk's Office) is often occupied by the employees of local businesses.

The community has discussed options for increasing available parking, including eliminating one lane of traffic around the park (making traffic one-way) to gain spaces. Additional discussions have proposed creating other municipal lots in areas adjacent to the Village. To date, no concepts have been formally accepted by the community as mentioned previously there is a municipal parking, a Park & Ride that was constructed in 2016 across from the Fire Station on Route 100.

H. Goals, Policies and Recommendations

Goals

1. Maintain the rural and scenic character of the back roads and byways thereby protecting the rural scenic quality of the town whenever possible.
2. Provide and maintain a safe, energy efficient, and cost-effective transportation system integrating all modes of travel (auto, pedestrian, bicycle, and public transit) and meeting the needs of the public in a manner consistent with the other goals, policies and recommendations of this Town Plan.
3. Improve pedestrian access and safety in the Village.

Policies

1. Consider public input prior to a decision to substantially change the maintenance level, surface treatment, or class of a town road.
2. Integrate land use and transportation planning by encouraging concentrated growth in areas served by an adequate highway system.
3. Encourage access management techniques that limit the number of access points during new development along highways to reduce driver confusion and traffic congestion and to minimize conflicts between through and local (turning) traffic **via provisions on further subdivision in new access permits**.
4. Cooperate with other communities in the region through the TRORC and its Transportation Advisory Committee to ensure that the region's transportation system is developed in a well-coordinated manner that recognizes and balances the needs and desires of each community.
5. Consider the relationship of a road to surrounding features of the landscape when planning improvements needed to safely accommodate increasing traffic.

6. Combine widening of roadways to accommodate safe use by bicyclists with traffic calming measures and enforcement of speed limits.
7. Retain Class 4 roads, trails, and other public rights-of-way as public resources.
8. Require development on private roads to adhere to town access standards and to provide safe year-round access for town services, particularly fire and rescue.
9. Oppose any effort by the State to add additional lanes of vehicular traffic or raise the speed limit. However, any efforts to improve and widen the shoulders of Route 100 and Route 73 should be supported.
10. Maintain a reliable and up-to-date inventory of existing culverts and structures, coupled with a short and long-range plan for replacement and upsizing.
11. Oppose any effort to increase the use of Bethel Mountain Road for truck traffic. That road is far too steep and runs too close to village dwellings to be suitable for through truck traffic. The Selectboard should do all in its power to establish realistic size and load limits on Bethel Mountain Road.

Recommendations

1. The Selectboard should develop a town highway capital plan and schedule that will guide maintenance and road infrastructure investments in the future.
2. The Planning Commission and the Selectboard should look into lowering the speed limit to 25 mph in the Village.
3. The Selectboard should continue to pursue additional safe parking in the village to accommodate large events on the Park and at Pierce Hall.

VIII. Utilities and Facilities

The provision of services and maintenance of facilities is one of the key roles of any municipal government. The cost of services and public facility maintenance can represent a substantial amount of a municipality's yearly budget (not including transportation, which is generally the largest portion).

A. Capital Budgeting & Planning

At present, the town of Rochester has a capital budget to help guide investments in community infrastructure and equipment, which includes several reserve funds for purchasing and upgrading equipment. The Planning Commission may make recommendations to the Selectboard regarding what capital investments should be considered annually.

When planning for routine major facilities investments, such as roof replacements, foundation repairs, etc., it is important to also consider making energy efficiency improvements at the same time. The cost to replace or renovate a community facility will only be slightly higher if energy efficiency improvements are done at the same time, rather than on their own.

B. Municipal Buildings

Municipal Building

In 1982 the Town renovated the Little School Building on School Street for use as the Town Office. The facility provides a vault and office for the Town Clerk, Treasurer and Constable, a small office/conference room for the Selectboard, and a spacious room for meetings, public hearings and voting, as well as a meeting place for other groups. In 1995, renovations took place to make the building handicap accessible. A backup power and emergency communications solar panel was installed after Tropical Storm Irene. No major upgrades or improvements to the Municipal Building are planned at this time.

Town Garage

The Town Garage, located in the Village, is a 100 foot by 40-foot structure housing the Town road equipment. The metal building consists of five bays (three heated) and is well stocked with tools and equipment for minor repairs. The facility also includes a salt shed.

An energy audit of the Rochester Town Garage was conducted in 2010, which included a list of needed improvements, but did not outline the potential costs of the suggested efficiency upgrades.

Library

The Rochester Public Library serves as the primary library for the residents of the towns of the upper White River Valley; Granville, Hancock, Rochester, and Stockbridge. The mission of the Rochester Public Library is to promote reading for the enjoyment, self-education and enrichment of its patrons in a welcoming atmosphere. Community members are invited to explore and satisfy their curiosities through books, current materials, and a variety of services. The children's collection and services encourage an enthusiasm for reading and life-long use of the library. The library sponsors adult and children's reading programs, storytelling, a summer children's program and a lecture series. The library seeks to achieve its mission by setting goals and objectives in a five-year plan.

The Rochester Public Library has 750+ registered patrons and circulates an average of over 15,500 pieces of library material yearly. The collection includes 14,000 volumes and patrons have access to all the resources in Vermont's regional public and college libraries through the computerized library loans.

The Rochester Historical Society has a museum on the second floor of the library with striking displays depicting the styles of the past and remnants of industries and agriculture. Many residents, past and present, give their treasures of local interest to the Society to be displayed. There is a large collection of scrapbooks, news items and photographs.

In 2011, the library building received a planning grant from the Vermont Community Development Program (VCDP) to develop plans to bring the library into compliance with the Americans with Disabilities Act. This project is now complete and included a new accessible ramp entrance, renovated bathroom, and the installation of a lift to provide access to the second floor. Construction also included an expansion of library space with a new addition along the rear of the building and improvements to the entire second floor to enable year-round use.

Fire Department

In 2012 the Rochester Fire Department realized its long-time goal of finding a location to build a new firehouse to replace the inadequate building. After significant damage to their offices from Irene flooding, Advanced Illuminations, an LED lighting manufacturer, donated its land to the Town for use as a location for a new firehouse. The voters approved a bond issue in June of 2012 for \$395,000 to fund the construction of the new facility, with supplemental funding raised by the Fire Department.

The new building is 4800 Sq. Ft with four truck bays, meeting area, and office space. The old fire house is still looking for a new use.

C. Privately-Owned Community Buildings

Pierce Hall

In 2001, nine community members created a non-profit association (PHCC) to begin discussions with the Masons to restore Pierce Hall to its original beauty and its use as a viable community center. In May 2004, the Masons voted to give Pierce Hall to PHCC, Inc., in exchange for a permanent meeting place within the building. October of 2004 PHCC, Inc., received through deed transfer, ownership of Pierce Memorial Hall.

During 2004-2005, PHCC worked with The Preservation Trust of Vermont on plans to most effectively maintain the integrity of the building and to restore the facility to its original design. Through a series of meetings, proposals and drawings were discussed and reviewed. On October 21, 2005, The Preservation Trust of Vermont approved the concept designs for the restoration and additions to Pierce Hall. On November 1, 2005, the PHCC Board of Directors approved plans for the Project which had an estimated minimum cost of \$1,350,000. Much work has been accomplished towards restoring Pierce Hall for use as a community center and meeting hall. Most of the major structural work has been completed including the construction of an elevator tower and stairway for accessibility. This work has continued through grants and private donations. Most of the remaining work is in finishing the renovated hall and the new multiuse rooms in the lower level. The lower level is used as a dance studio and exercise room.

Park House

Park House, located on the park in Rochester's village center, has 17 rooms and offers independent family-style living for the elderly. It was formerly an inn. Residents have their own bedroom furnished with their own

furniture and either a private or semi-private bathroom. They share common areas such as the living and dining rooms, front porch and beautiful gardens. Residents are encouraged to participate with the household and outdoor tasks as they are able.

D. Cemeteries

There are seven cemeteries located in Rochester: Woodlawn, Village, North Hollow, Bingo, West Hill, Tupper and Little Hollow. Maintenance and management of these cemeteries is overseen by a five-member Cemetery Commission elected by the town at Town Meeting.

Woodlawn Cemetery which is located just south of the village on Route 100 is Rochester's largest cemetery.

E. Town Services

Sewer System

In 1972 Rochester installed 3 municipal septic tank/leachfield type sewage systems to serve approximately 124 homes and businesses located in the Village. Collection pipes and fields have been periodically upgraded. Following the failure of Site 2, a fourth site was added in 2005 which provided new capacity for growth in the Village. Site 1 has a current reserve capacity of approximately 6850 GPD, and site 4 has a reserve capacity of approximately 12,000 GPD. The three currently operating fields should allow the Town to meet anticipated future needs.

Three sections of sewer collection main and manholes were upgraded in 2012. Two sections of deteriorating original clay sewer line were replaced with a grant and loan from the USDA Rural Development. A section of sewer main was relocated along Brook Street into the roadway, and away from the brook, after significant damage during Tropical Storm Irene.

The Village Water Supply

The Town well is located south of the Village on Route 100 just north of the junction of Route 73. This system has seen several changes over the years. It was rebuilt in 1982 with the assistance of grants from the State of Vermont and low-interest financing from FMHA.

Renovations included a gravel packed well, a reservoir on Brook Street, 8-inch and 12-inch pipes, fire hydrants, and water meters. These improvements have given residents first class water quality. It has also improved the Town's firefighting capabilities. The Village water supply system has adequate capacity to meet Village needs.

The Town well is located within an aquifer recharge district where development is limited to agricultural and outdoor recreational uses. Rochester has a wellhead protection plan which is available for viewing at the Town Clerk's office.

The water supplies outside of the Village are owned by individuals and, in some cases, these are cooperative systems.

Solid Waste Management

The Solid Waste Management Alliance program covers the Towns of Royalton, Bethel, Stockbridge, Barnard, Pittsfield, Hancock and Rochester. In 1994, construction of the waste management facilities on Waterman Road in Royalton was completed. These facilities are jointly owned by the Towns of Bethel and Royalton and are situated on the site formerly used for the landfill operation.

The facility consists of an office and recycling building equipped with a 60 foot - 60-ton scale, a compacting unit which is currently handling a voluminous flow of corrugated cardboard, and a separate transfer station where residual non-recyclable waste is loaded onto a transport vehicle.

The program provides total waste management service to the Alliance Towns and is in full compliance with State and Federal regulations, including recycling, hazardous waste collection events and disposal provision for residual wastes.

The Town of Rochester, as a member of the "Alliance", participated in the planning process since its inception in 1991. The Town of Rochester engages a hauler to pick up non-recyclable waste and recyclable items twice a month at the town office. This has proven successful in reducing solid waste. Rochester residents may choose to pay private haulers for non-recyclable solid waste pickup and drop-off.

The Town of Rochester's membership and active participation in the Alliance has proven to be beneficial and economically sound for its residential and commercial establishments. The Alliance has been and continues to be advisory to the operation of the Solid Waste Management facility.

F. Other Services

Telephone System

Landline telephone service in the Rochester area is currently supplied by several carriers. For fire and rescue services residents call the 9-1-1 emergency number.

Cellular Communications & Section 248a Review

There are no cell towers located in Rochester, but there is an antenna located within the Village in the Federated Church steeple. Cellular coverage in Rochester is generally considered poor. When surveyed in 2012 residents were asked if they would “object to or support the location of a new cell phone tower on Rochester's ridgelines”. 60% of the responses indicated that they would support one regardless of the location and an additional 20% indicated they would support a cell tower based on location. Rochester 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 residents are supportive of expanding cellular service within the community, they do not want to do so to the detriment of the rural character of the town. A Section 248 review addresses environmental, economic, and social impacts associated with a 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 this Plan address these land uses and provide guidance to town officials, regulators, and utilities. Specific language in this plan relating to the siting and development of cellular communications facilities is in Chapter VI, Section B of this Plan.

Internet

There are currently several ways to access the internet in Rochester, including landline, DSL, cable, satellite, fiber optics and cellular internet. Rochester is a member of the East Central Vermont Community Fiber (EC Fiber) Network. 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.

G. Goals, Policies and Recommendations

Goals

1. Provide public services and public facilities that meet the needs of the community without creating an undue burden on taxpayers or an adverse impact on scenic, environment and cultural resources.
2. Provide residents with safe, effective, responsive and affordable municipal infrastructure, facilities and services consistent with other town goals and whenever possible, encourage and work with other public and private utility or service providers to do the same.

Policies

1. Participate in the Public Utility Commission review of new and expanded telecommunications facilities to ensure that the goals and policies of this plan are considered in future development.
2. Town officials should effectively plan for future investments and upkeep of community facilities to avoid overburdening taxpayers due to unexpected maintenance costs.

Recommendations

1. The Selectboard and Budget Committee should maintain the Capital Budget and Program to guide future investments in infrastructure.
2. The Selectboard should work with the Planning Commission to find ways to enhance cellular and internet services in Rochester.

IX. Health and Emergency Services

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 Rochester 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 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.

Rochester is fortunate to have the Rochester Health Center. The Rochester Health Center provides primary health care, including family and internal (adult) medicine, in a convenient Main Street location. Physicians and nurses staff the Health Center as a secondary office and have privileges at Gifford Memorial Hospital in Randolph, Vermont. Gifford Medical Center offers a wide range of services to serve most medical needs and is closely associated with Dartmouth-Hitchcock Medical Center in Lebanon, NH. In addition to Gifford, there are several smaller health centers in Randolph. There are large-scale regional hospitals in Rutland and Berlin.

B. Fire Protection Services

The Rochester Volunteer Fire Department is an all-volunteer organization that is funded in part by the Town of Rochester and private fundraising. The department is chartered for up to 30 members; all are required to attend regular firefighting classes. As of 2012, there were twenty-two active members of the Fire Department including two "junior members" (16-18 years of age). The Fire Department is always seeking additional members, particularly those who work in town or are readily available during the day.

The alarm system utilizes the E 9-1-1 emergency phone method of reporting incidents. Rockingham State Police Barracks acts as the system's dispatching service. Volunteers are equipped with portable pagers.

Neighboring towns of Hancock and Granville respond to all structure fires, as mutual aid. This is important due to daytime manpower shortages. Cooperation among towns is also important due to the rising costs of firefighting equipment. The Rochester Volunteer Fire Department also serves with the White River Valley Ambulance at auto accidents in Rochester.

C. Police Protection Services

First and second constables are appointed by the Selectboard, although there are currently no constables at the time of this writing. Rochester supplements the constables with hired law enforcement services from the Windsor County Sheriff's department especially in the area of traffic control. The Sheriffs also support the Vermont State Police when available.

The Vermont State Police force at the Royalton station on Vermont Route 107 is the town's first line of law enforcement protection. Full time law enforcement services are to be provided to Rochester residents by the State Police from the Royalton Station.

D. Emergency Medical Services

White River Valley Ambulance

In 2013, the Town of Rochester voted to utilize White River Valley Ambulance for emergency medical services. White River Valley Ambulance, Inc. (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 Rochester, WRVA covers Barnard, Bethel, Braintree, Brookfield, Hancock, Granville, East Granville, Randolph and Stockbridge. The Town of Rochester 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.

E. Emergency Management Planning

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 mobilization 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 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.
- 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.

Local Emergency Management Plan

Rochester has a Local Emergency Management Plan (LEMP). 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. 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 Rochester, the primary hazard is flooding, with a variety of other lesser hazards. All hazards have been reviewed in the town's Mitigation Plan.

Emergency Access

Any new property development in Rochester should be designed to allow safe access for emergency services. Poorly designed driveways that are too steep or too narrow can limit access, particularly in the winter, and may represent a safety hazard for the emergency responder. On major subdivisions, the Zoning Board of Adjustment may require the provision of storage ponds and dry hydrants necessary for adequate fire protection.

F. Goals, Policies and Recommendations

Goals

1. High quality medical care should be available to all Rochester residents.
2. Ensure the protection and safety of the citizens of Rochester against crime and violations of law.
3. Maintain appropriate fire and ambulance service.

Policies

1. Support and encourage the development of local health care facilities and counseling services to help residents obtain health care as close to home as possible.
2. Support the development of assisted living or other facilities or services dedicated to supporting the elderly in Rochester.
3. Support efforts to decrease response times for emergency services.
4. Maintain the town's relationship with White River Valley Ambulance.
5. Maintain an up-to-date Emergency Management Plan.
6. Work with the Two Rivers-Ottawaquechee Regional Commission to properly plan for hazard events.

Recommendations

1. The Selectboard should maintain a Hazard Mitigation Plan with assistance from the Two Rivers-Ottawaquechee Regional Commission.
2. Continue to have the Selectboard keep the LEMP 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.

3. Continue to have the town take sensible steps that can reduce disaster costs, damage to property and loss of life.
4. Ensure new driveways are constructed in consultation with the Rochester Fire Department so that there is adequate access during an emergency

X. Energy

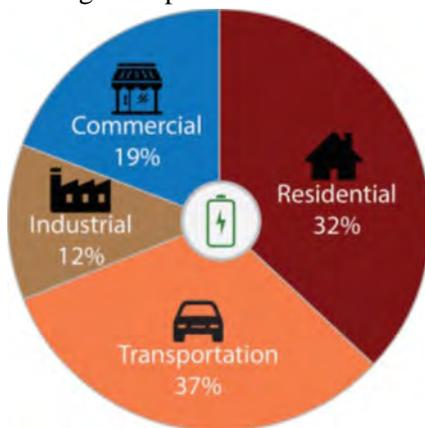
A. Background

Concern about our nation’s dependence on oil has grown significantly since the oil crisis of the mid 1970’s. As prices of oil-related fuels continue to rise, everyday activities such as home heating and travel by car become increasingly burdensome for the average Rochester resident. Carbon emissions continue to rise, contributing to global warming and related increases in extreme and dangerous weather that threatens Rochester residents and businesses alike.

The manner in which energy is addressed in this plan is in relation to the Regional Plan (<https://www.trorc.org/trorc-regional-plan/>) and Vermont’s State Comprehensive Energy Plan (https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP_Final.pdf). Vermont statutes related to energy include: greenhouse gas reduction; produce 25% of energy consumed within the state through renewable energy by 2025; improve building efficiency; and increase renewable energy. These overall goals provide context and guidance to Regional and Town Plans.

While the Planning Commission recognizes that energy supply and demand are directed largely by economic forces at the state, federal, and international levels, the way Rochester plans for future growth can have an impact on how much energy is needed and used in this community.

Vermont strongly supports reducing its reliance on fossil fuels and securing energy independence for the state by improving energy efficiency of residential, business, and government buildings, and utilizing in-state renewable energy resources. The 2016 Vermont Comprehensive Energy Plan (CEP) addresses the major factors to our energy use by addressing the state’s energy future for electricity, thermal energy, transportation and land use. Through this process the CEP set a long-term statewide goal of obtaining 90% of Vermont’s energy needs from renewable sources while eliminating our reliance on fossil fuels. Expanding upon the statutory goal of 25% renewable by 2025 (10 V.S.A. § 580(a)), the CEP established the following set of goals:



- Reduce total energy consumption per capita by 15% by 2025, and by more than one third by 2050.
- Meet 25% of the remaining energy need from renewable sources by 2025, 40% by 2035, and 90% by 2050.
- Three end- use sector goals for 2025: 10 % of transportation, 30% of buildings, and 67% of electric power are fueled by renewable energy sources.

“Energy” as used in this Plan and in the state’s Comprehensive Energy Plan (CEP) is not the same as electricity. It includes all forms of energy used by people. This is commonly broken down into four sectors: commercial (this involves running machinery, cooling, heating and lighting), residential (mainly cooling, heating and lighting), industrial (process energy such as smelting or concrete production), and transportation (mainly gasoline and diesel).

As Rochester continues to plan for the future, it is important that the town understands its current energy use as well as set targets to help reach the municipalities and ultimately the state’s energy goals.

This section will provide the background data on existing renewable energy generation in town, estimated transportation, home heating, commercial, and electricity use.

Renewable energy generation sources include wind, solar, hydroelectric, and woody biomass. Through information from the Vermont Department of Public Service (DPS), as of January 2019 there are approximately 39 sites in Rochester that are producing a total of 246.34 kW of renewable energy generation.

The table below shows existing renewable generation in the municipality as of 2019, in MW and MWh, based on information available from the Vermont Department of Public Service.

Existing Renewable Generation	MW	MWh
Solar	0.26	316
Wind	0.00	0
Hydro	0.00	0
Biomass	0.00	0
Other	0.00	0
Total Existing Generation	0.26	316

Appendix C of this Town Plan lists current energy use by sector and energy targets for the town. This data is provided by the Two Rivers-Ottawaquechee Regional Commission.

Targets

With the baseline information established, targets need to be set for the municipality to meet milestones along the way toward a path of meeting 90% of our total energy needs with renewable energy. The target years of 2025, 2035, and 2050 were established in conjunction with the 2016 Vermont Comprehensive Energy Plan benchmarks. Most of the information in this section was developed using the Long- Range Energy Alternatives Planning (LEAP) model from the Vermont Energy Investment Corporation (VEIC). Appendix C displays the percentage of households and commercial buildings in Rochester that would need to be weatherized in each of the target years to meet the goals. They are also a measure of the electric efficiency needed for each target year to meet the goal.

The Two Rivers-Ottawaquechee (TRO) Region currently produces **237,182 MWh** (as of March 2019³) of renewable electric energy generation. The TRO Region’s target is 349,307 MWh by 2050. Setting a goal for in-town production will help reduce the reliance on energy produced elsewhere. In Rochester the target for renewable energy generation in 2050 is between 6,395- 7,816 MWh.

B. Renewable Energy Resources

For the municipality or individual 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.).

³ VT Energy Dashboard

Although initial set-up costs for renewable energy generation systems can be high, these systems can save users money over the long term, 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 2017 American Community Survey 5-Year Estimates reports that 37.2% of Rochester's 500 households use wood as the primary fuel source for heating, 41.6% use fuel oil/kerosene, 16.8% use natural/LP gas, and 3.8% use electricity. Many households also use wood as a secondary source of heat, but there is no good data on this level of use. The Vermont Department of Public Service estimates that the average household using wood for heat burns between 3 to 4 cords of wood each year during the heating season. Given that the total number of homes in Rochester heating primarily with wood was 186, it is estimated that at least several hundred cords of wood are burned annually for heat.

Wood is a renewable, local resource, which contributes to the local economy. Increased reliance on wood as a heating source can offset some demand for expensive and non-renewable alternative sources. Burning wood that is sustainably harvested can cause no-net increase in greenhouse gases, as long as the carbon dioxide being created equals that being taken up by growing trees. There is a potential detrimental effect to this, however, as significant use of wood could increase particulate air pollution. Modern catalytic converters installed on wood burning stoves and improved design of wood furnaces are a partial solution.

Additional sources of renewable energy include biomass, solar, wind, hydro, methane, and geothermal. Each of these sources can play a role in our town's energy supply. Biomass fuels that are sustainably grown on existing fields can be used as stock for either ethanol or gasification systems. Solar systems can directly heat water and photovoltaic (PV) systems can create electricity. Residential and commercial PV installations can "net meter", offsetting their local electrical consumption as well as selling any surplus power back into the grid. Small and larger commercial scale wind turbines are being installed in Vermont. Hydropower sites must avoid impacts to fish passage and water quality, but small sites no doubt exist in Rochester that could be exploited. Methane, largely being generated on farms with a large supply of manure (cow power) or from old landfills, can run electric generators. Geothermal is a possible source of heat and cooling, though this has limited applications. Such systems are widely used in Europe as efficient ways to reduce local dependence on foreign heating fuels and to reduce energy cost. See Appendix C for specific data on each of these renewable resources specific to Rochester.

C. 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 Utility Commission (30 VSA §248). Under this law, prior to the construction of a generation facility, the PUC must issue a Certificate of Public Good. A Section 248 review addresses environmental, economic, and social impacts associated with a project, similar to Act 250. In making its determination, the PUC must give due consideration to the recommendations of municipal and regional planning commissions and their respective plans.

For all energy generation facilities, the following policies shall be considered:

1. **Preferred Locations:** The Town supports the placement of new generation and transmission facilities in the following areas:
 - a. On top of existing buildings, landfills, parking lots, brownfields outside of the village center, reclaimed quarries or gravel pits, a site that was previously covered by a structure or impervious cover in compliance with setbacks and any additional preferred areas set by the State of Vermont.

- b. Additionally, the Town, by joint letter of the planning commission, selectboard and regional planning commission, may designate a site as preferred if the total project area encompasses 10 acres or less.
 - c.
2. **Prohibited Locations:** Energy facility development shall have to meet principal structure setback for the relevant area in the town zoning, and shall be prohibited in floodways, class 1 and 2 wetlands, lands within 50 feet of the top of bank of perennial streams, lands over 25% slope, as well as along the **Braintree Mountain Range that runs above 2,000 feet in elevation east of VT Route 100.**
3. **Constraint Areas:** All new generation, transmission, and distribution facilities shall be sited and designed to avoid or, if no other reasonable alternative exists, to otherwise minimize or mitigate adverse impacts to the following:
 - Historic districts, landmarks, sites and structures listed, or eligible for listing, on state or national registers.
 - Public parks and recreation areas, including state and municipal parks, forests and trail networks.
 - Municipally and state designated scenic roads and viewsheds.
 - Special flood hazard areas identified by National Flood Insurance Program maps (except as required for hydro facilities)
 - Public and private drinking water supplies, including mapped source protection areas.
 - Primary agricultural soils mapped by the U.S. Natural Resources Conservation Service.
 - Critical wildlife habitat identified by the state or through analysis, including core habitat areas, migration and travel corridors.
4. **Zoning Compliance:** New generation, transmission and distribution facilities shall be sited in accordance with municipal zoning regulations.
5. **Natural Resource Protection:** New generation and transmission facilities must be sited to avoid the fragmentation of, and undue adverse impacts to, the town's working landscape. These include large tracts of undeveloped forestland, critical fish and wildlife habitat areas, open farm land, and primary agricultural soils mapped by the U.S. Natural Resource Conservation Service.
6. **Protection of Wildlife:** Designers must gather information about fish and wildlife habitats that exist in the project area and take measures to avoid any undue adverse impact on the resource. Consideration shall be given to the effects of the project on: natural communities, threatened and endangered species residing in the area and their migratory routes, the impacts of human activities at or near habitat areas; and any loss of vegetative cover or food sources for critical habitats.
7. **Site Selection:** Site selection should not be limited to generation facilities alone; other elements of the facility need to be considered as well. These include access roads, site clearing, onsite power lines, substations, lighting, and off-site power lines. Development of these elements shall be done in such a way as to minimize any negative impacts. Unnecessary site clearing, and highly visible roadways can

have greater visual impacts than the energy generation facility itself. In planning for facilities, designers should take steps to mitigate their impact on natural, scenic and historic resources and improve the harmony with their surroundings as they relate to the criteria listed above.

D. Residential Energy Efficiency

There are several ways that the Town of Rochester 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.

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:

- 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, clothes driers, hot water heaters and heating systems,
- Using high efficiency lighting,
- Installing heat pumps,
- Siting buildings to make use of existing wind blocks and natural cooling patterns derived from the landscape's topography,
- 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).

To comply with the RBES, a home, as built, must meet all 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.

E. Municipal Role in Energy Efficiency

Reducing our community's energy consumption not only benefits our town and its residents with cost savings but also contributes to the larger global effort to address the growing climate crisis that affects our community with

dangerous changes to the weather and damage to our physical environment. 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

Rochester 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 establishing and implementing the town's energy goals; the group can act independently or request to 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, working with the Planning Commission on the Energy Plan. Most importantly, an active EC can help the town save money while saving energy.

Auditing Municipally Owned Buildings

Many towns in Vermont own buildings that are old and inefficient in many respects. For instance, older buildings often have insufficient insulation, wasteful heating and cooling systems, and out-of-date lighting. These kinds of infrastructure problems result in higher energy use with the resulting cost passed onto taxpayers.

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. Rochester has not yet created a PACE district.

Capital Budget Planning

Given the potential expense of energy efficiency improvements to municipal infrastructure, it is essential to wisely budget town funding to cover these costs. State statute enables communities to create a Capital Budget and Program for the purposes of planning and investing in long-range capital planning. Although most communities have some form of capital account where they save money, many do not have a true Capital Budget and Program. A capital budget outlines the capital projects that are to be undertaken in the coming fiscal years over a five-year period. It includes estimated costs and a proposed method of financing those costs. Also outlined in the Program is an indication of priority of need and the order in which these investments will be made. Any Capital Budget and Program must be consistent with the Town Plan and shall include an analysis of what effect capital investments might have on the operating costs of the community.

When planning for routine major facility investments, such as roof replacements, foundation repairs, etc., it is important to consider making energy efficiency improvements simultaneously. The cost to replace or renovate a community facility will only be slightly higher if energy efficiency improvements are done at the same time, rather than on their own.

At present, the town of Rochester does have an adopted Capital Budget and Program to help guide investments in community infrastructure and equipment, but it does not use its Capital Budget and Program to guide investments for energy efficiency. The Planning Commission may make recommendations to the Selectboard about what capital investments should be considered annually.

Policy Making for Change

In addition to reducing the energy use related to facilities, Rochester 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 mandated by federal standards.

Staff Policies - Towns can also implement policies that are designed to reduce wasteful energy practices. For example, the Town of Rochester could create a policy requiring that town vehicles (such as dump trucks and other road maintenance equipment) not idle for more than a set period of time. Idling is an expensive waste of fuel, and a policy such as this could lead to substantial savings in money spent on fuel by the town and reduce our contribution to greenhouse gases.

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 for more ideas.

F. 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 have 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 control the type and density of development. It is important to acknowledge connection between land use, transportation and energy and seek to create 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.

Rochester's zoning bylaws 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 the 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 PC, ZBA or 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 can require that landscaping be utilized to reduce thermal loss.

G. 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 Rochester to locate adjacent to existing roads. Dense residential developments should be located within or adjacent to existing village centers or within designated growth areas. Increasing the use of public transportation and reducing the number of single occupancy vehicle trips can lower the energy reliance in the transportation sector.

A goal of the State of Vermont is to have 50,000 electric vehicles (EV), or 10% of all vehicles, on the road by 2025. At the time of this writing, there are only 3,000 electric vehicles registered in Vermont. The state currently provides incentives for electric vehicle purchases and has a grant program to assist municipalities with installing public charging stations.

For more information on Rochester's transportation policies, refer to Chapter VII.

H. Goals, Policies and Recommendations

Goals

1. Ensure the long-term availability of safe, reliable and affordable energy supplies, increase energy efficiency, and promote the development of renewable energy resources and facilities in the Town of Rochester to meet the energy needs of the community and region.
 1. 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 Rochester to meet the energy needs of the community and region.
 2. Reduce energy costs, the community's reliance on fossil fuels and greenhouse gas emissions that contribute to climate change.
 - Identify and limit the adverse impacts of energy development and use on:
 - public health;
 - safety and welfare;
 - the town's historic and planned pattern of development;
 - environmentally sensitive areas; and
 - our most highly valued natural, cultural and scenic resources,
 3. Encourage a continued pattern of rural settlement and land use that is energy efficient
 4. Promote the construction of energy efficient residential and commercial buildings and increase awareness and use of energy conservation practices through educational outreach to the public.

5. Increase public transportation opportunities throughout the community, including park-and-ride access, bus service, biking paths, and sidewalks.
6. Promote greater use of existing public transportation services by community members.

Policies

1. Actively support partnerships, strategies, and state and federal legislation that will ensure the affordable, reliable and sustainable production and delivery of electrical power to the region, in conformance with regional and municipal goals and objectives.
2. Participate in the Public Utilities Commission’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.
3. Ensure that any commercial energy generation facility proposed in Rochester is developed 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.
4. Support the development and use of renewable energy resources – including but not limited to wind, solar, micro hydro and cogeneration – at a scale that:
 - Is sustainable;
 - enhances energy system capacity and security;
 - promotes cleaner, more affordable energy technologies;
 - increases the energy options available locally;
 - avoids undue adverse impacts of energy development on the local community and environment.
5. Support efforts to educate homeowners about what resources are available to them for energy efficiency improvements.
6. Encourage development of Generation, transmission, and distribution facilities or service areas only when they complement the recommended land use patterns set forth in this plan.
7. Ensure new significant public investments (including schools, public recreational areas, municipal facilities and major commercial or residential developments) are located within or near the village and utilize existing roads whenever possible.
8. Encourage energy efficient, small-scale home businesses.

Recommendations

1. Town officials and volunteers should work to increase public awareness and use of energy conservation practices, energy-efficient products and efficiency and weatherization programs through educational efforts aimed at residents and businesses.
2. The Town should support community-based renewable energy generation, to include municipal or district biomass heating systems, and the installation of individual or group net metered generation facilities on town buildings and property to serve town facilities.

3. The Selectboard should appoint an Energy Committee to develop an Energy Action Plan as a supplement to the municipal plan, to more specifically quantify and track municipal energy consumption, identify areas in town that are appropriate for renewable energy production such as wind, solar and micro hydro, and to recommend actions that the town and community should take to conserve energy, increase energy efficiency, promote local energy production from renewable resources, and to reduce energy costs and greenhouse gas emissions.
4. The Town should adopt a no-idling policy that specifically applies to municipal vehicles, such as the public works fleet, regardless of the vehicle's location. For more information go to www.idlefreevt.org.
5. The Town should expand the Capital Budget and Program to include short and long-range plans for energy efficiency improvements to municipal buildings.
6. The Town should develop facility maintenance and operation policies that maximize energy efficiency while maintaining comfort levels for employees and visitors, to include building temperature, heating and air conditioning guidelines, electrical equipment uses guidelines, interior and exterior lighting guidelines, and the use of energy management devices (e.g., sensors, timers). Examples include: installation of day-lighting tubes, programmable thermostats, occupancy light sensors, smart strips and energy star appliances.
7. The Town should assess and, if feasible, replace facility lighting with energy efficient compact fluorescent or LED bulbs and fixtures and, with the assistance of Efficiency Vermont and local utilities, evaluate options to improve the efficiency and reduce the costs of street, pedestrian, parking lot and public space lighting. Some of these options include the elimination of certain fixtures, the replacement of inefficient bulbs with more efficient ones, such as LEDs, and the utilization of lighting controls such as timers or light sensors.
8. The Town should develop municipal vehicle purchase, maintenance and use policies, including minimum fuel efficiency standards for new vehicles. An example of a maintenance policy would be: ensure that all municipal vehicles are up to date with tune ups and tire pressure checks to maximize fuel economy.
9. The Town shall consider the benefits and/or drawbacks of using regionally available alternative-fuels, such as biodiesel, in municipal vehicles.
10. The Rochester Selectboard should discuss the PACE program at a future meeting and decide whether the program should be placed on the ballot for Town Meeting.
11. The Town should apply for an electric vehicle charging station grant to put chargers in the Park and Ride or at the town offices.
12. The Planning Commission should develop screening techniques for renewable energy generation projects in the zoning bylaws.
13. Municipal officials should consider conducting audits on additional town buildings to determine what improvements are necessary, and which projects would have the highest cost-benefit ratio in terms of energy and financial savings.

XI.Recreation

A. Background

The well-being of a community relies on many things, one of which is an opportunity to participate in outdoor recreation. As the population grows, more and more city and suburban dwellers are purchasing second homes or are renting in rural locations to vacation. As the finite land base is being developed, more pressure is being placed on the remaining open areas to provide outdoor recreation opportunities. The Vermont Outdoor Recreation Plan, updated in 2014, indicates a continuing deficit in the capacity of certain outdoor recreation resources.

Horseback riding, mountain bike riding, back-country skiing, jogging and walking are all activities that continue to gain popularity. Some Bed and Breakfast establishments are promoting activities such as these as a "drawing card." Improvements in the VAST (Vermont Association of Snow Travelers) corridor and secondary trail systems have connected local trails with the state-wide trail network. It is now possible to snowmobile from Rochester to anywhere in the State, from Island Pond in the Northeast Kingdom to Somerset in the south. Likewise, visitors from all over the State can now snowmobile to Rochester.

In the last few years, RASTA (Rochester-Randolph Sports Trails Alliance) has expanded recreational opportunities both in the winter and summer dramatically with the development of ski glades and multi-use trails. Recreation is a significant economic driver in the State of Vermont, especially in the Green Mountains.

B. Publicly Owned Recreation Resources

Community owned - The Town of Rochester owns several parcels of land used for public recreation. Areas include the ball field, tennis courts, skating rink, the Park, the picnic area at Bean's Bridge (which is currently being maintained by the Route 100 Lion's Club), school playground and structure and the school forest. At the north end of the Village, land that the town acquired after T.S. Irene became River Brook Park.

State owned - The State of Vermont owns 20+ acres on Mount Cushman, the site of the old fire tower. Another parcel is known as the Riley Bostwick Millionth Acre Tree Farm located off Bethel Mountain Road and the Riley Bostwick Wildlife Management Area (609+ acres).

Federally owned – 12,394 acres of federally owned land are in the Town of Rochester. These public lands are administered by USDA - Forest Service as part of the Green Mountain National Forest (GMNF). These lands provide a wide variety of outdoor recreational opportunities for residents and visitors alike. No matter whether your preference is for snowmobiling, cross-country skiing, bird watching, hiking or hunting, the National Forest provides those opportunities. The Forest Service has constructed parking facilities and recreational use areas along the White River. In 2006, the US Congress established the Battell Wilderness Area, approximately 4000 acres of which are in Rochester.

Public and Private Recreational Attractions

- Mountain and Road Biking
- Back-country and Cross Country Skiing
- Farm Vacations at B & B's.
- National Forest Campgrounds at Chittenden Brook and Bingo Brook
- National Forest White River Access Sites
- Hunting and Fishing
- Golf Course

- Verde Antique Marble Quarry
- Viewing Maple Syrup Production
- Hiking and Snowmobile Trails
- Canoeing and Tubing
- Horseback Riding
- Ice Skating

C. Recreation and the Local Economy

Outdoor recreation is a key element of Vermont’s economy, generating roughly \$2.5 billion a year in retail sales and services throughout the state. Recreation-seeking tourists spend money. In “a National Survey of the Vermont Visitor”, the University of Vermont business school determined that visiting hunters and fishermen spend more than \$2000 per trip. Hikers and campers spend \$440 per trip.

The Outdoor Industry Foundation reports that Vermont’s citizens are regular participants in outdoor recreation as well. These include:

- Wildlife viewing: 54%
- Hiking: 33%
- Biking: 29%
- Skiing, snowboarding and snowshoeing: 25%
- Camping: 21%
- Fishing: 18%
- Hunting: 14%

Rochester’s extensive acreage of publicly owned recreational resources allows residents and visitors a broad range of recreational opportunities including fishing, hunting, snowmobiling, hiking, cross-country skiing, etc. These recreational pursuits have the potential to provide Rochester with a commercial market that helps feed the local economy. Additionally, the White River offers excellent opportunities for recreation.

The way land is used in the community has an influence on recreation. Rochester should continue to maintain a pattern of development in the more rural areas of town that is low density, allowing for larger amounts of open land and reducing the possibility of having large land areas broken up for development. This Plan encourages outdoor recreation as a valuable commercial use in Rochester and seeks to maintain and enhance recreational opportunities for residents and tourists alike.

D. Forest Service

Rochester maintains a partnership with the U.S. Forest Service, working together on various projects. The GMNF represents an asset to the community. In addition to recreation, the Forest Service provides funding for maintenance and improvements on several local roads that service their land.

E. Goals, Policies and Recommendations

Goal

1. Enhance and maintain public access to recreation for Rochester’s residents and visitors alike.

Policy

1. Maintain a pattern of development that supports and maintains access to public recreation.
2. Continue its working relationship with the Green Mountain National Forest and Vermont State Forest lands.

XII. Flood Resilience

A. Background

Following the impact of Tropical Storm Irene in 2011, the Vermont Legislature added a requirement that all communities address flood resilience as part of their municipal plans. Interpreted broadly, “resilience” means that an entity—a person, neighborhood, town, state, region or society— when faced with a situation or event, could effectively return to its previous state or adapt to change(s) resulting from the situation or event without undue strain. As such, “resilience” is an overall preparedness for a future event. For the purposes of this chapter, flood resilience will mean the ability of Rochester to effectively understand, plan for, resist, manage and, in a timely manner, recover from flooding.

Types of Flooding

There are two types of flooding that impact communities in the state of Vermont inundation and flash flooding. Inundation flooding occurs when rainfall over an extended period and over an extended area of the river’s basin leads to flooding along major rivers, inundating previously dry areas. This type of flooding occurs slowly, but flood waters can cover a large area. Inundation flooding is slow and allows for emergency management planning if necessary. However, unlike during a flash flood, it may take days or weeks for inundation flood waters to subside from low areas, which may severely damage property.

Flash flooding occurs when heavy precipitation falls on the land over a short period of time. Precipitation falls so quickly that the soil is unable to absorb it, leading to surface runoff. The quick-moving runoff collects in the lowest channel in an area—including upland streams, small tributaries, and ditches. The water level rises quickly and moves further downstream. Flash flooding typically does not cover a large area, but the water moves at a very high velocity, and the flooding manifests quickly, making flash floods particularly dangerous. Due to the velocity of the water, a flash flood can move large boulders, trees, cars, or even houses.

The collecting of water in channels in steep areas also causes fluvial channel erosion, which can severely damage roads and public and private property. Fast moving water in the stream channel may undermine roads and structures and change the river channel itself, predisposing other roads and structures to future flooding damage. Flash floods can also mobilize large amounts of debris, plugging culverts and leading to even greater damage. In Vermont, most flood-related damage is caused by flash flooding and fluvial erosion (erosion of stream banks). Due to its narrow river valley and steep side slopes, Rochester is vulnerable to flash flooding and fluvial erosion.

Causes of Flooding

Severe storms with particularly heavy precipitation can create flash flood conditions. However, over an extended period of time, severe storms may also cause inundation flooding due to the cumulative effects of continuous rain, saturated soils, and high-water table/high aquifer levels.

Floodplains and river corridors fill an important role, as flood waters and erosive energy must go somewhere. Development in the floodplain can lead to property damage and risks to health and safety. Development in one area of the floodplain or river corridor can also cause increased risks to other areas by diverting flood flows or flood energy. Debris carried by the floodwater from one place to another also poses a danger. Flooding is worsened by land uses that create impervious surfaces that lead to faster runoff, and by past stream modifications that have straightened or dredged channels, creating channel instability.

Historic Flood Events

One of the worst flood disasters to hit the Town of Rochester, as well as the surrounding region and the State of Vermont, occurred on November 3, 1927. This event was caused by up to 10 inches of heavy rain from the remnants of a tropical storm that fell on frozen ground. A more recent flood event that devastated the region and

the state was the result of Tropical Storm Irene, which occurred on August 28, 2011. Record flooding was reported across the state and was responsible for several deaths, as well as hundreds of millions of dollars of home, road, and infrastructure damage. Other major floods in the area were those of 1938 and 197: both were hurricane events that dropped over 10 inches of rain.

Tropical Storm Irene caused widespread damage to property and infrastructure in the Town of Rochester due to an estimated 9 inches of rain that fell during the storm, some of the highest precipitation totals in Windsor County. It is thought that the flooding that occurred because of Tropical Storm Irene was close to or equal to a 500-year flood, or a flood that has a 0.2% chance of occurring every year. Much of Rochester's road infrastructure was damaged by the storm, including Little Hollow Road, North Hollow Road, Brook Street, Fiske Road, Marsh Brook Road, Bethel Mountain Road, and Bingo Road. For neighboring Orange County, damages totaled \$32.5 million. The storm damage for Rochester totaled \$3 million according to FEMA's public assistance database, which captures at least 75% of the total damage. In the Two Rivers-Ottawaquechee Region, FEMA provided over \$61 million in assistance.

B. Flood Hazard and River Corridor Areas in Town

Flood Hazard and River Corridor Areas

There are two sets of official maps that govern development in floodplains in Vermont. They are the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMS) and VT Agency of Natural Resources (ANR) River Corridor area maps. FEMA has calculated the floodplain on the FIRMS to show the 100-year flood boundary, or a flood that has a 1% chance of any given year of occurring. This area of inundation is called the Special Flood Hazard Area (SFHA). FIRMS may also show expected base flood elevations (BFEs) and floodways (smaller areas that carry more current). FIRMS are only prepared for larger streams and rivers. Rochester has FEMA FIRM maps that are used in the administration of their Flood Hazard Bylaw administration. FEMA FIRM Maps were last updated for the Town of Rochester on September 28, 2007. No Flood Insurance Studies (FIS) were completed for Rochester on September 28, 2007. FEMA FIRM Maps are available for the Main Branch of the White River, the West Branch of the White River, Brandon Brook, Corporation Brook, and Bingo Brook. Rochester contains 890 acres of floodplain, 424 of which are in the floodway. During Tropical Storm Irene, several homes were damaged or lost that were not in FEMA mapped floodplains. These were due to fluvial erosion and not inundation flooding. In total, almost fifty homes were damaged or lost in this event.

Recent studies have shown that a significant portion of flood damage in Vermont occurs outside of the FEMA mapped areas along smaller upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. Since FEMA maps are only concerned with inundation, and these other areas are at risk from flash flooding and erosion, these areas are often not recognized as being flood-prone. It should be noted that small, mountain streams may not be mapped by FEMA in NFIP FIRMS (Flood Insurance Rate Maps), flooding along these streams is possible, and such flooding should be expected and planned for. Property owners in such areas outside of SFHAs are not required to have flood insurance. Flash flooding in these reaches can be extremely erosive, causing damage to road infrastructure, threatening topographic features including stream beds and the sides of hills and mountains, and creating landslide risk. The presence of undersized or blocked culverts can lead to further erosion and streambank/mountainside undercutting. Change in these areas may be gradual or sudden.

Furthermore, precipitation trend analyses suggest that intense, local storms are occurring more frequently. Vermont ANR's River Corridor maps show the areas that may be prone to flash flooding or erosion, which may be inside FEMA-mapped areas, or extend outside of these areas. In these areas, the lateral movement of the river and the associated erosion is a greater threat than inundation by floodwaters. The ANR mapped River Corridors accurately represent the area where rivers and streams will move over time to meander, and they depict areas that are at risk to erosion due to the river or streams' lateral movement. Elevation or flood proofing alone may not be protective in these areas as erosion can undermine structures. Rivers, streams, and brooks that have mapped River

Corridors include Marsh Brook as well as the Main Stem of the White River, the West Branch of the White River, Chittenden Brook, Brandon Brook, Corporation Brook, and Bingo Brook, all of which have mapped special flood hazard areas.

In the Town and Village of Rochester, 26 total structures are located in the special flood hazard area, meaning they have a 1% chance of flooding every year. Additionally, there are 46 structures that are located within the mapped River Corridor. To help reduce the risk to health, structures, and road infrastructure, it is important to restore and improve the flood storage capacity of existing floodplains and to increase the overall area for retention of floodwaters in Rochester.

Flood Hazard Regulations

The Town of Rochester has a Flood Hazard Bylaw that was adopted on September 28, 2009. The Flood Hazard Bylaw applies to all lands in the Town of Rochester, and specifically aims to regulate development of lands in the Special Flood Hazard Area, or the areas near rivers, streams, and brooks, that have a 1% chance of flooding annually. The River Corridor Area is not subject to specific regulatory conditions in the Town and of Rochester Flood Hazard Area Bylaw.

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. The calculations do not consider the impact of ice dams or debris, and may, therefore, underestimate the areas which are subject to flooding damage.

FEMA has prepared a Flood Hazard Boundary Map for the Town of Rochester, which includes flood hazard areas for the Main Stem of the White River, the West Branch of the White River, Brandon Brook, Corporation Brook, and Bingo Brook. This map is on file at the Town Office and at the Two Rivers-Ottawaquechee Regional Commission. It can also be found online through FEMA's website and the Vermont Agency of Natural Resources.

FEMA also administers the National Flood Insurance Program, which provides flood hazard insurance at subsidized rates for property owners in affected areas. To qualify for federal insurance, towns must adopt and retain a bylaw to control land development within these areas. Minimum standards must be included and approved by FEMA. Coverage is only available to landowners if a town elects to participate in the program. The Town of Rochester incorporates Flood Hazard regulations as part of its Flood Hazard Bylaw, and has participated in the National Flood Insurance Program since August 5, 1991.

C. Promoting Flood Resilience

Flood Hazard Regulation

The following changes to the Flood Hazard Bylaw (within Rochester's zoning) would help protect the citizens of Rochester from further damages from a severe flooding event:

1. Discourage all new development in the Special Flood Hazard Area, which is also called the 100-year floodplain, or the area that has a 1% chance of flooding every year.
2. Require the elevation of existing structures in the Special Flood Hazard Area to 2 feet above base flood elevation.
3. Exclude small out-buildings or similar structures from the prohibition on new development provided they are properly flood-proofed and meet the thresholds required by the National Flood Insurance Program for flood hazard regulation. The prohibition also would not apply to renovations to existing structures unless

the proposed renovations expand the footprint of the existing building or exceed the substantial improvement thresholds required by the National Flood Insurance Program for flood hazard regulation.

4. Encourage the most appropriate uses within the Flood Hazard Area along rivers and streams including those that are recreational and agricultural (using Required Agricultural Practices). Minimizing development within these areas will help protect both public and private investments as well as the natural and scenic quality of Rochester's waterways.

Revisions to Rochester's flood hazard bylaw will require input from the community regarding the level of regulation it believes is necessary to protect citizens and their buildings from severe flood hazard events. Provided that all parts of the flood hazard bylaw continue to meet the minimum requirements of the NFIP, communities have a broad range of flexibility in regulating the flood hazard area.

Non-regulatory approaches

Easements

Rochester could pursue riparian easements to protect floodplain from development and preserve flood storage.

Culvert Maintenance

Rochester maintains an up-to-date list of culverts and culvert condition, and completed a comprehensive culvert inventory in summer 2016. The Town continues to update this list as they make improvements. As part of this process, priority projects were identified, and cost estimates were generated to prioritize culvert upgrades for damaged and undersized structures.

Vermont Agency of Transportation Codes and Standards, which the Town of Rochester adopted on March 11, 2013, require a minimum size of 18 inches for new culverts. The process of upgrading culverts is ongoing.

D. Goals, Policies, and Recommendations

Goals

1. Maintain and improve the quality of Rochester's surface and ground waters.
2. Enhance and maintain use of flood hazard areas as open space, greenways, non-commercial recreation and/or agricultural land.
3. Ensure no net loss of flood storage capacity 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.
4. Increase flood storage capacity in Rochester.
5. Prepare Rochester to be resilient in the event of a severe storm by actively reviewing the Local Emergency Management Plan.
6. Protect municipal infrastructure and buildings from the potential of flood damage.

Policies

1. Use sound planning practices to address flood risks so that Rochester's citizens, property, economy, and the quality of the town's rivers as natural and recreational resources are protected.
2. Prohibit all new fill and construction of buildings in mapped floodways (*Mapped areas, unless corrected by FEMA*).

3. Limit permitted land uses within Rochester's River Corridor Areas to non-structural outdoor recreational and agricultural uses due to the dangerous erosive risk in these areas.
4. Prohibit commercial, industrial, and residential uses within ANR's mapped river corridor areas outside of designated village areas.
5. Consider moving or abandoning roads that often experience serious flood damage.
6. Design culverts and bridges, at minimum, to meet VTrans Hydraulics Manual, ANR Stream Alteration Standards, VTrans Codes and Standards. Maintain culverts to ensure they are effective during severe weather events.
7. Avoid building Rochester's emergency services, power substations, and municipal buildings in the Special Flood Hazard or River Corridor Areas.
8. Encourages property owners to maintain vegetated buffer strips in riparian zones bordering streams and rivers. Rock rip-rap and retaining walls should only be used to the minimum extent necessary and when bioengineering techniques may not be adequate to prevent significant loss of land or property.
9. Maintain Rochester's upland forests and watersheds predominately in forest use to ensure high quality valley streams and to ensure that flood flows are reduced.
10. Ensure all wetlands which provide flood storage functions remain undeveloped. In the long term, restoration and enhancement of additional wetlands should be pursued to improve Rochester's flood resilience. Some but not all wetlands can be seen on the ANR atlas.
11. Ensure after flood events, recovery and reconstruction within the river area are managed according to the Vermont River Program's best practices to avoid negative impacts downstream.

Recommendations

1. Revise Rochester's Flood regulations to reflect the policies in this chapter.
2. Work with VTrans and the Regional Planning Commission on advocating for and improving the flood capabilities of state or town-owned transportation infrastructure.
3. Continue working to update hazard mitigation plans and emergency preparedness and recovery procedures.
4. The Selectboard should continue to send a representative to regularly attend and participate in the region's Local Emergency Planning Committee (LEPC #12).
5. The town should continue to maintain and update town bridge and culvert inventories. This information should be used to develop a schedule to replace undersized culverts.

XIII. Natural, Scenic and Cultural Resources

A. Background

The rural landscape is of the utmost importance to the Rochester community, both for its utility and its scenic value. Rochester residents value open, working lands that are hospitable to both recreation and outdoor work. It is essential to the community that this landscape be protected as it is the fundamental reason why residents choose to live in Rochester. Residents want to maintain the quality of their landscape for the future and protect the natural world they value, while allowing the land to be worked safely and harmoniously.

Goals

1. Protect the natural, scenic and historic character of Rochester.
2. Maintain the quality of the landscape for the future and protect the natural world, while allowing the land to be worked safely, harmoniously and sustainably.

Policy

1. Ensure the natural, scenic and historic character of Rochester’s working landscape is protected, through careful land use planning.

B. Air Quality

Air quality is an important feature in our overall quality of life. Clean air contributes to our health and to clear skies and extended views. Rochester is heavily forested with limited development, but air quality can be affected from vehicle emissions, heating sources, backyard burning, commercial activities, and dust from construction projects.

Goals

1. Maintain healthy air quality.
2. Support state and federal programs directed at the reduction of air pollution and encourage enforcement of air-quality standards to prevent deterioration of the region’s air quality.

C. Water Resources

Water resources include aquifers (the supply of fresh water beneath the ground) and surface waters (streams, ponds and lakes). Sustainable yields of quality water are necessary for the lives and livelihood of citizens of Rochester. Groundwater is difficult to map and currently Rochester has no mapped groundwater information.

The Vermont Agency of Natural Resources, in cooperation with federal and other state agencies, has evaluated aquifer recharge areas serving systems involving 10 or more connections or 25 or more people. These recharge areas are acknowledged and are recognized as important for protection. Land developments that are potential threats to water quality and significant aquifers are discouraged from locating in these areas. Rochester has a well system that provides water to the village. The primary well is located south of the village in the aquifer recharge district. The 15-acre area surrounding it has been designated a “well-head protection area”.

The White River, West Branch, Bingo Brook, Brandon Brook and numerous other tributaries continue to provide excellent fishing opportunities for Brook and Rainbow trout. The Forest Service has purchased land and/or easements for public access to many areas of the White River.

Rochester is fortunate to have a non-profit organization that focuses on the protection of the White River watershed. The White River Partnership started in 1995 with a group of local citizens interested in preserving the

quality of life in the White River Watershed. A grass-roots organization, the White River Partnership (WRP) is a grassroots, non-profit organization that brings together people and local communities to improve the long-term health of the White River and its watershed. . The Partnership is committed to developing a diverse membership to assure a balanced approach to addressing the challenges facing the watershed, incorporating the best of traditional thinking and practice with current research and technology.

The health of Rochester’s surface waters is essential to maintaining quality groundwater, as well as an important element for outdoor recreation and natural beauty. There are many state and federal programs that help fund stream-management projects, such as the Conservation Reserve Enhancement Program (CREP). CREP provides funds to farmers for preserving lands once used for agriculture, with the goal of introducing and encouraging vegetated stream buffers to prevent erosion and provide habitat. Stream instability can lead to excessive flooding and other types of damage due to increased flow velocity.

Riparian buffers are strips of bankside vegetation along waterways that provide a transition zone between water and land use. Construction or development along shorelines, or removal or disruption of vegetation within these areas can create increased water pollution, higher water temperatures, destabilization of banks, higher soil erosion rates and loss of fish or wildlife habitats. Damages from extreme weather events have indicated a need for stream buffers, particularly in areas outside of the Flood Hazard Area.

Goals

1. Maintain or enhance the quality and quantity of drinking-water 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. Ensure land use activities which potentially threaten groundwater quality are carefully reviewed and monitored to prevent undue loss of groundwater quality.
2. Encourage preservation of the natural state of streams and water resources by,
 - Protection of adjacent wetlands and natural areas;
 - Protection of natural scenic qualities; and
 - Maintenance of existing stream bank stability, buffer vegetation, and wildlife habitat.
3. Ensure no structures are allowed within 50 feet of the top of the bank of designated permanent streams, except those that by their nature must be located near streams.
4. Ensure no ground disturbance or removal of vegetation is allowed within 35 feet of the top of the stream bank, excepting that incidental to bridge or culvert construction, or permitted bank stabilization.
5. Ensure development in Rochester is permitted only if it does not cause any significant environmental degradation or pollution of ground or surface waters or cause unreasonable reductions in supply.
6. Ensure no development of any kind is allowed adjacent to any brook, stream or tributary or in a well head recharge area that is potentially detrimental to water quality. .
7. Monitor all large water withdrawals in the regional area that have a potential to affect the water sources of Rochester residents.
8. Enact standards that maintain or improve water quality according to the policies and actions developed in the White River Basin Plan (Basin 9).

Recommendation

1. The Planning Commission should amend the Rochester Zoning Regulations to include stream buffer requirements that require setbacks and limitations on development immediately adjacent to streams.

D. Wetlands

Wetlands are ecologically fragile areas and how these lands are managed has a direct bearing on the quality and quantity of water resources. 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 public, including the following:

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

Rochester's 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). There are approximately 463 acres of mapped wetlands in Rochester.

Goal

1. Identify and encourage land use development practices that avoid or mitigate adverse impacts on significant wetlands.

Policies

1. Abide and adhere to state wetlands regulations.
2. Ensure structural development or intensive land uses are not be located in significant wetlands.
3. Ensure development adjacent to wetlands is planned so as not to result in disturbance to wetland areas or their function. Mitigating measures to protect the function of a wetland are an acceptable measure.

Recommendation

1. The Planning Commission should consider creating buffer rules for wetlands.

E. Flora, Fauna and Natural Communities

In Rochester, there is 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. Good management practices, such as requiring developers to locate their projects in less sensitive

areas, maintaining buffer areas and protect against silt runoff from excavating, are a few of the ways that these communities can be protected.

Rochester's fields, forests, wetlands and streams provide habitat to a diversity of flora and fauna. Although nearly all undeveloped land in the town provides habitat for these plants and animals, there are some areas which provide critical habitat that should remain intact. These areas include wetlands, vernal pools, and deer-wintering areas.

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. Rochester has more than 3569 acres (10% of Rochester's total acreage) of deer wintering yards.

Most important when considering development and its impact on wildlife is the concept of habitat fragmentation. Forests provide habitat to a diverse population of wildlife, which are negatively impacted when forested land is fragmented through development. 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 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. Because of its generally low density and the percentage of preserved forestland (Green Mountain National Forest) in town, Rochester maintains a substantial amount of good quality wildlife habitat.

Goals

1. Sustain the natural diversity of flora and fauna found in Rochester.
2. Maintain or improve the natural diversity, populations, and migratory routes of native fish and wildlife.

Policies

1. Ensure native wildlife populations and natural diversity are sustained and enhanced.
2. Encourage long-term protection of critical habitats through conservation easements, land purchases, leases and other incentives.
3. Protect deer wintering areas from development and other uses that adversely impact these areas.
4. Development is designed to preserve continuous areas of wildlife habitat whenever possible. Fragmentation of habitat is discouraged. Efforts should be made to maintain connecting links between such areas.
5. Give preference to development that utilizes existing roads.

Recommendation

1. The Planning Commission should consider amending the Rochester Zoning and Subdivision regulations to protect wildlife corridors.

F. Invasive Species

Invasive non-native species are a growing problem throughout Vermont. Invasive plants are defined as those exotic species that typically spread from disturbed areas into natural communities, but many of these species are also impacting yards, agricultural fields, and working forests. In Rochester the spread of invasives is negatively impacting the rural character of the town, reducing native plant populations and consequently affecting wildlife populations, creating economic impacts by dominating other plants in agricultural fields and inhibiting reproduction of trees in sugarbush areas and other forests, destroying the scenic quality of roadsides, reducing property values, and potentially posing health risks. At the present time, the greatest threats are posed by wild chervil (fields, roadsides and recently logged areas), Japanese knotweed (streams, rivers, roadsides, yards), and Japanese barberry (forests), but there are increasing threats throughout the region from garlic mustard, giant hogweed, and other invasives.

Some of these invasives, especially wild chervil and knotweed, have proliferated to such an extent that eradication from many sites is impossible, but there are still portions of the town that have not been infested. Diligence is necessary from town residents and employees to prevent the further spread of these species, and the introduction of new species that could pose more serious threats. For example, giant hogweed has been identified from several towns in Central Vermont. This Federally listed noxious weed produces a sap which, in combination with moisture and sunlight, can cause severe skin and eye irritation, painful blistering, permanent scarring and blindness.

One of the more common ways in which invasive species spread to new locations is when seeds or root segments are transported on vehicles, especially construction and logging machinery, mowers, etc. Best management practices have been identified for reducing the accidental spread of invasives, including avoiding using fill from invaded sites, washing of equipment before leaving infected sites, stabilization of disturbed sites, timing of mowing, etc.

Goal

1. Reduce the impact of invasive species on agriculture and native ecosystems.

Policy

1. Control new occurrences of invasive species to prevent further infestations.

Recommendations

1. Town employees and contractors should become familiar with the best management practices to prevent the accidental spread of invasives.
2. The town should work with the Upper White River Cooperative Weed Management Area to conduct workshops for town employees and residents on identification of invasives (to promote early detection) and control methods.
3. The town should consider developing criteria for new development projects that reduces the potential for new invasive plant infestations. (e.g., source of imported materials such as fill, hay bales, ornamental plantings, etc.)
4. The Town should time roadside mowing to minimize the spread of invasive species.
5. The Town should conduct an inventory of invasive species that can be used as baseline data to assess the future spread.

G. Mineral and Gravel Resources

The use and management of Rochester'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 land development, as well as state and local highways. Despite this, public and private interests are oftentimes in conflict over use of the resource. It is in the interest of the Rochester 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 conflict with other stated goals in this Plan.

Goal

1. Support extraction and processing of mineral resources only where such activities are appropriately managed, and the public interest is clearly benefited. Any support shall be balanced against the need to maintain the rural character valued by the citizens of Rochester.

Policies

1. Consider pollution, noise and vehicle traffic as part of the decision-making process when reviewing proposed gravel extraction projects.
2. Plan, construct and manager mineral extraction and processing facilities,
 - So as not to adversely impact existing or planned uses within the vicinity of the project site;
 - To not significantly interfere with the function and safety of existing road systems serving the project site;
 - To minimize any adverse effects on water quality, fish and wildlife habitats, viewsheds and adjacent land uses.
 - To reclaim and re-vegetate sites following extraction.
 - To minimize noise impacts on adjacent uses including residential areas;
 - To maintain the rural character of the Town.

H. Significant Natural and Historic Areas

While Rochester residents would agree that the entirety of the community is significant for its beauty and its rural landscape, there are several areas that represent the most significant places in Town. These lands are what most residents agree make Rochester the place it is today. These areas include:

- **The Park:** Perhaps no other location in Rochester symbolizes the Town more than the Park. With its stately maple trees, bandstand, the Civil War monument and surrounded by beautiful old homes, the Park is the focal point of many community events.
- **Bethel Mt. Road:** There are scenic views from many locations along the road. It offers foreground views of the woodlands and pastures, and distant views of the valleys and mountains stretching from Killington Peak in the south to Mt. Ellen to the north.

- **Route 100/White River Corridor:** As Vermont Route 100 winds its way north through the valley, it parallels the White River, offering views of the village, farms and other open areas and the Green Mountain foothills. Route 100 has been designated as one of Vermont’s scenic byways.
- **West Hill:** Located in the western part of Town, the West Hill offers the explorer a combination of woodland, cellar holes, old buildings, a cemetery, mountain streams and views of the main ridge of the Green Mountains.
- **The Hollows:** Little, North, Middle and South Hollow all offer spectacular scenery. Farms, forests, country lanes, mountains and streams, all the things that evoke the image of Vermont are in the Hollows.
- **Bingo:** Whether via auto, bicycle or cross-country skis, a trip along Bingo Brook offers beautiful views of the mountain streams in all seasons.
- **Pierce Hall:** Pierce Hall is a 100-year-old multi-purpose community center that has recently been renovated. It has a long history of public use.
- **Rochester Public Library:** The Rochester Public Library building was built in the late 1800’s originally as a church. It was given to the library trustees in the early 1900’s and has been actively used as a library since then. The building retains the original stained-glass windows from when it was a church.

In addition to the specific resources listed above, the Town of Rochester has numerous historic resources, both publicly and privately owned. A survey, conducted in 1973 by Vermont's Division for Historic Preservation, identified approximately 38 structures with historical significance. Twenty-five of these are located around the village Park. In addition, there are many other structures or sites of local significance.

Goal

1. Protect Rochester’s scenic and historical characteristics.

Policy

1. Consider the value of these areas during project review.

I. Conservation Commission

Vermont statute enables communities to create a Conservation Commission (CC), a volunteer board that focuses specifically on the natural, scenic and cultural resources within a community. A CC may conduct inventories of natural resources, recommend the purchase of or the receipt of gifts of land to the Selectboard, assist the planning commission with natural resource planning and maintain a conservation fund.

The CC, at the discretion of the town, can manage a fund which is to be used to assist with the purchase or conservation of property with the intention of protecting natural resources and implementing the town plan. Any use of such a fund requires support from the Selectboard.

Vermont state statute Title 24, Chapter 118 Conservation Commissions, provides guidance on the powers and duties of a Conservation Commission (<https://legislature.vermont.gov/statutes/section/24/118/04505>).

Rochester does not have a Conservation Commission currently.

Recommendation

1. Rochester should consider creating a conservation commission.

J. Land Protection Strategies

Methods of protecting significant lands are varied. In general, there are two ways to encourage the preservation of culturally and naturally significant areas: regulatory & voluntary. Voluntary methods include:

- Preserving land by placing restrictions on its use, through such tools as conservation easements or mutual covenants.
- Transferring land to a conservation organization (such as the Vermont Land Trust) through donation.
- Selling or donating land with conditions attached, like deed restrictions or conditional transfers.

Rochester could become an active participant in land conservation through the creation of a conservation fund. This fund could be used to purchase land outright, or assist a land conservation organization with the purchase of a conservation easement. It is safe to assume that there will never be sufficient funding for land protection strategies to acquire conservation easements or ownership for all the unprotected identified areas of value.

Regulatory methods use zoning and/or subdivision rules to regulate the location, density and design of development within selected areas to minimize harmful impacts while allowing for a reasonable level of development.

Goals

1. Identify and protect those natural and historic resources that are unique to Rochester and make it special.
2. Preserve and protect Rochester's important cultural and natural resources for future generations.
3. Allow for reasonable development without sacrificing important cultural and natural resources.

Policies

1. Ensure careful review of all development projects to minimize the impact on Rochester's natural and cultural resources.
2. Protect unique resources by careful planning.
3. Encourage the working landscape for the sustainable use of forest and agricultural resources.

XIV. Agriculture and Forestry

Agriculture and forestry define the character of Vermont and have historically been 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.

A. 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.

The Class 4 roads in this area are fragile in their nature and not suited for present day traffic. Although historically the town roads have been used for logging, they could sustain significant damage in a short time if not properly maintained. Road maintenance is a major cost factor for town residents. It is advisable to review logging projects as to their impact on town roads.

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 State's Use Value Appraisal Program (UVA or 'Current Use'), State, which sets the valuations on farm and forest land based on their productivity values rather than their development values. 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.

B. Agricultural Trends

An analysis of the United States Census of Agriculture data between 2002 and 2007 (2007 being the most recent period of data collected) shows that farming in Vermont is slowly shifting away from the larger scale farm that developed because of trends toward consolidation. Between 2002 and 2007, the number of farms in Vermont increased by 6%. The average size of farms decreased from 189 acres to 177 acres between ag censuses. This is most likely because 37% of Vermont's farms in 2007 were considered "hobby farms" – farms that sell under \$2,500 in agricultural products per year. While the number of "hobby 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 passed legislation which created the Farm to Plate Investment program, part of which included the creation of the Farm to Plate Strategic Plan.

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.

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.”

In Rochester, as in the rest of Vermont, the scale and style of farming has changed. While there is only one dairy farm in Rochester, the 2007 Census of agriculture reports that there are 27 full and part-time farm operations. More than 60% of these operations utilize at least 50 acres of land. Products grown or produced on farms in Rochester include hay, hemp, milk, corn, maple syrup, fruit, cattle, horses, chicken, pigs and sheep.

C. Forestry Trends

Three primary trends have affected the region’s forestland and its productivity. First, forests and farms are being increasingly fragmented or subdivided into small lots which threaten the economic viability of forestry. Development pressure in the region has been 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.

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 Labor, 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 a gradual decrease in the amount of usable farmland. Use of smart growth principles, like clustered housing, can avoid this.

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. It states that agricultural activities shall be entitled to a rebuttable presumption that the activity does not constitute a nuisance if the agricultural activity meets statutory conditions.

D. Forest Fragmentation

Forest fragmentation is the breaking of large, contiguous, forested areas into smaller pieces of forest. For natural communities and wildlife habitat, the continued dividing of land with naturally occurring vegetation and ecological process into smaller and smaller areas create barriers that limit species’ movement and interrupt ecological processes.

Since the 1980's, Vermont has experienced fragmentation, which is the result of larger tracts of land being divided into smaller ownerships or land holdings. The more individuals that own smaller parcels of forest, the more likely that the land will ultimately be developed with infrastructure (such as roads and utilities) and buildings. The 2015 Vermont Forest Fragmentation Report identifies the following causes for this trend:

- Escalating land prices;
- Increased property taxes;
- Conveyance of land from aging landowners; and
- Exurbanization (the trend of moving out of urban areas into rural areas)

While development pressures have slowed in Vermont since 2010, the damage done to our forestlands has been significant. Based on forest block mapping by the VT Fish & Wildlife and Agency of Natural Resources, in several neighboring communities (including Randolph, Hartland and Brookfield), there are no longer large, contiguous, forested areas to serve as significant wildlife habitat or to act as connections to larger areas of habitat. Therefore, Rochester must continue to be vigilant in protecting against forest fragmentation.

Forest Resources

Vermont is one of the most heavily forested states with 4.6 million acres or 75% of its lands covered in trees. The Two Rivers region is situated within the larger North-Eastern forest corridor, which contains the Green Mountains (running down the spine of Vermont), the Adirondack Mountains (in eastern New York), and the White Mountains (in western New Hampshire). Accordingly, two famous hiking trails run through the Two Rivers area: the Long National Recreation Trail (or 'Long Trail,' which stretches from the northern to southern border of Vermont) and the Appalachian National Scenic Trail (or 'Appalachian Trail,' which cuts a path between Georgia and Maine).

At the local level, forestlands might be owned by the federal, state, or even local government, or by private individuals. Some of the private properties have been conserved with the assistance of local land trusts (for example, the Vermont Land Trust or the Upper Valley Land Trust), while others are enrolled in the State's Use Value Appraisal Program (UVA or 'Current Use').

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 resources that can be used to conserve these resources, including regulatory and voluntary programs. It is in the public interest to encourage conservation groups, landowners, local officials, and policymakers to utilize these resources.

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 Rochester 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 Rochester’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. Rising fuel prices have led to an increased interest in food and energy security. Additionally, Vermonters are increasingly seeking locally-sourced, sustainably-produced farm and forest products. 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, spirits and beer, artisan cheese, specialty wood products, produce, breads and other value-added items.

For Rochester, 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 Rochester 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, contributing further to the local 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. Encourage the economic growth of agricultural and forest operations at a scale that is appropriate for Rochester.
4. Encourage the use of locally-grown food products.

5. Maintain the acreage of contiguous forestland to ensure that all indigenous species have adequate access to necessities, including, but not limited to food, water, and varied habitat.
6. Maintain the historical land use pattern of town centers separated by rural countryside.
7. Reduce the fragmentation of forest lands.

Policies

1. Encourage clustered or peripheral development where high value agricultural and forested land is identified, to protect such resources and prevent fragmentation and sprawling settlement patterns.
2. Limit development in contiguous forest and significant agricultural areas to non-intensive uses unless no reasonable alternative exists to provide essential residential, commercial and industrial activities for the Town's inhabitants.
3. Ensure the construction of utilities, roads or other physical modifications skirt tracts of productive agricultural land rather than divide them.
4. Encourage farmers, loggers, and foresters to 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.
5. Support the development of value-added farm and forestry products in Rochester.
6. Preserve recreational and scenic access by ensuring that at the completion of logging projects all roads are restored to conditions that protect water and soil resources.
7. Support use Conservation easements established by the State of Vermont and non-profits.
8. Limit motorized recreation to designated existing trail/road networks that are compatible with any critical wildlife habitat and water quality protections.
9. Encourage the development of renewable energy generation methods
10. Encourage forestry practices that maintain or enhance the diversity of ecosystems existing in the region.
11. Encourage appropriately sited and designed businesses that promote the local processing, sale and distribution of native raw materials and products.

Recommendations

1. Local land use planning activities and programs affecting agriculture and forestry should consider the ways to promote these industries. This could include local bylaws and the creation of farm and forest land conservation programs, including:
 - overlay districts
 - agricultural zoning
 - transfer of development rights
 - purchase of development rights
 - cluster development
 - area based allocation
 - performance standards
 - impact fees;
2. Promote a better understanding of 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.

XV. 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.

To analyze the potential for outside impacts on Rochester, 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:

- **Bethel** – Bethel has had a municipal plan and zoning for decades. Their current plan was adopted in 2014 and their zoning bylaw was adopted in 2008. Much of the land that abuts Rochester in Bethel is of a scale and density that is like Rochester – primarily rural residential in nature. However, along the Camp Brook Road, Bethel currently has an area that allows an extensive range of commercial activities, which is not consistent with how Rochester treats the road. As of the writing of this document, the Planning Commission is aware that Bethel is revising their Town Plan and this potential conflict is likely to be addressed.
- **Braintree** – The Town of Braintree has had a long history of planning and zoning. Their current Plan was adopted in 2017. The Braintree Unified Bylaw (zoning and subdivision) was adopted in 2010. A substantial portion of Rochester's eastern 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 to maintain the rural nature of the land. There are no conflicts between the Rochester and Braintree Plan.
- **Chittenden** – The Town of Chittenden has an adopted Town Plan (2015) and no additional land use regulations. Much of the more rural landscape in Chittenden has been identified as appropriate for recreation, agriculture and forestry. New residential and commercial development is discouraged from these areas. This pattern of development does not have the potential to create conflicts with the Rochester Town Plan.
- **Goshen** – Goshen has a minimal approach to land use, although they do have a Town Plan and zoning bylaw. Their Plan, adopted in 2017, has a limited number of land use areas. These areas divide the community (including lands adjacent to Rochester) into low density residential and conservation areas. The pattern of development proposed in Goshen is consistent with Rochester's Town Plan.
- **Granville** – Granville has an adopted Town Plan and a Flood Hazard Bylaw. The pattern of development promoted by the Granville Town Plan along Rochester's border is 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.
- **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 Rochester Town Plan.
- **Pittsfield** – The Town of Pittsfield is Rochester's immediate neighbor to the South. Pittsfield has a Town Plan, but they do not have zoning or subdivision regulations – only Flood Hazard Regulations.

Pittsfield’s approach to land use density and type along Rochester’s border is like Rochester – dispersed development that is primarily residential in nature.

- **Stockbridge** – The Town of Stockbridge has an adopted Town Plan (2015) as well as zoning, subdivision and flood hazard regulations. The border shared by Rochester and Stockbridge is fairly small. The pattern of development in this area is rural in nature, which is consistent with the Rochester Town Plan.

B. Relationship to the Regional Plan

Rochester 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 the Towns of Pittsfield, 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 July 2017. It will remain in effect for a period of eight 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 Areas, Industrial Areas, Mixed-Use Areas, 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 Rochester.

Policies

1. Encourage continued communication and cooperation between Rochester and its neighboring towns.
2. Continue participation in the Two Rivers Ottawaquechee Regional Commission.
3. Exchange planning information and development data with neighboring communities.

XVI. Town Plan Implementation

Title 24, Chapter 117, §4382(7) requires a Town Plan to contain a “recommended program for the implementation of the objectives of the development plan”. While it is not required by law that communities implement any of the policies or recommendations in a municipal plan, it is important to recognize that in order to meet the vision of the Plan, it must be implemented wherever possible.

In order to ensure that the policies of this Plan are implemented, it is essential to identify what Municipal Panel, organization or citizen is most suited to act on them. Throughout this Plan, the Planning Commission has identified recommendations for action and indicated who should be responsible for them. Generally, responsibility for implementation of the Plan falls to either the Planning Commission (in the case of implementing changes to land use regulations) or the Selectboard (in the case of implementing municipal policy). However, advisory committees as well as other community organizations could also have responsibilities for implementation.

In addition to assigning responsibility, the Planning Commission should also keep track of progress made toward implementing the goals, policies and recommendations of this Plan. This information will be useful to identify areas where additional effort needs to be applied to achieve implementation. It can also be used to describe how successful the community has been at implementation in the next iteration of this Plan, and to guide future policy.

In order to track the progress of implementation, the Planning Commission has included a chart that identifies the policy or recommendation and the responsible party. See Appendix A.

Appendix A: Implementation Matrix

The implementation matrix is the culmination of all the action items (recommendations) in this Town Plan with appropriate responsible parties in Rochester and beyond to fulfill these action items.

List of acronyms:

Selectboard = SB

Planning Commission = PC

Fire Department = FD

Highway Department = HWY

Budget Committee = BC

Two Rivers-Ottawaquechee Regional Commission = TRORC

Emergency Management Director = EMD

Vermont Agency of Transportation = VTrans

Rochester Implementation Matrix		
Task		Responsible Parties
CURRENT AND FUTURE LAND USE		
1	Continue to work cooperatively with the United States Forest Service on planning and decision making on land use within the Green Mountain National Forest.	SB, PC
2	Ensure that Rochester zoning regulations is consistent with state law regarding the regulation of agricultural structures.	PC
Commercial - Agricultural Area		
1	Establish minimum area dimensional requirements including setbacks to avoid any strip or cluttered appearance at the intersection of the Town’s two main arteries and along the southern and northern entrances to the village.	PC
2	Maintain the one acre minimum lot size and instill a maximum building footprint not to exceed 3,000 square feet.	PC
ECONOMIC DEVELOPMENT		
1	Investigate options for increasing the amount of available parking.	PC, SB
2	Renew Rochester's village designation when it expires in 2023.	SB
3	The Selectboard should consider establishing an Economic Development Committee to implement the Plan's Economic Development goals, policies and recommendations.	SB
TRANSPORTATION		
1	The Selectboard should develop a town highway capital plan and schedule that will guide maintenance and road infrastructure investments in the future.	SB
2	The Planning Commission and the Selectboard should look into lowering the speed limit to 25 mph in the Village.	PC, SB
3	The Selectboard should continue to pursue additional safe parking in the village to accommodate large events on the Park and at Pierce Hall.	SB
UTILITIES AND FACILITIES		
1	The Selectboard and Budget Committee should maintain the Capital Budget and Program to guide future investments in infrastructure.	SB, BC
2	The Selectboard should work with the Planning Commission to find ways to enhance cellular and internet services in Rochester.	SB, PC

HEALTH AND EMERGENCY SERVICES		
1	The Selectboard should maintain a Hazard Mitigation Plan with assistance from the Two Rivers-Ottawaquechee Regional Commission.	SB, TRORC
2	Continue to have the Selectboard keep the LEMP 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.	SB
3	Continue to have the town take sensible steps that can reduce disaster costs, damage to property and loss of life.	SB, EMD
4	Ensure new driveways are constructed in consultation with the Rochester Fire Department so that there is adequate access during an emergency	FD
ENERGY		
1	Town officials and volunteers should work to increase public awareness and use of energy conservation practices, energy-efficient products and efficiency and weatherization programs through educational efforts aimed at residents and businesses.	SB
2	The Town should support community-based renewable energy generation, to include municipal or district biomass heating systems, and the installation of individual or group net metered generation facilities on town buildings and property to serve town facilities.	SB
3	The Selectboard should appoint an Energy Committee to develop an Energy Action Plan as a supplement to the municipal plan, to more specifically quantify and track municipal energy consumption, identify areas in town that are appropriate for renewable energy production such as wind, solar and micro hydro, and to recommend actions that the town and community should take to conserve energy, increase energy efficiency, promote local energy production from renewable resources, and to reduce energy costs and greenhouse gas emissions.	SB
4	The Town should adopt a no-idling policy that specifically applies to municipal vehicles, such as the public works fleet, regardless of the vehicle's location. For more information go to www.idlefreevt.org .	SB
5	The Town should expand the Capital Budget and Program to include short and long-range plans for energy efficiency improvements to municipal buildings.	SB

6	The Town should develop facility maintenance and operation policies that maximize energy efficiency while maintaining comfort levels for employees and visitors, to include building temperature, heating and air conditioning guidelines, electrical equipment uses guidelines, interior and exterior lighting guidelines, and the use of energy management devices (e.g., sensors, timers). Examples include: installation of day-lighting tubes, programmable thermostats, occupancy light sensors, smart strips and energy star appliances.	SB
7	The Town should assess and, if feasible, replace facility lighting with energy efficient compact fluorescent or LED bulbs and fixtures and, with the assistance of Efficiency Vermont and local utilities, evaluate options to improve the efficiency and reduce the costs of street, pedestrian, parking lot and public space lighting. Some of these options include the elimination of certain fixtures, the replacement of inefficient bulbs with more efficient ones, such as LEDs, and the utilization of lighting controls such as timers or light sensors.	SB
8	The Town should develop municipal vehicle purchase, maintenance and use policies, including minimum fuel efficiency standards for new vehicles. An example of a maintenance policy would be: ensure that all municipal vehicles are up to date with tune ups and tire pressure checks to maximize fuel economy.	SB
9	The Town shall consider the benefits and/or drawbacks of using regionally available alternative-fuels, such as biodiesel, in municipal vehicles.	SB
10	The Rochester Selectboard should discuss the PACE program at a future meeting and decide whether the program should be placed on the ballot for Town Meeting.	SB
11	The Town should apply for an electric vehicle charging station grant to put chargers in the Park and Ride or at the town offices.	SB
12	The Planning Commission should develop screening techniques for renewable energy generation projects in the zoning bylaws.	PC
FLOOD RESILIENCE		
1	Revise Rochester's flood regulations to reflect the policies in this chapter.	PC
2	Work with VTrans and the Regional Planning Commission on advocating for and improving the flood capabilities of state or town-owned transportation infrastructure.	SB, Vtrans, TRORC

3	Continue working to update hazard mitigation plans and emergency preparedness and recovery procedures.	EMD, SB
4	The Selectboard should continue to send a representative to regularly attend and participate in the region's Local Emergency Planning Committee (LEPC#12).	SB
5	The town should continue to maintain and update town bridge and culvert inventories. This information should be used to develop a schedule to replace undersized culverts.	SB
NATURAL, SCENIC AND CULTURAL RESOURCES		
<i>Water Resources</i>		
1	The Planning Commission should amend the Rochester Zoning Regulations to include stream buffer requirements that require setbacks and limitations on development immediately adjacent to streams.	PC
<i>Wetlands</i>		
1	The Planning Commission should consider creating buffer rules for wetlands.	PC
<i>Flora, Fauna and Natural Communities</i>		
1	The Planning Commission should consider amending the Rochester Zoning and Subdivision regulations to protect wildlife corridors.	PC
<i>Invasive Species</i>		
1	Town employees and contractors should become familiar with the best management practices to prevent the accidental spread of invasives.	HWY
2	The town should work with the Upper White River Cooperative Weed Management Area to conduct workshops for town employees and residents on identification of invasives (to promote early detection) and control methods.	HWY
3	The town should consider developing criteria for new development projects that reduces the potential for new invasive plant infestations. (e.g., source of imported materials such as fill, hay bales, ornamental plantings, etc.)	SB
4	The town should time roadside mowing to minimize the spread of invasive species.	HWY
5	The town should conduct an inventory of invasive species that can be used as baseline data to assess the future spread.	HWY
<i>Conservation Commission</i>		
1	Rochester should consider creating a conservation commission.	SB
AGRICULTURE AND FORESTRY		

1	Local land use planning activities and programs affecting agriculture and forestry should consider the ways to promote these industries. This could include local bylaws and the creation of farm and forest land conservation programs, including: overlay districts, agricultural zoning, transfer of development rights, purchase of development rights, cluster development, area based allocation, performance standards, and impact fees.	PC
2	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.	PC

Appendix B: Tropical Storm Irene History

On August 28, 2011, the State of Vermont found itself in the path of Tropical Storm Irene. The storm caused power outages statewide for approximately 50,000 households and widespread flooding that resulted in six deaths. Record amounts of rain fell in a short amount of time resulting in catastrophic flooding across the state. Rainfall totals were between 4 and 7 inches with some locally higher amounts up to 10 inches concentrated during a 6-8-hour period. The Otter Creek reached an historic crest (nearly 4 feet over the previous record in 1938) and the Mad, Winooski and White Rivers were very close to records established in 1927. Those main stem rivers were fed by many smaller tributaries that caused damaging flash flooding throughout the central and southern parts of the state.

More than 1500 Vermont families were displaced, and the transportation and public infrastructure was decimated. Of Vermont's 251 towns and cities, 223 towns were impacted by Irene, causing household damage, infrastructure damage or both. Forty-five (45) municipalities were considered severely impacted. Hundreds of state and local roads were closed for an extended period completely isolating numerous towns and limiting access to many others. This resulted in state and National Guard missions to deliver emergency supplies by ground and air. The flooding also caused the first-ever evacuation of the State Emergency Operations Center due to access challenges and the impact to the buildings and support mechanism in the state office complex in Waterbury.

By mid-afternoon on Sunday, Nason Brook, Rogers Brook, Breakneck Brook, Brook St. Brook and Cold Brook, had turned into raging rivers carrying the runoff from their steep banks. With culverts blocked at the point where those brooks cross under Route 100, both Nason Brook and the Brook St. Brook breached their banks and flowed swiftly across Route 100, making passage nearly impossible. Brook St. Brook undermined the foundation of a century-old home, causing it to collapse, nearly trapping one resident as he tried to evacuate. At Nason Brook the current across route 100 was so strong that some residents had to be rescued by bucket loader. In the wide area that frequently floods along the banks of the White River, the water reached a height of ten feet (the rim of a basketball net) before it began to abate.



2 - View of Route 100, Brook St. Brook (Source: Mansfield Heliflight)

Monday, August 29th

Some of the most severe damage took place in and around Rochester and its neighboring communities, including Hancock, Granville, Bethel, Pittsfield and Stockbridge. Few

communities were impacted on the scale that Rochester was. By the morning of August 29th, the town of Rochester found itself completely and utterly cut off from the rest of the world. The White River had washed away the electric substation that fed power to the community. Telephone and cellular communications were completely down. Highways leading out of Rochester (Route 100, Route 73 and Camp Brook Rd.) were all so severely damaged that no one could get in or out by vehicle.

In addition to the damage to municipal infrastructure, homes had been devastated. The White River overflowed its banks, destroying and inundating valuable farmland. Many of the small tributaries that feed run-off from the hills into the river valley became far more violent and dangerous than they had ever been. The dangers of fluvial erosion became apparent as these small streams attempted to find equilibrium under the sudden and massive



3 – Damaged Woodlawn Cemetery, Nason Brook (Source: Associated Press)

amount of rain; they broke through their usual quiet meanders, taking away soil, trees, and rocks and in some cases damaging or destroying homes. Particularly alarming was the damage caused by Nason Brook. The Woodlawn Cemetery, which is built on sandy soils, found itself quickly eroding away as an over-full Nason Brook rushed toward the White River. The damage disinterred 50 coffins and caused a potential community health hazard, not to mention the significant emotional damage caused by the loss of remains.



4 - Residents line up to get food from Mac's Market (Source: Associated Press)

While many communities devastated by Irene struggled with where to begin with the recovery process, Rochester rallied together. Members of the Selectboard, emergency services and road crews met at the Town Office (command center for the incident) to determine a course of action. With cell phone coverage out, officials drove to the top of Bethel Mountain where coverage was still available and contacted state emergency officials to let them know that the citizens of Rochester were alive, but trapped and in need of assistance. The Selectboard and volunteers organized a town meeting, which was attended by nearly 300 residents after volunteers went door-to-door to notify them. These meetings continued at 1PM daily and provided residents with a much needed and valuable source of up-to-date information.

Recognizing the crisis that was affecting their community, the Town's grocery store opened and rather than allow their perishable food to go to waste, they gave it away. Four restaurants provided meals to residents, and volunteers at the Federated Church collected enough food to offer lunch on Tuesday. The Rochester Emergency Shelter, located in the Rochester School, was activated the first night of the flood to house travelers who found themselves trapped in town. This facility continued as the primary location for meals and donated supplies throughout the disaster period. Volunteers kept the shelter operating and turned out three meals a day for an extended period, post event.

Local heavy equipment operators with excavators, bulldozers and dump trucks went to work to assist Town and State highway crews. Members of the Rochester Fire Department embraced their role as emergency responders and assisted wherever needed, doing wellness checks on individuals, conducting electric surveys with CVPS, directing traffic, staffing helicopter landing zones, assisting medical transport, and using fire hoses to remove culvert debris.

Tuesday, August 30th

On Tuesday, those in need of serious medical assistance, including four dialysis patients, were removed from town by helicopter or were driven out in four-wheel drive vehicles after road crews cleared a logging road from Barnard to Stockbridge making it passable for emergency vehicles. National Guard helicopters were able to make several drops of essential emergency materials including bottled water (the municipal water supply was working via generator, but water had to be boiled), meals-ready-to eat and blankets.



5 - National Guard members hand MREs and water to Rochester residents (Source: Associated Press)

Concerns grew about the potential lack of food in the community, as well as the lack of fuel to run generators and emergency equipment. Prescription drugs and other medical needs also became a concern after Irene. To address this concern volunteers (including members of the Bethel Fire Dept.) created an emergency system for identifying critical needs and developing protocols to order and coordinate delivery of medicines and other medical, mental health and critical care. The administrative staff at Gifford Medical Center in Randolph was essential to this effort.

to the failure of the bridge that connects Route 73 with Route 100. Making matters worse, bridges farther west had also failed, creating an “island”. Stranded residents took responsibility for addressing their own needs during the extended period of isolation.

Residents located on the western side of the White River were completely shut off from the rest of the community due

Wednesday, August 31st

By Wednesday, trucks owned by Central Vermont Public Service (now Green Mountain Power) began to appear around the community. Power would return days later, well short of the potential two to three weeks that was originally estimated. Residents continued to meet daily.

The Process of Recovery

In the following days and weeks, Rochester and its community members would work together to help each other recover from Irene’s devastation. Groups organized to help clean up the damage to homes and buildings. Residents built a footbridge across the White River to allow those who lived on the Route 73 side of Rochester who were stranded to be able to access Route 100. Some families kept a car on each side of the river to get back and forth to work for the seven weeks until a temporary bridge was constructed.

Local groups organized cleanup events and made great efforts to keep community morale up. Local clean-up crews were joined by volunteers from across the State. Electric companies from Canada and points south assisted CVPS in the placement of a portable substation to take the place of the destroyed sub-station and transmission lines. Neighbors in Addison County volunteered their trucks and drivers; Brandon Fire & Rescue acted as the fire crew for “the Island of West Rochester” before the Route 73 Bridge was restored. The most common comment made by Rochester residents as they worked to recover from Irene was that “This community has been fantastic”.



6 - Temporary footbridge over White River (Source: VTrans)

While Rochester’s community has shown its mettle, and bonds have formed between citizens that might never have grown, there is still much work to be done.

FEMA

Rochester, like much of Vermont, has had a mixed experience with the Federal Emergency Management Agency. FEMA is responsible for providing aid to communities and their residents under federally declared disasters. The

Selectboard has worked with FEMA to take advantage of funding for the repair of municipal infrastructure such as roads and bridges. But where the municipality wished to make improvements that enhance flood resiliency, FEMA's strict regulations make this challenging. Rochester benefited from additional funding from other agencies that allowed some structures to be upgraded.

It is estimated that 30 of Rochester's roads were damaged to some extent, many with portions completely washed away. The total amount of funds spent repairing town property (including roads, bridges, culverts, ball fields, parks, cemetery, and sewer system and tennis courts) was close to \$3,000,000. When final reimbursements from FEMA and the State of Vermont are collected, Rochester's share will be just under \$50,000.

For businesses and private citizens, working with FEMA is a more challenging and slower process. Businesses are not eligible for FEMA relief funding and instead can take advantage of low-interest loans through the Small Business Association. The burden of adding more debt to a business that may already be carrying debt can make reopening after a disaster difficult. Homeowners are eligible for what is called Individual Assistance through FEMA, but the maximum amount of assistance per home is \$30,200. If a resident's home is destroyed, the cost to replace it is likely to be substantially more than \$30,200.

Under certain circumstances, some properties may be eligible for a FEMA buyout through the State of Vermont. The purpose of this program is to completely remove structures that have been and are likely to be severely damaged by flooding again. These homes, if purchased through this program, are demolished and the land becomes town property and is unable to be developed again. The buyout amount is generally 75% of the value of the building, but the building must have substantial damage, which is defined as more than 50% of the value of the home. There are two homes in Rochester that were bought out through this program.

"For all of its destruction, Tropical Storm Irene also demonstrated why we love this community, and why we have chosen to live, work and raise our families here. Everyone should be as proud as we are of Rochester's response to one of the most significant events in the history of the Town." - Rochester Selectboard, 2011 Town Report

Lessons Learned

The municipal response to Irene made it clear that the systems put in place by Town Government to handle such a severe hazard event were generally successful. The Selectboard was effective in keeping the lines of communication with members of the community open through regular scheduled meetings. The distribution of information is probably the most important element of disaster response. Volunteers maintained the Rochester web site and utilized social media to communicate essential information to the public.

Additionally, municipal staff and volunteers including the road crew, public works crew and the volunteer fire department were invaluable to the Town's response. Collectively they worked well with the community to bring essential services back online and to ensure that the health and safety of all were maintained.

The devastation caused by Irene within the Flood Hazard Area (FHA) and outside the FHA in fluvial erosion hazard areas has made it clear that development in these areas carries high risk. When surveyed by the Planning Commission in 2012, 70% of the responses indicated that current regulations should be more stringent to enhance flood safety. Nearly 60% of the respondents felt that development within the floodplain should be prohibited altogether.

The most essential lesson learned was how strong Rochester's community is. The impact of Irene was felt to the core of this community, and as a result, it will influence the future and the vision of the community in many ways, which is why Irene will be a recurring theme throughout this plan. The resourcefulness and resilience of Rochester's people were extraordinary in the face of incredible dislocation. It is felt by many that the bonds created by Irene will last forever and will continue to make Rochester a better place.

Appendix C: Energy Data

Municipal Template - Energy Data

The following is an explanation of the information displayed in the Municipal Template for Rochester.

The intent of the Municipal Template is to provide the municipality with data that can be used to ensure compliance with the requirements of Act 174 and “Enhanced Energy Planning” (24 V.S.A. 4352). The spreadsheet contains data that estimates current energy use and provides targets for future energy use across all sectors (transportation, heating, and electricity). It also sets a target for renewable energy generation within the municipality.

This data is meant to be a starting point for the municipality to begin planning its energy future and to talk about the changes that may need to occur within the municipality to ensure that local, regional and state energy goals are met. This includes the goal that 90% of all energy demand be met by renewable sources by 2050.

Estimates of current energy use consist primarily of data available from the American Community Survey (ACS), the Vermont Agency of Transportation (VTrans), the Vermont Department of Labor (DOL), and the Vermont Department of Public Service (DPS). Targets for future energy use are reliant upon the Long-range Energy Alternatives Planning (LEAP) analysis for the region completed the Vermont Energy Investment Corporation (VEIC). Targets for future energy generation have come from the regional planning commission and DPS. Targets for both future energy use and energy generation have been generally developed using a “top down” method of disaggregating regional data to the municipal level. This should be kept in mind when reviewing the template. It is certainly possible to develop “bottom up” data. For those municipalities interested in that approach, please see the Department of Public Service’s Analysis and Targets Guidance.

There are some shortcomings and limitations associated the data used in the Municipal Template. For instance, assumptions used to create the LEAP analysis are slightly different than assumptions used to calculate current municipal energy use. Regardless, the targets established here show the direction in which change needs to occur to meet local, regional and state energy goals. It is important to remember that the targets established by LEAP represents only on way to achieve energy goals. There may several other similar pathways that a municipality may choose to take in order to meet the 90x50 goal.

Figure 1 - Data Sources

American Community Survey (ACS)
Vermont Department of Labor (DOL)
Vermont Department of Public Service (DPS)
Energy Information Administration (EIA)
Efficiency Vermont (EVT)
Long-range Energy Alternatives Planning (LEAP)
Vermont Energy Investment Corporation (VEIC)
Vermont Agency of Transportation (VTRANS)

Below is a worksheet by worksheet explanation of the Municipal Template spreadsheet:

1. Municipal Summary

The Municipal Summary worksheet summarizes all data that is required to be in the Municipal Plan if the plan is to meet the “determination” standards established by the Vermont Department of Public Service.

1A. Current Municipal Transportation Energy Use

Transportation Data	Municipal Data
Total # of Vehicles (ACS 2013-2017)	911
Average Miles per Vehicle (FHWA.dot.gov, 2018)	13,228
Total Miles Traveled	12,050,708
Realized MPG (VTrans Transportation Energy Profile 2017)	18.9
Total Gallons Use per Year	637,604
Transportation BTUs (Billion)	77
Average Cost per Gallon of Gasoline (eia.gov, Feb. 2019)	2.31
Gasoline Cost per Year	\$1,472,865

This table uses data from the American Community Survey (ACS) and Vermont Agency of Transportation (VTrans) to calculate current transportation energy use and energy costs.

1B. Current Municipal Residential Heating Energy Use

Fuel Source	Municipal Households (ACS 2013-2017)	Municipal % of Households	Total BTUs for heating by fuel	Municipal BTU (in Billions)
Natural Gas	0	0.0%	0	0
Propane	84	16.8%	7,767,720,000	8
Electricity	19	3.8%	1,951,680,000	2
Fuel Oil	208	41.6%	17,587,980,000	18
Coal	0	0.0%	0	0
Wood	186	37.2%	18,675,540,000	19
Solar	0	0.0%	0	0
Other	3	0.8%	308,160,000	0
No Fuel	0	0.0%	0	0
Total	500	100.0%	46,291,080,000	46

This table displays data from the ACS that estimates current municipal residential heating energy use.

1C. Current Municipal Commercial Energy Use

	Commercial Establishments in Municipality (VT DOL)	Estimated Thermal Energy BTUs per Commercial Establishment (in Billions) (VDPS)	Estimated Thermal Energy BTUs by Commercial Establishments in Municipality (in Billions)
Municipal Commercial Energy Use	32	0.725	23

The table uses data available from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (DPS) to estimate current municipal commercial establishment energy use in the municipality.

1D. Current Electricity Use

Use Sector	Current Electricity Use
Residential (kWh)	4,420,631
Commercial and Industrial (kWh)	1,755,467
Total (kWh)	6,176,098

Average Residential Usage

5,982

This table displays current 2017 KWH use by Year with data from Efficiency Vermont (EVT)

1E. Residential Thermal Efficiency Targets

	2025	2035	2050
Residential - Increased Efficiency and Conservation (% of municipal households to be weatherized)	33%	67%	100%

This table displays targets for thermal efficiency for residential structures based on a methodology developed by DPS using data available from the regional Long-range Energy Alternatives Planning (LEAP) analysis and ACS. The data in this table represents the percentage of municipal households that will need to be weatherized in the target years.

1F. Commercial Thermal Efficiency Targets

	2025	2035	2050
Commercial - Increased Efficiency and Conservation (% of commercial establishments to be weatherized)	6%	9%	18%

This table shows the same information as Table 1E, but sets a target for commercial thermal efficiency. Information from the VT DOL is required to complete this target.

1G. Thermal Fuel Switching Targets (Residential and Commercial) - Wood Systems

	2025	2035	2050
New Efficient Wood Heat Systems (in units)	0	0	0

This target was calculated using data from LEAP and ACS. This table provides a target for new wood heating systems for residential and commercial structures in the municipality for each target year. Due to the LEAP model forecasting a large decrease in wood use resulting in a negative number of targets we have put zero in for this section. Towns are encouraged to use efficient wood heat.

1H. Thermal Fuel Switching Targets (Residential and Commercial) - Heat Pumps

	2025	2035	2050
New Heat Pumps (in units)	49	129	271

This table provides a target for new heat pump systems for residential and commercial structures in the municipality for each target year. This target was calculated using data from LEAP and ACS.

1I. Electricity Efficiency Targets

	2025	2035	2050
Increase Efficiency and Conservation	-0.6%	5.7%	9.9%

Data in this table displays a target for increased electricity efficiency and conservation during the target years. These targets were developed using regional LEAP analysis. Towns are encouraged to consider increased efficiency targets.

1J. Use of Renewables - Transportation

	2025	2035	2050
Renewable Energy Use - Transportation	9.6%	23.1%	90.3%

This data displays targets for the percentage of transportation energy use coming from renewable sources during each target year. This data was developed using the LEAP analysis.

1K. Use of Renewables - Heating

	2025	2035	2050
Renewable Energy Use - Heating	50.8%	63.0%	92.4%

This data displays targets for the percentage of heating energy use coming from renewable sources during each target year. This data was developed using information from the LEAP analysis.

1L. Use of Renewables - Electricity

	2050
Renewable Energy Use - Electricity (MWh)	6,395- 7,816

This data displays the target for electricity generation coming from renewable sources within the municipality for 2050. This data was developed using information from the regional planning commission and DPS. This data is the same as the data in Table 1Q.

1M. Transportation Fuel Switching Target - Electric Vehicles

	2025	2035	2050
Electric Vehicles	72	511	1,063

This tables displays a target for switching from fossil fuel based vehicles (gasoline and diesel) to electric vehicles. This target is calculated on Worksheet 2 by using LEAP and ACS data.

1N. Transportation Fuel Switching Target - Biodiesel Vehicles

	2025	2035	2050
Biodiesel Vehicles	127	239	403

This tables displays a target for switching from fossil fuel based vehicles to biodiesel-powered vehicles. This target is calculated on Worksheet 2. by using LEAP and ACS data.

1O. Existing Renewable Generation

Renewable Type	MW	MWh
Solar	0.26	316
Wind	0.00	0
Hydro	0.00	0
Biomass	0.00	0
Other	0.00	0
Total Existing Generation	0.26	316

Table 1O shows existing renewable generation in the municipality as of December, 2018 from vtenergydashboard.org & a solar capacity factor of 14%

1P. Renewable Generation Potential

Renewable Type	MW	MWh
Rooftop Solar	1	785
Ground-mounted Solar	623	763,894
Wind	1,936	5,935,776
Hydro	0	0
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	2,560	6,700,455

Renewable generation potential is based on mapping completed by the regional planning commission that is based on the Municipal Determination Standards and associated guidance documents developed by DPS. The renewable generation potential is expressed in MW and MWh by the type of renewable resource (solar, commercial wind, hydro, etc.).

1Q. Renewable Generation Target

	2050
Total Renewable Generation Target (in MWh)	6,395- 7,816

Renewable generation target for municipalities was developed by the town's population percentage within the region.

1R. Sufficient Land

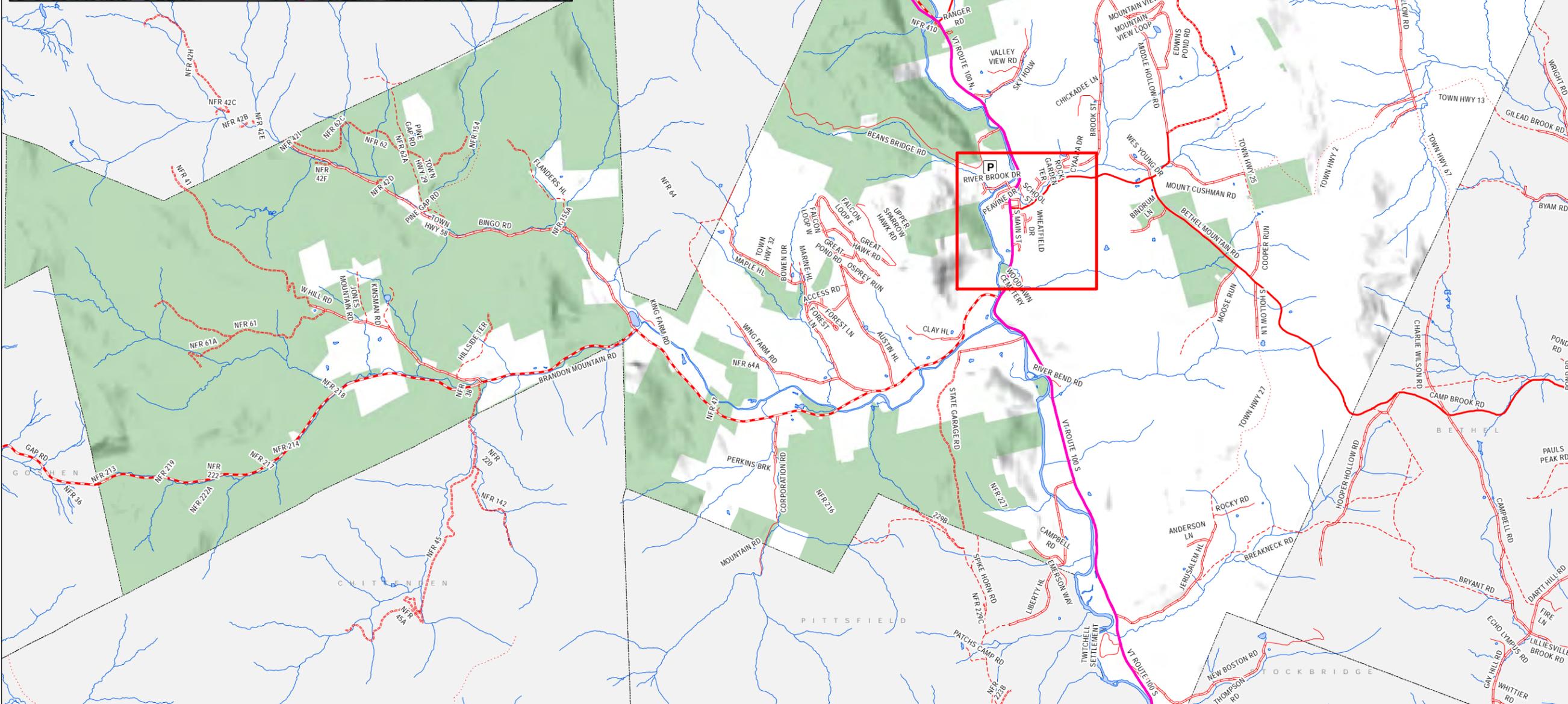
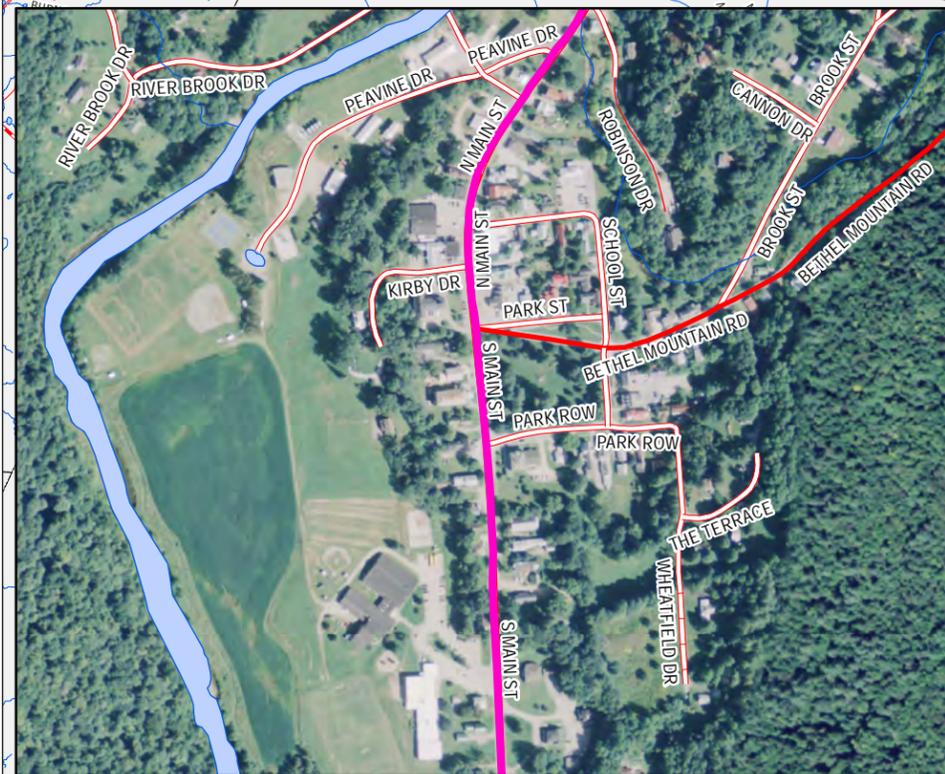
	Y/N
Renewable Sources	Y
Surplus of Generation	94206%

This table shows whether or not there is sufficient land in the municipality to meet the renewable generation targets based on the renewable generation potential in the municipality.

Rochester Town Plan Transportation

Rochester, Vermont
Draft

Map 1 of 11

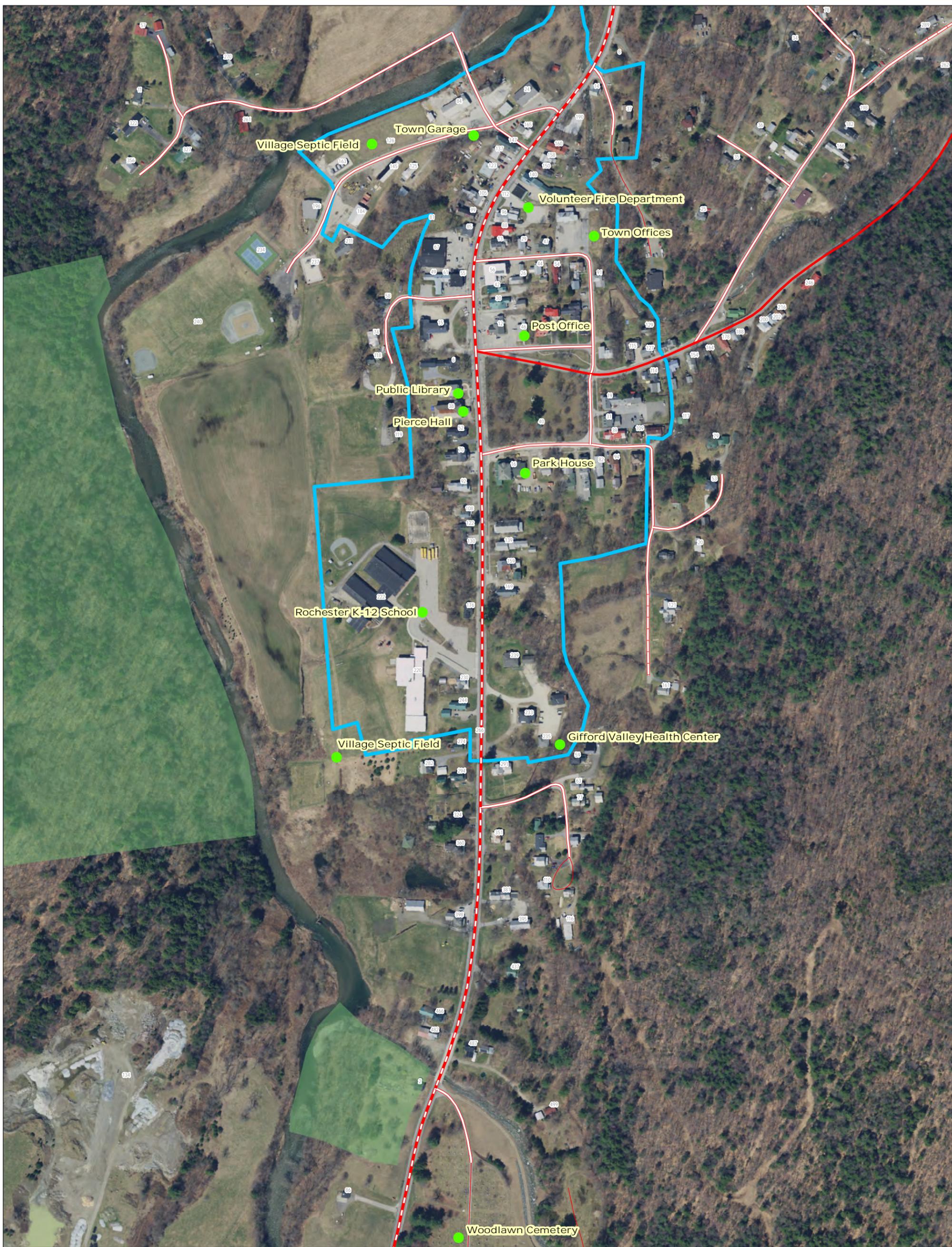


- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy
- Conserved
- Park & Ride
- Stagecoach Route



0 0.5 1
Miles

1 inch = 4,968 feet
1:59,611



Utilities, Facilities & Education

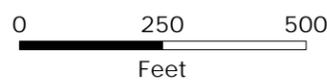
Rochester, Vermont

Map 2 of 10 Draft

- VT route/TH cls 1
- TH cls 2
- - - TH cls 2 gravel
- = = = TH cls 3
- = = = TH cls 3 gravel
- - - TH cls 4
- · · trail
- private
- = = = US route
- = = = US interstate
- = = = VT forest hwy
- Village Designation Boundary



1:3,839
1 inch = 320 feet

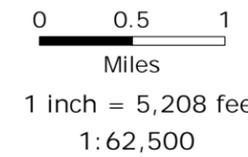


Rochester Town Plan

Natural Resources

Rochester, Vermont
Draft

Map 4 of 10



-  Deer Wintering Areas
-  Endangered Species
-  Vermont State Wetlands (VSWI)

Biodiversity Concentrations

-  Tier 1 - Greatest
-  Tier 2 - Very High
-  Tier 3 - High
-  Tier 4 - Moderate
-  Tier 5 - Low
-  Tier 6 - Insufficient Data

POLITICAL BOUNDARIES: Town Parcel Boundaries, VCGI, 2003.
ROADS: 1:5000 Digital Road Centerline Project, VAOT, 1991-1994 & E911 Board GPS Updates, 2003.
SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2003.

VSWI WETLANDS: These data include both NWI and VANR Class II wetlands. USFWS used 1:80000 color infrared aerial photos (flown between 1975 and 1978), USGS topo sheets and other mapped and text data to interpret locations. Two thirds were hand digitized from 1:24000 NWI Mylars. Remainder were scanned from 1:24000 or 1:25000 Mylars. Mylars were created by transferring wetland polygon boundaries from 1:25000 NWI Mylars to 1:24000 base maps. 3 acre min. mapping unit includes a 50' buffer. VANR updated as of 1996, 2005. Refer to VANR-DEC, Water Quality Division, Wetlands Section, Wetlands Coordinator for official determinations. (802) 241-3770

Deer Wintering Habitat: Sources included state highway maps, topographic maps, overlays to 1977 infrared photos, written material and verbal information from DFW biologists. Compiled to 1:24000 & 1:25000. VANR-DFW, 1994. Updated 2009.

Rare, Threatened, & Endangered Species and Significant Communities: Locations are plotted manually on 1:24,000 USGS or by using a 1:5000 Ortho. The minimum mapping unit is 12.5 meters. Polygons and buffered points. Nongame & Natural Heritage Program, VANR-DFW, 2005.

AG. SOILS: Optically scanned from 1:20000 USDA-NRCS soil maps. Soils are defined as of PRIME (national), STATEWIDE, or LOCAL significance for farming. These soils may include HYDRIC soils and may have additional, local wetness, slope, and depth-to-bedrock limitations that may qualify the soil units as agricultural.

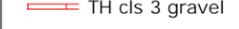
HYDRIC: Optically scanned from 1:20000 USDA-NRCS soil maps. Soils that are sufficiently wet in the upper part to develop anaerobic conditions during the growing season.

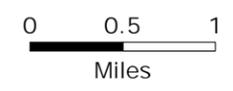
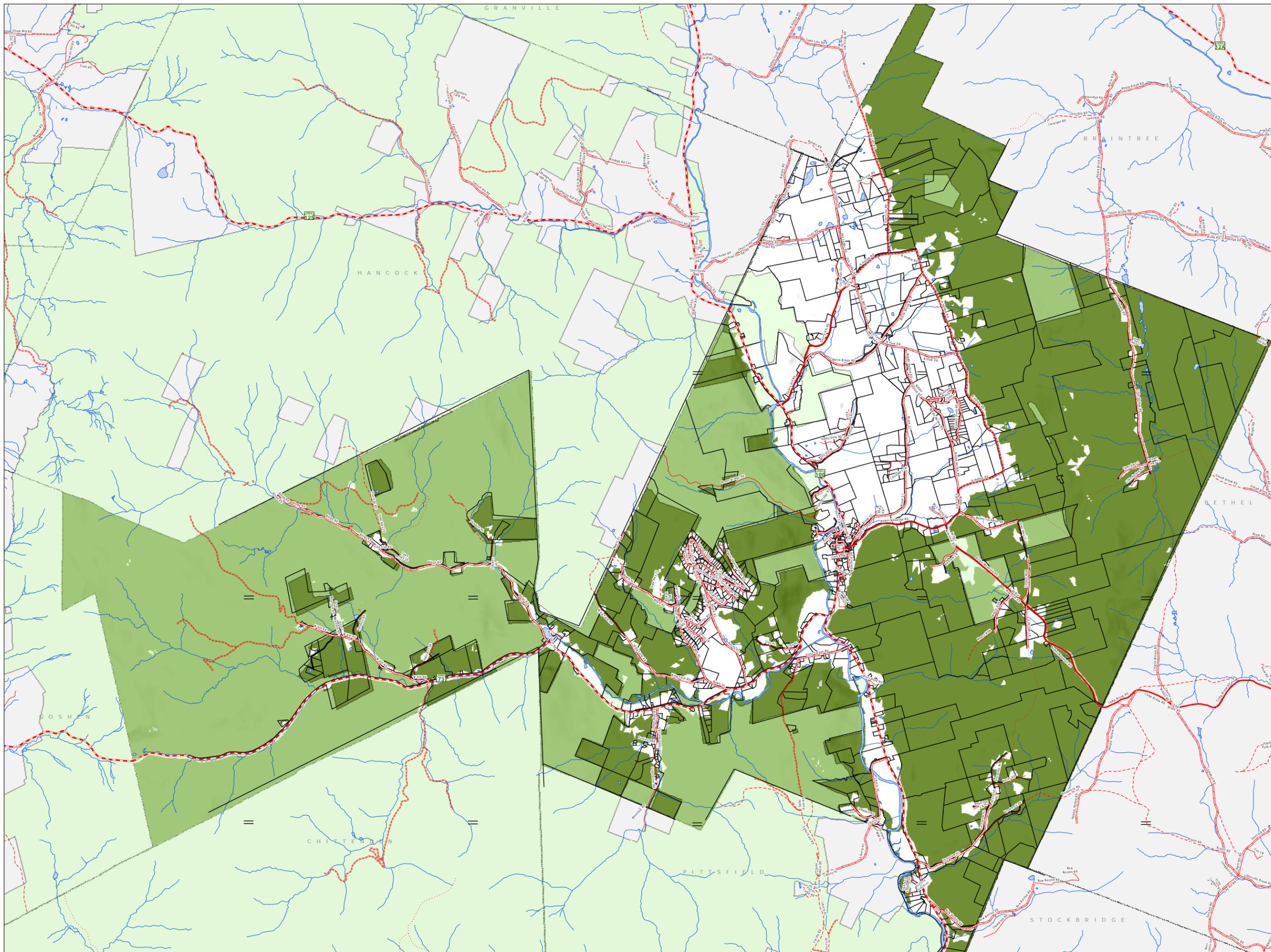
SLOPE: USGS 1:24000 NED-DEM, 30m cell averages.

Rochester Town Plan Forest Blocks

Rochester, Vermont
Draft

Map 5 of 11

-  VT route/TH cls 1
-  TH cls 2
-  TH cls 2 gravel
-  TH cls 3
-  TH cls 3 gravel
-  TH cls 4
-  trail
-  private
-  US route
-  US interstate
-  VT forest hwy
-  VCD2a - Highest Priority Connectivity Blocks
-  Conserved



1 inch = 5,208 feet
1:62,500

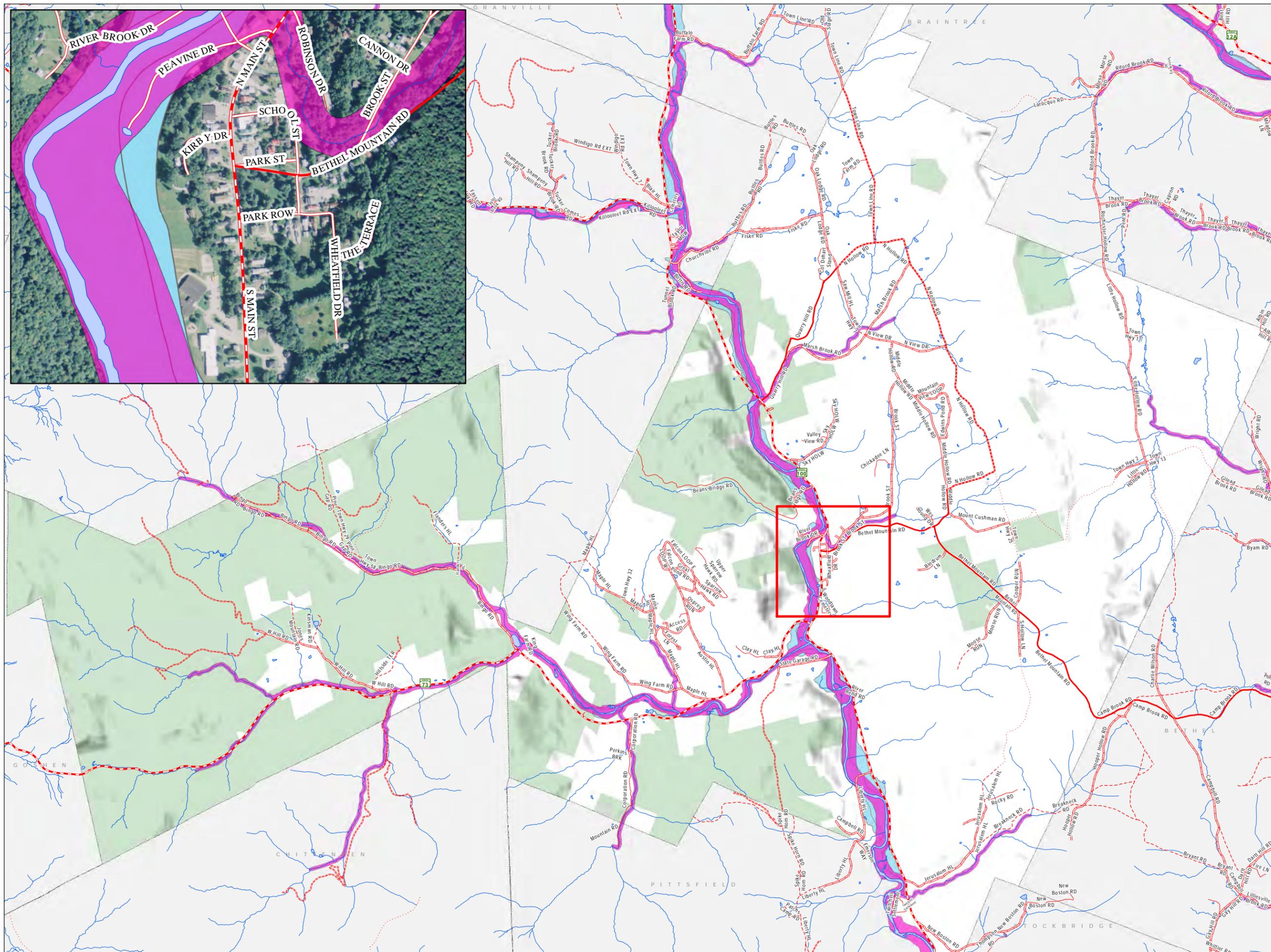
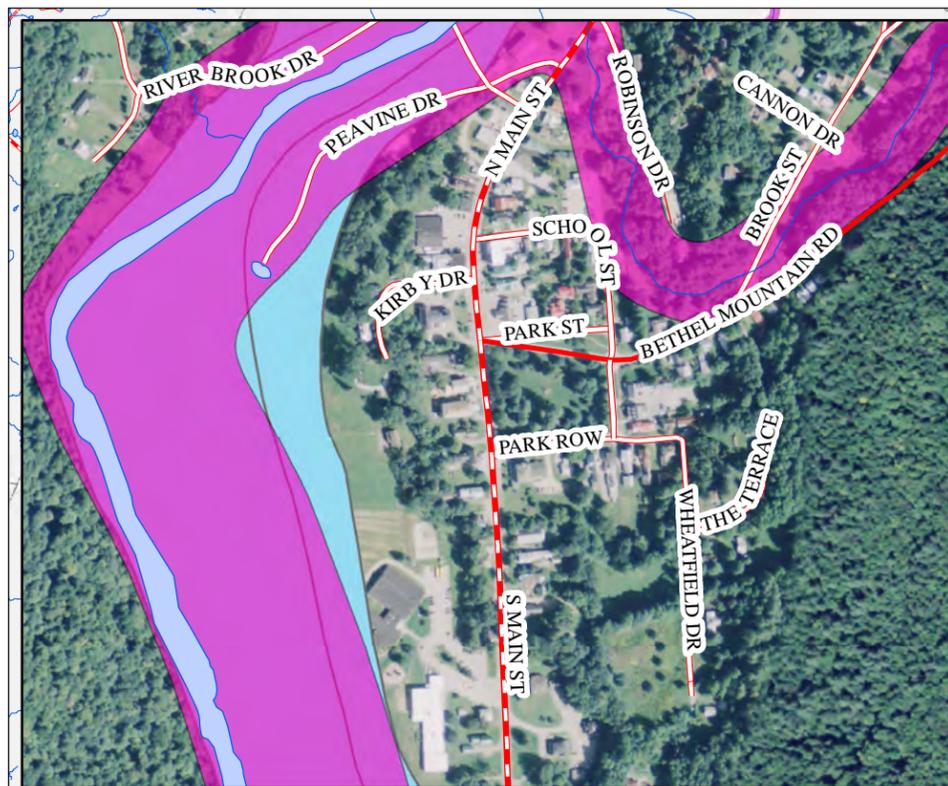


Rochester Town Plan Flood

Rochester, Vermont
Draft

Map 6 of 11

-  VT route/TH cls 1
-  TH cls 2
-  TH cls 2 gravel
-  TH cls 3
-  TH cls 3 gravel
-  TH cls 4
-  trail
-  private
-  US route
-  US interstate
-  VT forest hwy
-  Conserved
-  100-Year Floodplain
-  River Corridor



0 0.5 1
Miles

1 inch = 4,968 feet
1:59,611

Rochester Town Plan

Existing Energy Generation

Rochester, Vermont
Draft

Map 7 of 11

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy

Biomass kW

- 19
- 20 - 375

Hydro kW

- 15 - 100
- 101 - 500
- 501 - 2000
- 2001 - 37400

15 kW Sites

- 15 - 25
- 26 - 100
- 101 - 500
- 501 - 2200

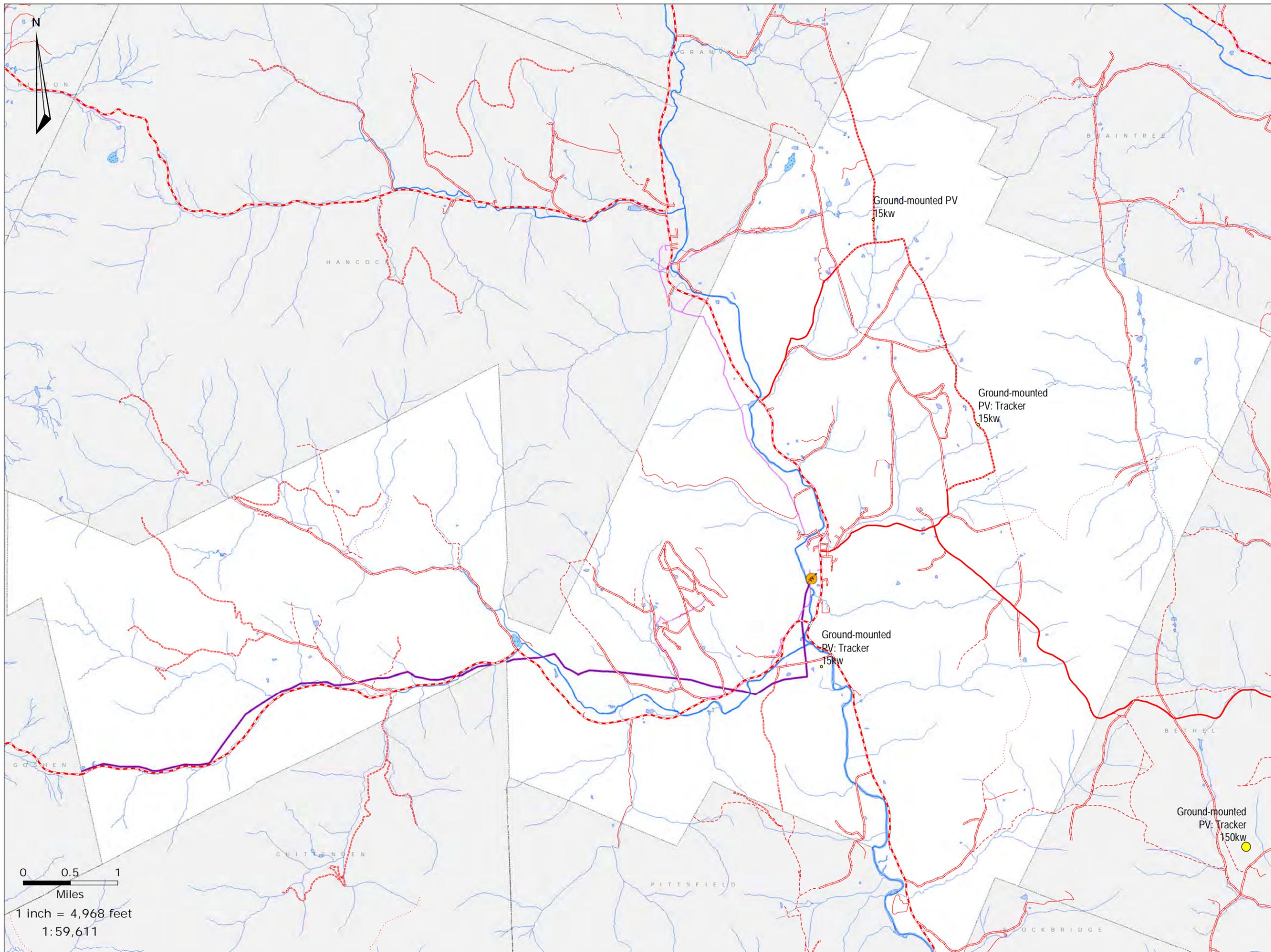
Substations

3 Phase Power Lines

Transmission Lines

Lakes/Ponds

Rivers/Streams



0 0.5 1
Miles
1 inch = 4,968 feet
1:59,611

Rochester Town Plan Biomass Energy Potential

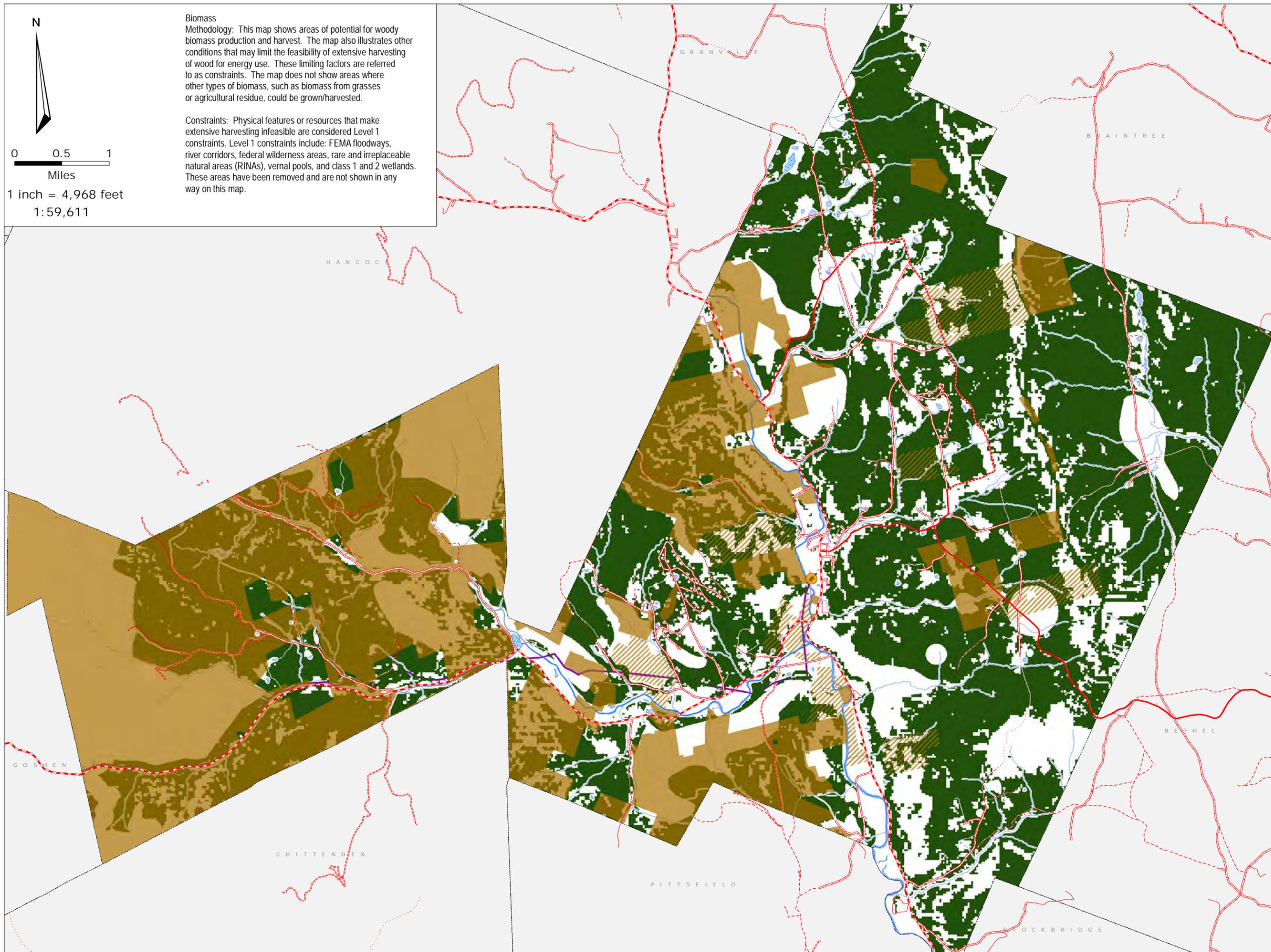
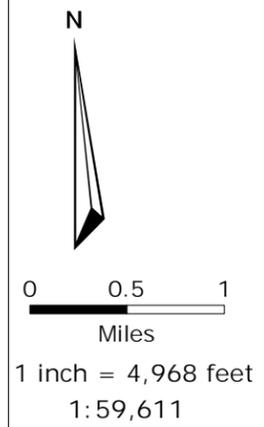
Rochester, Vermont
Draft

Map 8 of 11

-  VT route/TH cls 1
-  TH cls 2
-  TH cls 2 gravel
-  TH cls 3
-  TH cls 3 gravel
-  TH cls 4
-  trail
-  private
-  US route
-  US interstate
-  VT forest hwy
-  Public Cons
-  Private Cons
-  Woody Biomass
-  Substations
-  3 Phase Power Lines
-  Transmission Lines
-  Lakes/Ponds
-  Rivers/Streams

Biomass
Methodology: This map shows areas of potential for woody biomass production and harvest. The map also illustrates other conditions that may limit the feasibility of extensive harvesting of wood for energy use. These limiting factors are referred to as constraints. The map does not show areas where other types of biomass, such as biomass from grasses or agricultural residue, could be grown/harvested.

Constraints: Physical features or resources that make extensive harvesting infeasible are considered Level 1 constraints. Level 1 constraints include: FEMA floodways, river corridors, federal wilderness areas, rare and irreplaceable natural areas (RINAs), vernal pools, and class 1 and 2 wetlands. These areas have been removed and are not shown in any way on this map.



Rochester Town Plan

Hydroelectric Energy Potential

Rochester, Vermont

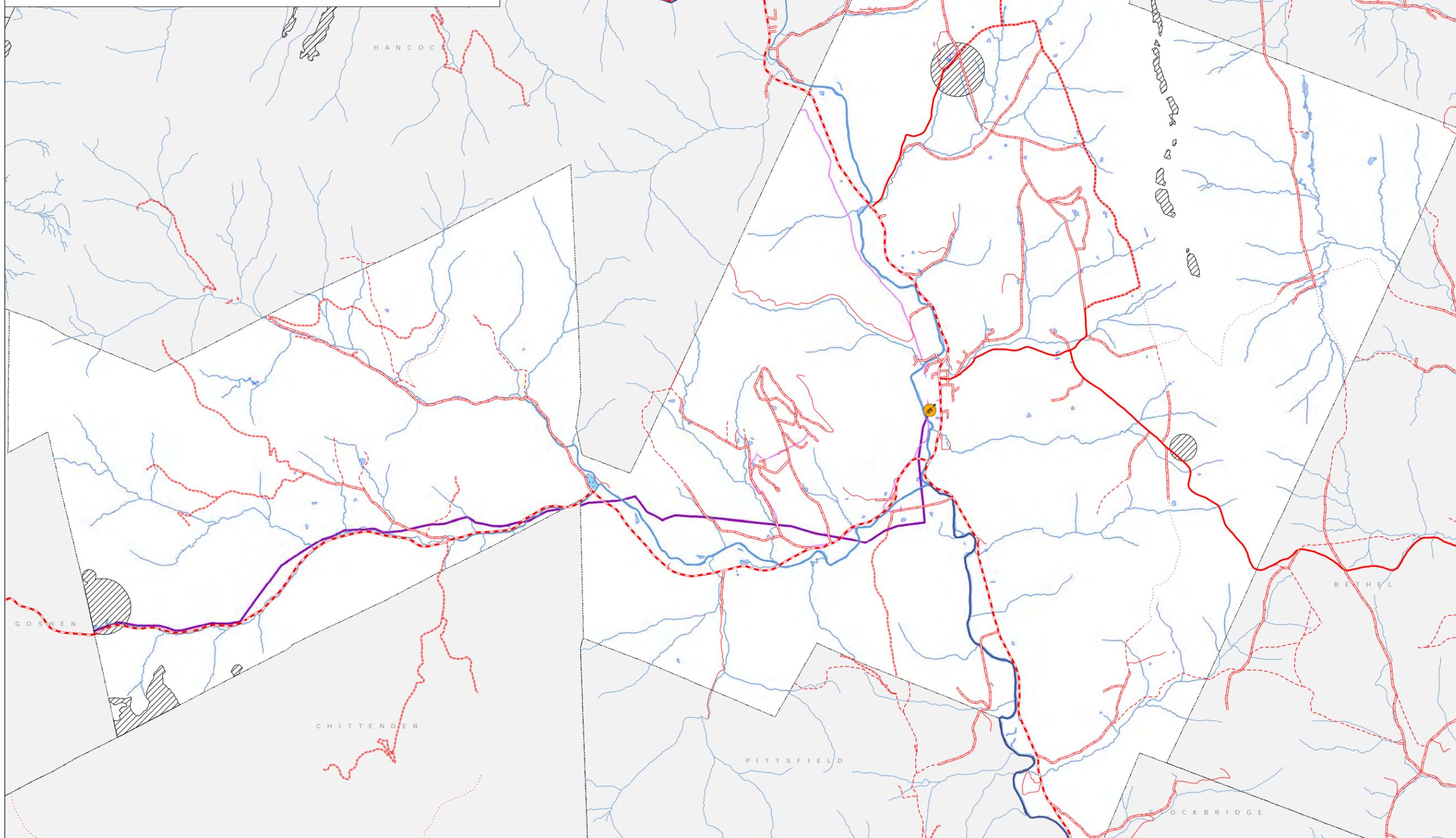
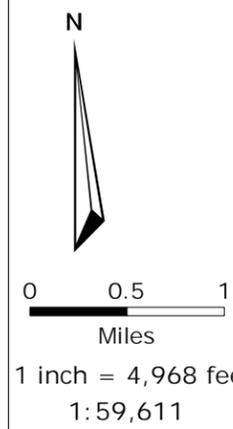
Draft

Map 9 of 11

-  VT route/TH cls 1
-  TH cls 2
-  TH cls 2 gravel
-  TH cls 3
-  TH cls 3 gravel
-  TH cls 4
-  trail
-  private
-  US route
-  US interstate
-  VT forest hwy
-  Substations
-  3 Phase Power Lines
-  Transmission Lines
-  Lakes/Ponds
-  Rivers/Streams
-  Operational Hydroelectric Facilities
-  < 50 kW Capacity
-  > 50 kW Capacity
-  High Hazard with < 50 kW Capacity
-  High Hazard with > 50 kW Capacity
-  Stressed Waters
-  Impaired Waters
-  Designated Outstanding Resource Water
-  0-3
-  4-6
-  7-9
-  Rare and Irreplaceable Natural Areas (RINAs)

Hydroelectric
 Methodology: This map shows areas of resource potential for renewable energy generation from hydroelectric facilities. Sites identified are existing dams that could be developed for hydroelectric generation as well as active hydroelectric facilities. Information on existing hydroelectric facilities was obtained from the Vermont Dam Inventory and data on potential hydroelectric sites was obtained from a study conducted by Community Hydro in 2007-. Potential hydroelectric generation capacity for several of the larger dams are noted below.

- <http://www.vtenergyatlas-info.com/wp-content/uploads/2010/02/DPS-Undeveloped-Hydro-Potential-FINAL-VERSION.pdf>



Rochester Town Plan

Solar Energy Potential

Rochester, Vermont
Draft

Map 10 of 11

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy
- Substations
- 3 Phase Power Lines
- Transmission Lines
- Lakes/Ponds
- Rivers/Streams

- Public Cons
- Private Cons

SOLAR POTENTIAL

- Suitability**
- Prime 1m 3phase
 - Prime
 - Constraints
 - RAW solar

N

0 0.5 1
Miles
1 inch = 4,968 feet
1:59,611

Known Constraints
 Vernal Pools (confirmed and unconfirmed layers)
 DEC River Corridors
 FEMA Floodways
 State-significant Natural Communities and Rare, Threatened, and Endangered Species
 Wilderness Areas, including National Wilderness Areas
 Class 1 and Class 2 Wetlands (VSWI and advisory layers)

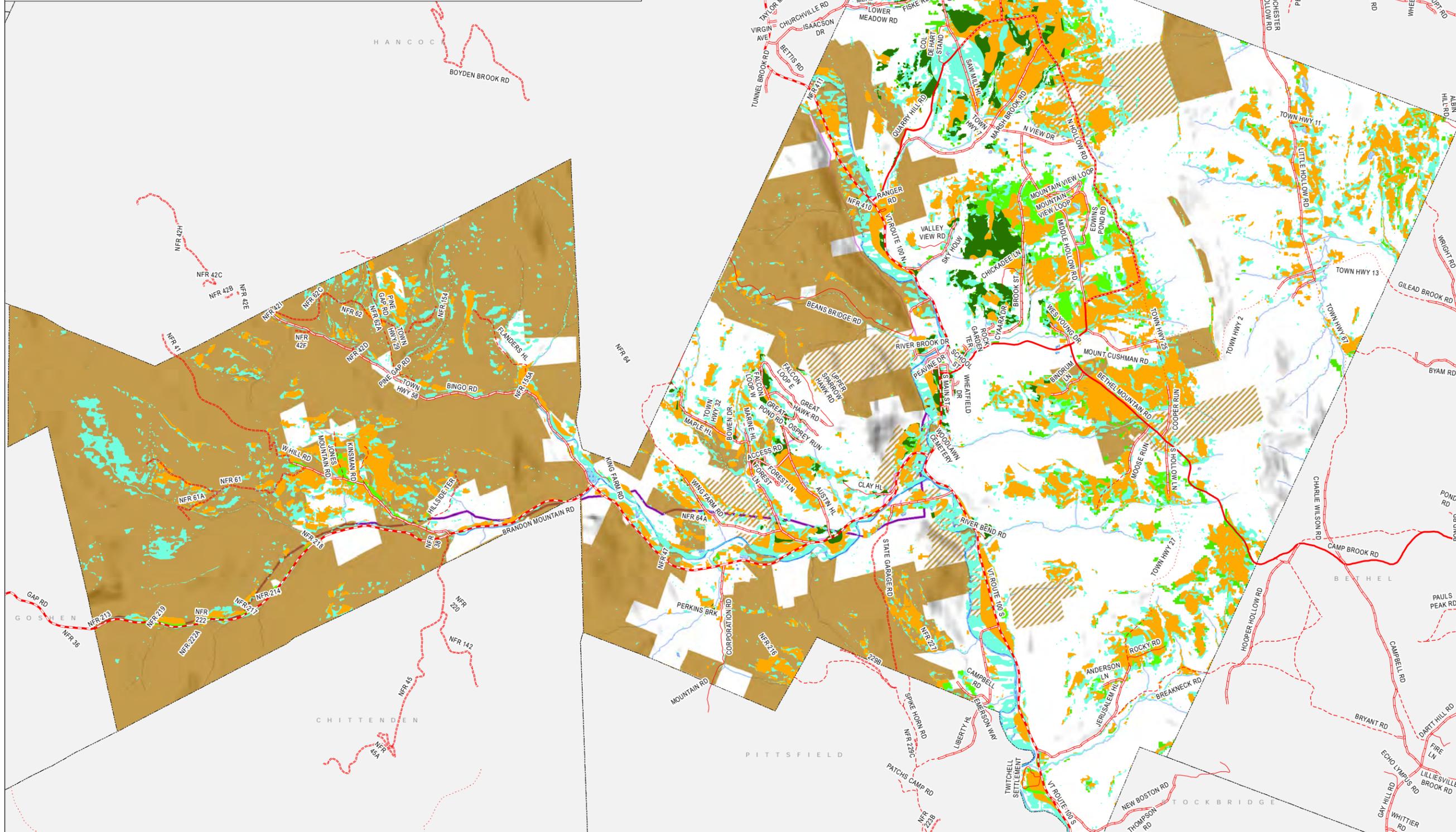
Possible Constraints
 Agricultural Soils (VT Agriculturally Important Soil Units)
 FEMA Special Flood Hazard Areas
 Protected Lands (Updated 07/26/2016.)
 Act 250 Agricultural Soil Mitigation areas
 Deer Wintering Areas
 ANR's Vermont Conservation Design Highest Priority Forest Block Datasets
 Forest Blocks - Connectivity
 Forest Blocks - Interior
 Forest Blocks - Physical Land Division
 Hydric Soils

TRORC Unsuitable areas (included in known constraints)
 FEMA Floodways
 Wilderness Areas, including National Wilderness Areas
 Class 1 Wetland

Solar
 This map shows areas of potential electricity generation from solar energy. It includes areas with good access to solar radiation and also considers other conditions that may limit the feasibility of solar energy development. These limiting factors are referred to as constraints. Areas of prime solar potential exist where the natural conditions make development feasible and no constraints are present.

These maps are designed to initially identify areas and follow-up on-site work is required to verify the areas are feasible for projects. They are subject to revision and are NOT intended to green-light or fast-track projects.

DARK GREEN Prime: No Constraints within 1 mile 3 phase power
GREEN Prime: No Constraints no known or possible constraints present
ORANGE Constraints: Constraints no known but at least one or more possible constraints
BLUE GREEN Raw potential: Raw potential with constraints



Rochester Town Plan Wind Energy Potential

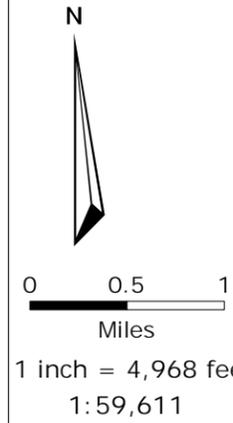
Rochester, Vermont
Draft

Map 11 of 11

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy
- Substations
- 3 Phase Power Lines
- Transmission Lines
- Lakes/Ponds
- Rivers/Streams

- Public Cons
- Private Cons

- Wind Potential Suitability, HubHeight**
- | | |
|-----------------|-----------------|
| Prime, 50 | Constraints, 70 |
| Prime, 70 | Prime 1m 3phase |
| Constraints, 50 | RAW wind |



Wind
This map shows areas of potential wind energy development. It includes areas with good access to wind resources and also considers other conditions that may limit the feasibility of wind energy development. These limiting factors are referred to as constraints. Areas of prime wind potential exist where the natural conditions make development feasible and no constraints are present.

These maps are designed to initially identify areas and follow-up on-site work is required to verify the areas are feasible for projects. They are subject to revision and are NOT intended to green-light or fast-track projects.

DARK GREEN Prime: No Constraints within 1 mile 3 phase power
GREEN Prime: No Constraints no known or possible constraints present
ORANGE Constraints no known but at least one or more possible constraints
BLUE GREEN Raw potential with constraints

- Known Constraints**
 Vernal Pools (confirmed and unconfirmed layers)
 DEC River Corridors
 FEMA Floodways
 State-significant Natural Communities and Rare, Threatened, and Endangered Species
 Wilderness Areas, including National Wilderness Areas
 Class 1 and Class 2 Wetlands (VSW and advisory layers)
- Possible Constraints**
 Agricultural Soils (VT Agriculturally Important Soil Units)
 FEMA Special Flood Hazard Areas
 Protected Lands (Updated 07/26/2016)
 Act 250 Agricultural Soil Mitigation areas
 Deer Wintering Areas
 ANR's Vermont Conservation Design Highest Priority Forest Block Datasets
 Forest Blocks - Connectivity
 Forest Blocks - Interior
 Forest Blocks - Physical Land Division
 Hydric Soils
- TRORC Unsuitable areas (included in known constraints)**
 FEMA Floodways
 Wilderness Areas, including National Wilderness Areas
 Class 1 Wetland

