MANCHESTERVERMONT
So Close So Vermont

Manchester Town Plan, 2025

Adopted May XX, 2025

Town of Manchester, Vermont, Chartered in 1761

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Part 1: Vision, Policies & Actions

Manchester is a quintessential New England Community with a historic core surrounded by rural pastures and forested mountain backdrops. Situated in the Batten Kill Valley between the Green and Taconic Mountains, Manchester cherishes its natural beauty as the basis of a high quality of life for residents and the foundation of a strong visitor economy. The local education system with public and private options encourages innovation and personalized learning. The town encourages business growth and development and offers world class dining, hospitality and shopping options. Municipal parks and services are award winning and renowned. This town plan will serve as a guide for strengthening and protecting these qualities over the course of the next eight years, with adopted policies and actions in the categories of economic development, housing, energy, natural resources, transportation, education, municipal services, recreation, and arts and cultural resources.

Section 1: Economic Development & Housing

Section 1.1: Economic Development

Economic Development Mission: Create a vibrant economic environment that encourages people to both live and work in Manchester.

In 2016 the town completed in conjunction with the Village of Manchester and the Town of Dorset, the *Northshire Economic Development Strategy* (NEDS). That strategy for the three municipalities can largely be viewed as an economic development strategy for the Town of Manchester, and though the plan is almost 10 years old, its values are still relevant.

NEDS identified four goals in line with this vision: (1) Improve economic development environment, (2) Cultivate tourism, food, arts and culture industries, (3) Support entrepreneurship and business development, and (4) Enhance the quality of life for residents and workers. Each of these goals is supported by identified strategies and specific actions, and many of those are reiterated here in this town plan.

The 2024 Southern Vermont Comprehensive Economic Development Strategy (CEDS) outlines a set of objectives for the broader region that Manchester is located within: (1) Address crucial population needs for the future, (2) Empower businesses to thrive long-term, (3) Foster resilient, adaptable communities, and (4) Promote greater economic development alignment.

The NEDS study confirmed that diversity of Manchester's economy remains an issue. While a number of manufacturing or office uses remain in town, the local economy generally depends upon tourism. Many retail and service businesses exist in support of tourism and second home development, but there are fewer retail businesses that exist to serve the residential population of the town. Consequently, NEDS found there is retail "leakage" that could be captured with new retail development in the areas of general merchandise, food, and sporting goods aimed to serve the resident population. NEDS identified three industries that have strong performance histories in Manchester and the broader Northshire area: financial investment activity, furniture related manufacturing, and the tourism sector. These sectors, therefore, are suitable for promotion and expansion. In addition to these, the NEDS steering committee identified expansion of food related enterprises as desirable, including support for a brewpub.

The NEDS and CEDS also reaffirmed the long identified problem of Manchester's housing stock being unable to meet the needs of its working population, with a particular lack of workforce level housing. Housing affordability must be a key component of any economic development strategy. If affordable housing stock is not available, then the pool of potential employees will be a limiting factor no matter how successful any other economic development strategies may be. Housing issues are discussed in detail in the next section along with housing policies and goals.

Policy: Encourage the creation of employment that provides professional growth and adequate pay with which to support a family.

Economic development means more than just attracting new industry, or creating new jobs. It also means protecting a high quality of life, providing high-quality educational opportunities, and providing high-quality infrastructure. Workforce development, through local schools and continuing education programs, is another key component of successful economic development – whether in maintaining existing services and businesses, supporting business growth, or in attracting new employers and employees. Education goals are enumerated in Section 3.5 of the plan. Ensuring a strong network of institutions—from educational resources to cultural centers—will continue to support the social vitality that has long been recognized as an important part of Manchester and the town's resilient and sustainable economy. Key to this involves focus on that which will interest a younger generation of community members to settle here, to live, work, start businesses, raise families, and participate in the governance of the town.

Simultaneously, the town will continue to promote its tourism economy, with a historic downtown and lively mix of commercial, cultural, and environmental and recreational attractions. Specific measures to enhance arts and cultural assets are discussed in Section 4.2.

Action: Work with community members to develop a downtown nightlife program.

Protecting Manchester's quality of life has been, and will continue to be, a paramount factor in the town's long range vitality and success. No matter what strategies are pursued for economic development, the town must guard carefully its attractiveness as a place to live and visit. Accordingly, Manchester's natural beauty and uniqueness are two of its greatest assets. Its long-term success as a livable community depends in large part upon how well we maintain and enhance those assets. The goals and policies in this plan are intended to help maintain Manchester's high quality of life for its residents, and its uniqueness and attractiveness to visitors. Goals and policies specific to natural resources are discussed in Section 2.2.

Manchester's municipal services and facilities are another asset, including The Dana Thompson Memorial Park. With the recent completion of two new athletic fields and new hotel construction in town, Manchester is poised to serve as a venue for athletic tournaments. This was identified as an economic opportunity in the NEDS report and the town will move forward with a plan to market itself as such to school and club soccer, lacrosse, and other field game organizations. In addition, the development of the Manchester Rail Trail and in-progress Riverwalk in the downtown demonstrate the appetite for recreational assets that further attract residents and visitors alike into the downtown for outdoor activities. Manchester's recreation assets and plans are discussed further in Section 4.1.

Policy: Leverage and promote existing sports and outdoor recreation assets to increase visitation to Manchester.

- ***Promote Manchester as an athletic tournament venue.***
- ***Support continued improvement and extension of pedestrian and bicycle infrastructure.***
- ***Support the efforts of Bike Manchester to make Manchester a biking destination.***
- ***Support the efforts of Manchester Riverwalk and its mission to build, beautify and maintain public pathways along the Batten Kill.***

The town will proactively define its economic future, by being aware of economic trends, and being prepared to take advantage of economic circumstances. In conjunction with organizations such as the Bennington County Regional Commission, the town should identify appropriate opportunities that will allow desirable light industrial businesses to grow and flourish in Manchester. While seeking new enterprises, the town must also pay attention to and nourish existing businesses, many of which have been quiet mainstays of our economy, supporters of our schools and local nonprofits, and otherwise contributors to the fabric of our community.

Given this, light industrial development is an important component of Manchester's economy. Indeed, it could be, and many argue should be, a more prominent part of the town's economic base, so that we are less dependent upon the retail and service sectors. Small businesses and microenterprises strengthen and diversify local economies often while creating minimal environmental impacts. A variety of changes were made in past years to industrial district and transient commercial overlay provisions of the land use and development ordinance (*i.e.*, zoning ordinance or bylaws) to allow greater flexibility in the types of businesses that may locate in Manchester. The goals outlined in this section will guide future efforts to ensure that the zoning ordinance is effectively implementing the goals of this plan.

Policy: Ensure that the zoning ordinance is appropriate and public infrastructure is available for desired industries in key areas of town.

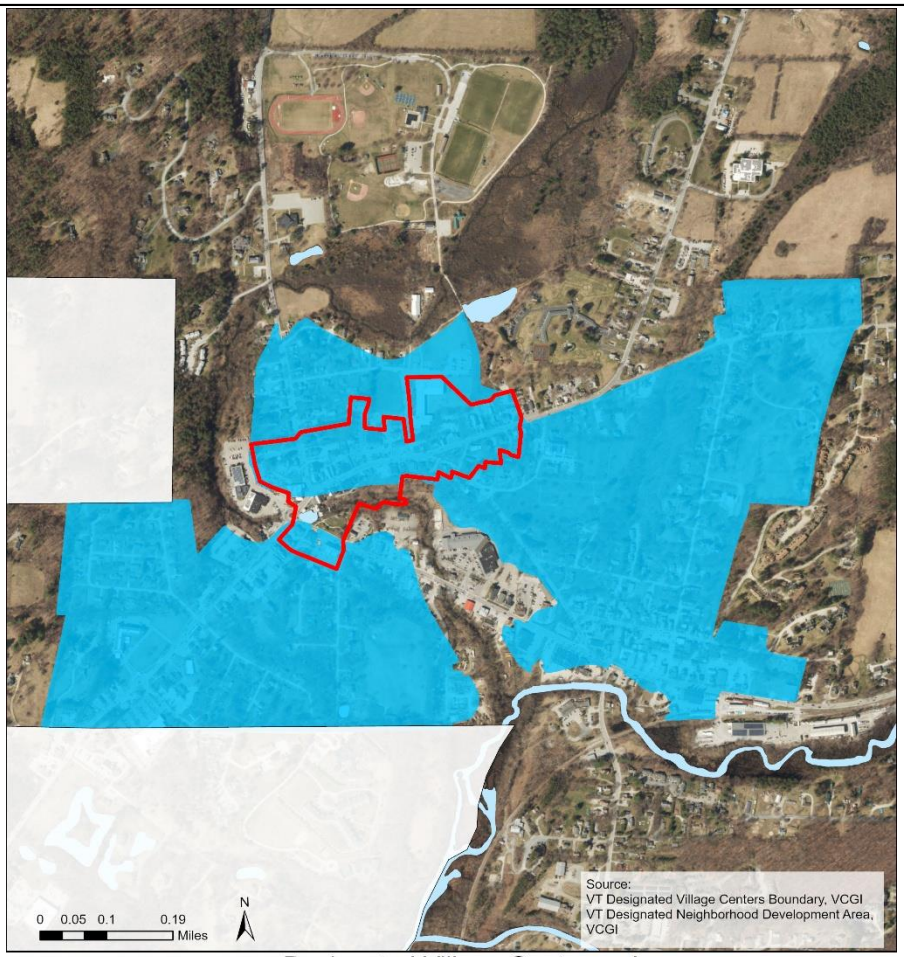
- ***Expand the sewer service area to adjacent areas that can support new residential and light industrial development.***

The town will assess the needs of existing and potential industry, and take steps to create a favorable climate for light industrial development that is appropriate for, beneficial to, and accepted by the community. Industry should be located in appropriate areas which contribute to an orderly growth pattern, are served efficiently by municipal services, and are compatible and consistent with the rural character of the area. Utilities, roads, and other essential services should be available and adequate to serve a project's needs. Industry and related activities should afford maximum protection to adjacent properties, and any nearby residential areas (existing or proposed). Traffic routes and access points should be compatible with nearby residential areas. Industry should provide adequate greenspace and landscaping to maintain the open space character of the area, and to effectively screen industrial activity from adjacent nonindustrial uses.

Appropriate infrastructure must be in place to serve the needs of the community and employers. More than just water, sewer, and power, this includes fiber optics, access to high-speed, wide-bandwidth telecommunications facilities, and other types of technological capacity. Broadband access throughout Manchester is as essential as electricity in allowing citizens, employers, and home businesses to thrive and participate in community and commerce. Manchester is a member of the Southern Vermont Communications Union District which worked with internet service provider Consolidated Communications Inc. (CCI) to construct a fiber optic network in the region. More than 99% of addresses in the region now have access to high-speed broadband internet

service. Section 3 of the plan addresses the provision of public services.

Map 1.1. Designation Boundaries. Map showing the village center designation and neighborhood development area encompassing the historic Factory Point commercial center along Main, Bonnet and Depot Streets, mixed use historic structures on Main and Bonnet Streets, Manchester Elementary and Middle School, and Adams Park and the Town Green.



In 2013 the town received a village center designation from the Vermont Downtown Board, followed by a Neighborhood Development Area (NDA) designation in 2018. The Department of Housing and Community Development's village designation program allows landowners within the village center access to tax incentives for redevelopment, and gives the town an advantage when applying for state planning grants, while the NDA designation allows developers of residential projects exemption from Act 250 permitting and other incentives to develop walkable residential neighborhoods in close proximity to the village center.

Act 181 (2024) has changed the state's designation programs, which are now simplified into two categories: centers and neighborhoods. The boundaries for those areas will be established through future land use maps, which are developed by the regional planning commissions in concert with municipalities and approved by the new statewide Land Use Review Board (LRB).

Within the "center" designations there are three steps. All areas mapped and approved as centers will automatically be considered Step 1; Steps 2 and 3 require the municipality to apply to the Department of Housing and Community Development for approval. Step 2 is similar to the former village center program, while Step 3 is similar to the former downtown program.

As Manchester previously considered pursuing a downtown designation under the former program, the town may want to purse a Center: Step 3 designation. To qualify for Step 3, municipalities must have:

- an existing designated village center
- a confirmed municipal planning process
- an area listed or eligible for listing in the National Register of Historic Places
- a downtown improvement plan
- a downtown investment agreement
- a capital plan adopted under 24 V.S.A 4430 that implements these requirements
- a local downtown organization
- available public water/wastewater
- permanent zoning and subdivision regulations
- historic preservation regulations
- adopted downtown design or form-based regulations

While the town has many of these elements in place, it would need to formalize a number of planning pieces before it could be considered eligible for Step 3. Creating a Downtown Board in Manchester is one of these important elements, and a step that was recommended in the 2018 Downtown Strategic Plan. One of the key recommendations of that plan urges the Manchester Business Association (MBA) and town leadership, along with other key stakeholders, to "identify the right composition and structure for a Downtown Board so that the Town can move forward" with desired designation applications (DSP 2018, 39). The 2018 Downtown Strategic Plan also recommended developing a cohesive brand that could be used on shared signage throughout the core area and at gateway points.

Action: The town will explore application for a Center: Step 3 designation under the new statewide program.

Section 1.2: Housing

Housing Mission: Support the development of housing types to meet the needs of a diversity of people, including those working and raising families in Manchester.

Challenges around housing availability and affordability are widespread throughout the region, state, and country. A shortage of quality, appropriately sized, and reasonably priced housing options in Manchester affects the town's ability to meet other goals in this plan, including aims to attract and retain a strong workforce, provide high-quality education opportunities, and support a vibrant local retail economy.

According to the 2024 Vermont Housing Needs Assessment (which uses American Community Survey 5-year estimates, 2018-2022), Manchester has around 2,900 housing units. At the time of that count, it was estimated that nearly half (47%) of those units were owner-occupied, with 20% of units occupied by renters, 33% occupied by seasonal residents, and only 1% vacant. In a 2020 study on the market feasibility of a downtown mixed-use development, Doug Kennedy Advisors noted that the share of occupied rentals "is a relatively small segment by comparison with other Vermont urbanized communities . . . . [indicating] a relative shortage of rental housing" (DKA 2020, 27). Conversely, the share of seasonal housing was relatively high (DKA 2020, 28).

The same study also found that "median pricing in Manchester exceeds countywide median pricing by a substantial margin" (DKA 2020, 33). Doug Kennedy Advisors found that the monthly rents in Manchester were over 30% higher than the county fair market rent (FMR) for one- and two-bedroom units and nearly 90% higher than county FMR for three-bedroom units. The Kennedy analysis suggested a strong market demand for new rental housing downtown, with a particular need identified for homes with a smaller number of units to accommodate one- or two-person households (DKA 2020, 25-26, 30). A second study by Doug Kennedy Advisors focused on the short-term rental (STR) market in Manchester (both the town and village). In Manchester, STRs seem to make up a steady 6% of housing stock and are a large part of the already high seasonal home market. This portion of housing stock seems to represent a leveling off after rapid growth in the Manchester STR market that occurred from 2015 to 2018. Nonetheless, in a housing market as tight as that we are experiencing now, keeping a close eye on the STR market may be an important aspect of addressing housing needs in the region.

Policy: Encourage the development of new housing, especially new rental housing downtown and homes with a smaller number of units to accommodate one- or two-person households.

The Vermont Housing Finance Agency developed housing targets which were then disaggregated by regional commissions throughout the state. In the *Bennington Regional Plan*, the Bennington County Regional Commission (BCRC) established housing targets for each of the municipalities in the region This housing goal was determined using the annual average number of residential units permitted in each municipality over the past 5 years as a basis for projected growth, as well as factors like staff capacity and public utility infrastructure. Based on this methodology, the BCRC recommends that Manchester aim to bring 200 new units of housing online between 2024 and 2029. BCRC recommends that 125 of these targeted 200 units be owner-occupied, while 75 be for renters. Other considerations include the number of bedrooms per unit and how many of those units would be in one-unit homes version multi-unit buildings.

Table 1.1: Annual Municipal Housing Targets for the Bennington Region, 2024-2029. *Targets are disaggregated for Bennington region municipalities. Average annual residential units permitted in each municipality from 2019-2023 shown for comparison (5-year Annual Average).*

Municipality	5-year Annual Average	6-year Target	ADU	One Unit	Two Unit	3-5 Unit	5+ Unit	0-1 BR	2 BR	3 BR	4+ BR	Own	Rent
Manchester	13.2	200	10	70	20	50	50	25	75	55	45	125	75

Policy: Cooperate with private sector and non-profit organizations to help ensure the availability of an adequate stock of housing of varying affordability, located in appropriate areas.

As it has in the past, the town will continue to work cooperatively with private sector, non-profit organizations including Cornerstone Housing Partners (formerly Shires Housing), Habitat for Humanity, Vermont Housing & Conservation Board, Vermont Housing Finance Agency, Housing Vermont, Bennington County Regional Commission, and other entities wishing to promote or construct affordable housing in Manchester. While housing studies and projects largely focus on "affordable" housing subsidized by public and private money, there is also a clear need for reasonably priced housing, or workforce housing.

Workforce housing may not be subsidized, but is intended to be affordable for working persons and families, and younger people who may wish to stay in the town where they were raised, but who do not meet the low income requirements for subsidized housing. The 2020 mixed-use development feasibility study by Doug Kennedy Associates found that "because there are more jobs than workers living in Manchester, the community attracts a net inflow of commuters . . . . While some of these commuters may prefer to live in their current community, a segment would probably opt to move to Manchester if suitable or affordable housing were to become available" (DKA 2020, 15). Based on this analysis, the Kennedy study found that "there are strong markets for tax credit and market rate rentals [in Downtown Manchester]. Units targeted to these income brackets [between 30-60% of the area median income and 60-120% of the area median income, respectively] will advance the goal of creating workforce housing supply" (DKA 2020, 43).

The Kennedy study also indicated that much of the demand for new housing may come from younger workers who want to live and work where there is increased walkability and more non-car oriented options. Retiring and downsizing Baby Boomers are also seeking such settings. Aiming to address these trends and other concerns, the town's overhaul of the zoning ordinance, adopted in 2018, increased allowable residential density in the core while decreasing allowable density in the rural outlying areas. Participation in the state's revised versions of the Act 250 exemptions and designation programs—created in Act 181 (2024)—will further reduce barriers to the creation of new housing in Manchester's core.

Exacerbating the problem of developing affordable and workforce housing in Manchester are the cost of building materials, the high cost of labor, and other market forces. In addition, Vermont has energy standards that although may save on long term costs, increase construction costs in the state relative to other states, particularly those with warmer climates. Demand remains for higher end homes in Manchester, and these are more profitable to build than more modest structures. Indeed, recent data from the Vermont Housing Finance Agency (VHFA) show that the median price of primary homes sold in Manchester in 2023 was $541,250. This median price of a home in Manchester is roughly 66% higher than the median primary home sale price for the state of Vermont, around $325,000. Furthermore, VHFA's Home Price Affordability Calculator suggests that to buy a home of $541,000, the household income would need to be at least $180,939, more than double Manchester's median household income in

2022 ($87,895). The town can help address the high costs of construction by increasing residential density, simplifying and streamlining the permit process, and by the maintenance and expansion of municipal infrastructure and services.

Land and housing in Manchester remain desirable, and therefore more expensive, than in many other Vermont communities. This can be attributed to a number of factors, including: the town's natural beauty, cultural amenities, commercial activity, high quality schools, and proximity to ski areas. Pressure has long been exerted on the housing market by Manchester's attractiveness in the retirement and second home markets, and more recently, by families migrating from more urban areas so that their children can attend local schools. Indeed, many locals wonder whether their children will be able to stay (or return) and raise families in their hometown.

Manchester has long recognized this housing affordability problem, and has taken steps to help improve the situation. A 1989 *Housing Action Plan* identified Manchester's specific needs more than thirty years ago. This study sparked developments by Cornerstone Housing Partners—formerly Shires Housing, Inc.—and the establishment of the Planned Affordable Residential Development (PARD) overlay zoning districts, which allowed for greater development densities than would otherwise be permitted and exempted affordable housing projects from the town's Major Development Project Review. The PARD bylaw has evolved within the *Manchester Land Use & Development Ordinance*, which now has an "Affordable Housing" section that provides specific guidance on design standards, subdivision, and density for affordable housing developments in town.

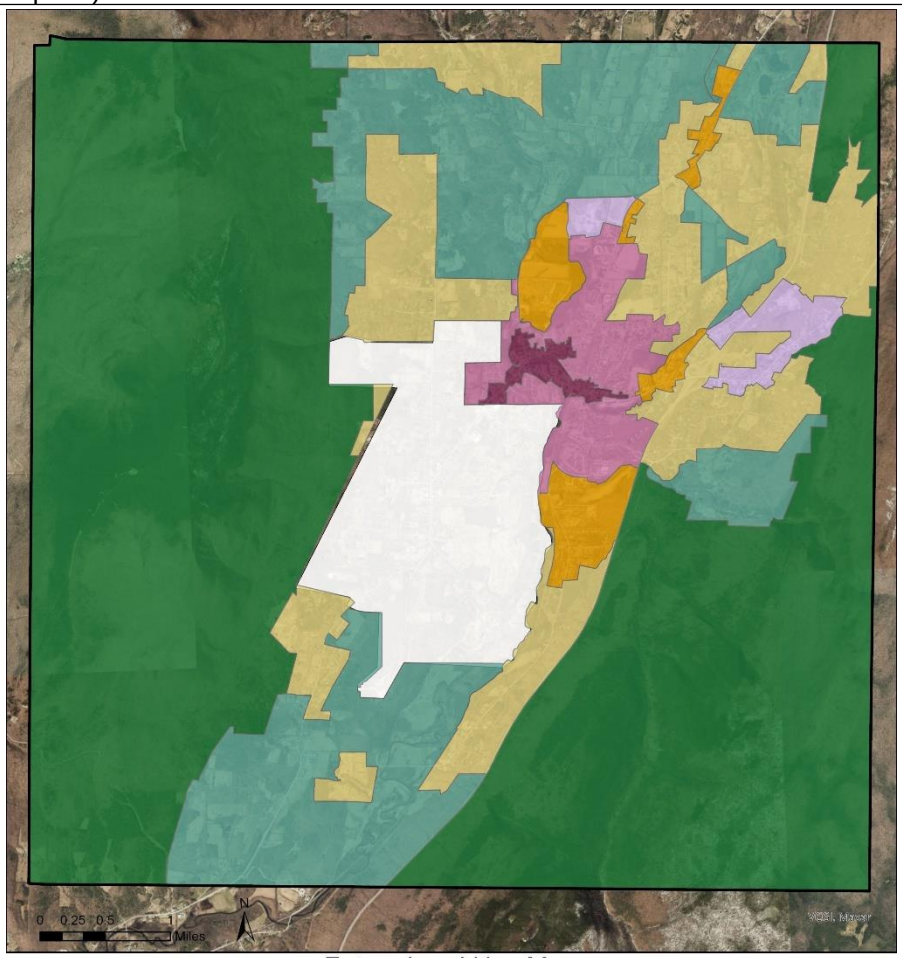
In 2023, the HOME Act (Act 47) established that any area allowing residential development that was served by both municipal water and wastewater must allow residential density of at least five housing units per acre. The HOME Act was intended to reduce barriers to higher density development in core parts of municipalities and encourage development in areas where public investments in utilities have already been made. In Manchester, much of the area served by both public water and sewer already allow for densities of five units or greater per acre.

Additionally, the establishment of the municipal Housing Task Force in 2022 also demonstrates a commitment to addressing housing challenges at the local level.

With changes to the zoning ordinance in place, the town will pursue the following housing policies and actions:

- ***Encourage mixed use development that includes housing as an integral element.***
    - ***Provide reduced sewer allocation fees for new development that includes housing in the commercial core.***
- ***Encourage moderately priced ("workforce") infill housing within the sewer service area.***
    - ***Provide reduced sewer allocation fees for new workforce infill housing development.***
    - ***Promote the Vermont Homes for All Toolkit to encourage small-scale infill development.***
- ***Require retainment of existing housing stock within the commercial core.***
    - ***Housing units displaced by conversion to commercial use or other mixed-use development should be retained or replaced.***

Map 1.2. Future Land Use Map. Map 1.2. Future Land Use Areas. This map distinguishes between desired land use areas throughout Manchester to indicate where different types of development (or conservation) should be prioritized. The map reflects current zoning districts throughout much of Manchester, as well as the categories and planning considerations identified in Act 181 and the in-progress regional future land use map. Of notable importance is the extension of the center and planned growth area compared to the current designated village center and neighborhood development area (see Map 1.1).



Act 181 created exemptions to Act 250 permitting requirements for qualified areas of municipalities. The new law established four tiered areas: Tiers 1A and 1B, both of which offer some form of exemption to Act 250; Tier 2, which has no exemptions; and Tier 3, which are areas of critical natural resources. Municipalities with downtowns and village centers, planned growth areas, and village areas mapped in the regional planning commission's future land use map will be eligible for recognition as Tier 1 B jurisdiction, which exempts housing projects of

50 or fewer units on ten acres or less.

Manchester is well positioned to opt in for Tier 1B jurisdiction. Should Manchester wish to be further exempted from Act 250 permitting on all subdivisions, developments, or changes to existing permitted projects, the town could pursue Tier 1A jurisdiction. To establish a Tier 1A area, Manchester would need to apply to the Land Use Review Board (LRB) after they have established guidelines, expected in 2026. Requirements include:

- An approved municipal plan
- Boundaries consistent with the regional plan's downtown and village centers and planned growth areas
- Flood hazard and river corridor bylaws which apply to entire municipality and are consistent with or stronger than 10 VSA 755(b) and 1428(b), or entirely excludes those areas
- Permanent municipal zoning and subdivision bylaws
- Permanent municipal land development regulations featuring smart growth principles (including allowing up to four stories in areas with water/sewer)
- Compatibility with historic preservation standards
- Wildlife habitat plans that protect or exclude from Tier 1A significant natural communities, and rare, threatened and endangered species,
- Water and wastewater systems or planned improvements with capacity to support development
- Adequate staff to support coordinated capital planning, development review, and zoning administration

Action: The town should consider pursuing a Tier 1A designation to exempt developers from Act 250 permitting requirements in the downtown and planned growth area.

Section 2: Energy, Natural Resources & Flood Resilience

Section 2.1: Energy

Energy Mission: Encourage and support the conservation of energy and the development of renewable energy resources in Manchester.

Energy - its availability, cost and environmental impacts - is of critical importance to all aspects of individual and community life. Some key energy resources, such as oil and gas, are subject to fluctuating supply and cost and contribute to increased carbon dioxide in the atmosphere, and pollution of air, water and land resources. Conservation, whether through increased efficiency or decreased demand, will be the most important component of minimizing the costs of energy usage. Every dollar not spent on energy is available for local investment or saving, and to meet other basic needs. Optimizing energy use does not just lower operating costs, it also lessens adverse environmental impacts and thereby the costs associated with environmental damage and impaired public health.

The Town of Manchester is committed to working toward a sustainable energy future in a manner that minimizes environmental impacts and supports the local economy. The purpose of this section of the Town Plan is to advance those objectives by promoting public awareness of energy issues, assessing current and projected future energy use and sources of energy, identifying conservation and efficiency opportunities, and by evaluating the potential for utilization of renewable energy resources to meet the town's energy goals.

Manchester Energy Goals

- Reduce dependence on non-renewable and imported energy sources.
- Promote energy conservation and efficiency in residential, commercial, and industrial structures and operations.
- Reduce energy consumption in all public buildings and operations.
- Facilitate wise development of sustainable local renewable energy resources.
- Support the local economy by reducing overall expenditures on energy while increasing

These goals are consistent with Vermont's energy goals and policies, including:

- Greenhouse gas (GHG) reduction requirements under 10 V.S.A. § 578(a)
    - 26% reduction from 2005 levels by 2025
    - 40% reduction from 1990 levels by 2030
    - 80% reduction from 1990 levels by 2050
- The 25 x 25 goal for renewable energy under 10 V.S.A. § 580
    - 25% in-state renewables supply for all energy uses by 2025
- Building efficiency goals under 10 V.S.A. § 581
- State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted

pursuant to 30 V.S.A. §§ 202.

- The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005

- Meeting 90% of our energy needs with renewable sources by 2050.

Equity and justice must be integrated into all aspects of the energy planning and policy process; and as town goals, objectives and actions are considered and implemented, the decision-making process will be guided by the following questions:

1. Who is helped/who benefits from the policy or objective?

2. Who is harmed by the policy or objective?

3. Who is missing from the conversation on the policy or objective?

Act 174 and Enhanced Energy Planning

The Vermont Legislature approved Act 174 in 2016 to enhance regional and municipal energy planning and to establish a way for local communities to have more input on the siting of electric generation facilities. The Act established standards that, if met by a regional or municipal plan, assure that greater weight ("substantial deference") be given to those plans in Section 248 proceedings regarding the siting of electric generation facilities. The standards require that plans address specific requirements organized into three broad categories:

1. Analysis and Targets: assessment of current energy use and targets for future consumption;

2. Pathways: identification of implementation actions and strategies to achieve future targets;

3. Mapping: renewable energy resource maps and siting guidelines for renewable electric generation facilities.

This energy element is consistent with the Act 174 planning standards, statewide policies and goals outlined in the 2022 Vermont Comprehensive Energy Plan (CEP). Attaining Vermont's energy goals requires action at the state, regional, and local levels. The Bennington Regional Plan was updated and adopted in 2024 by the Bennington County Regional Commission (BCRC) and this enhanced energy plan element also is consistent with the regional goals, and targets for efficiency, alternative energy use, and renewable energy development contained in that plan.

Much of the data presented in subsequent sections of this chapter comes from Low Emissions Analysis Platform (LEAP) model projections. The LEAP model is a tool used by the State of Vermont to analyze and project energy demand across multiple sectors at the state and regional levels for the years 2015-2050. The projections come from the Vermont Pathways Model, a specific model within the LEAP model that was developed by the Vermont Department of Public Service and the Stockholm Environmental Institute. The LEAP projections for each sector include two scenarios: baseline energy demand and a "CAP Mitigation" energy demand. The baseline scenario, or business-as-usual scenario, was developed to estimate regional energy demand under normal policy and programmatic conditions. The Climate Action Plan (CAP)

Mitigation scenario was developed to estimate energy demand needed to meet the state's greenhouse gas reduction requirements. The CAP Mitigation scenario is consistently used throughout this plan. The regional LEAP projections were disaggregated by municipality using each municipality's share of regional energy use. More information on the LEAP projections can be found in the appendix of the Bennington Regional Plan.

Current and Projected Energy Use

It is important to understand the current amount of energy used for various purposes in Manchester, the sources of that energy, and how the amount and mix of energy demand may change over time as the town moves toward its energy goals. This section of the plan will analyze energy use across the electric, thermal, and transportation energy sectors and, using LEAP model projections, identify future targets for reduced energy consumption and fuel-switching for transportation, residential heating, and commercial applications.

According to Energy Action Network's 2024 Annual Progress Report, total energy consumption in Vermont topped 119 trillion BTUs in 2022, with the largest share being used for heating and cooling (52.1 trillion BTUs). Additionally, fossil fuels make up the largest share of Vermont's energy expenditures, and most of that money leaves the area to pay for imported fuels. Thermal energy makes up the largest share of energy usage at the local level, as shown in Figure 2.1.

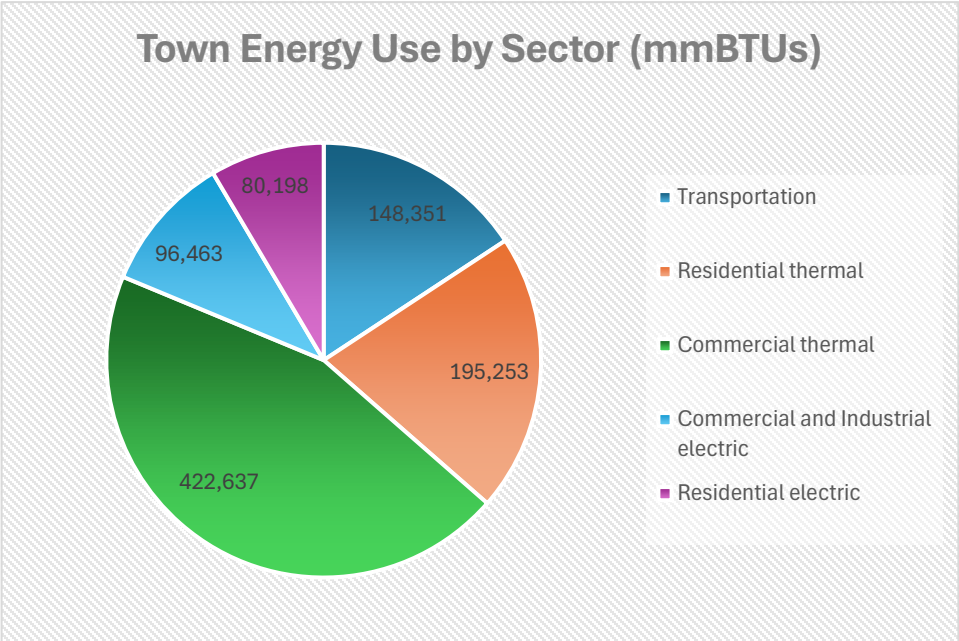


Figure 2.1. *Data from Vermont Public Service Dept., Municipal Consumption Tool (2021-2022 ACS 5-year estimates) and Efficiency Vermont (2023 data). Electricity used for heating, cooling, and transportation is included in the residential electric sector.*

Manchester includes a mix of residential, commercial, and institutional uses, as well as extensive rural open spaces. The town's 4,484 residents occupy just nearly 2,000 housing units, approximately 70 percent of which are single family homes. The town also includes over 600 housing units occupied seasonally. The town's economy is supported by a sizable commercial sector and several manufacturing businesses. All of these land uses and the associated transportation systems result in considerable energy expenditures. According to the LEAP modeling data, Manchester will need to steadily reduce overall energy consumption to meet

energy goals, with total energy demand falling by approximately 36% percent of current levels by 2050 (Figure 2.2).

The most significant trends reflected in this transition, in addition to the steady reduction in total energy consumption, are the dramatic decreases in reliance on all fossil fuels, and a significant increase in electricity consumption. While the use of woody biomass as a space heating fuel is expected to play a part in the residential energy transition in Manchester, the use of biomass is projected to steadily decrease overtime as the use of electricity increases. The increased reliance on electricity, primarily for space heating and transportation, allows attainment of much lower total energy demand through efficiency improvements.

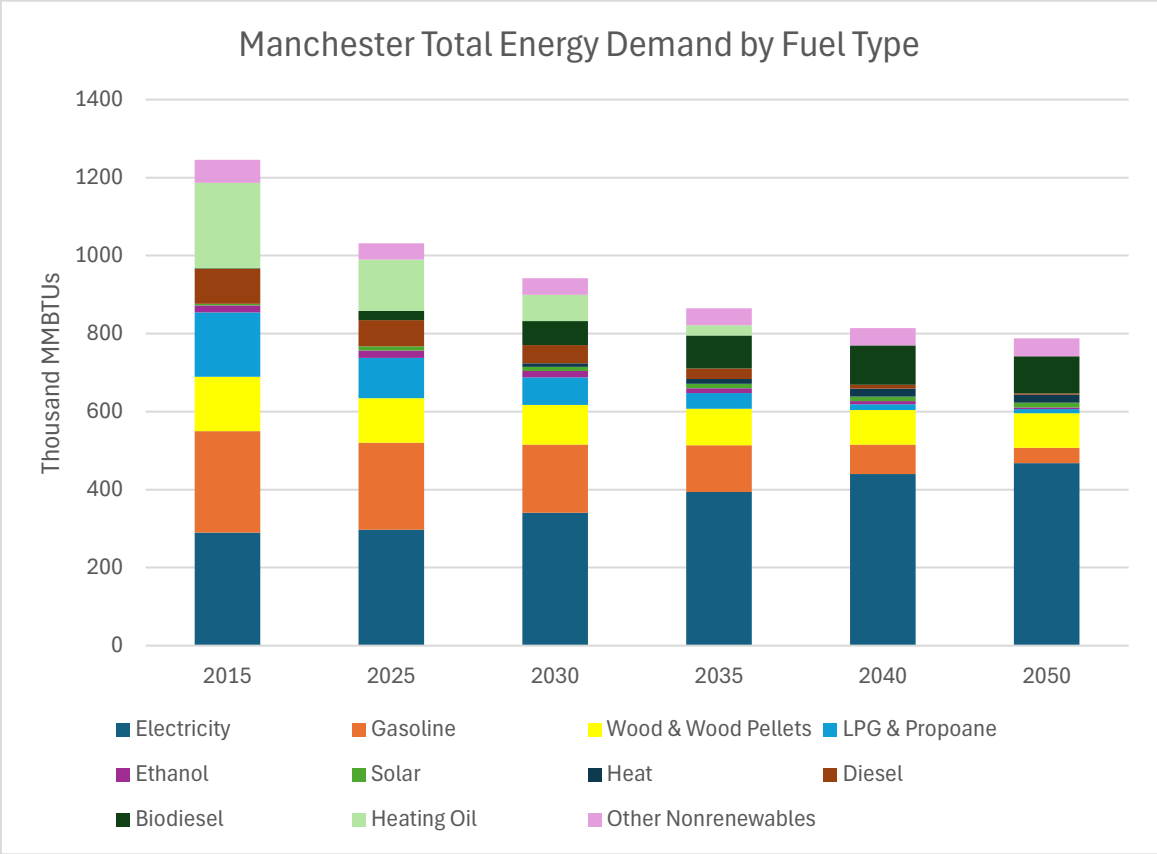


Figure 2.2. Data from CAP mitigation LEAP projections

Electricity

The widespread adoption of appliances, vehicles, and thermal technologies powered by electricity are critical to achieving Vermont's energy goals. An increased reliance on electricity will be necessary to transition away from fossil fuels. Current trends suggest that total electric use is gradually increasing in Manchester's commercial and residential sectors, as indicated in Figure 2.3 below. This uptick in electricity usage is expected as the electrification of heating and transportation accelerates. The uptick in residential electricity usage is also due in part to the impact of the Covid-19 pandemic which has made hybrid and remote work more common.

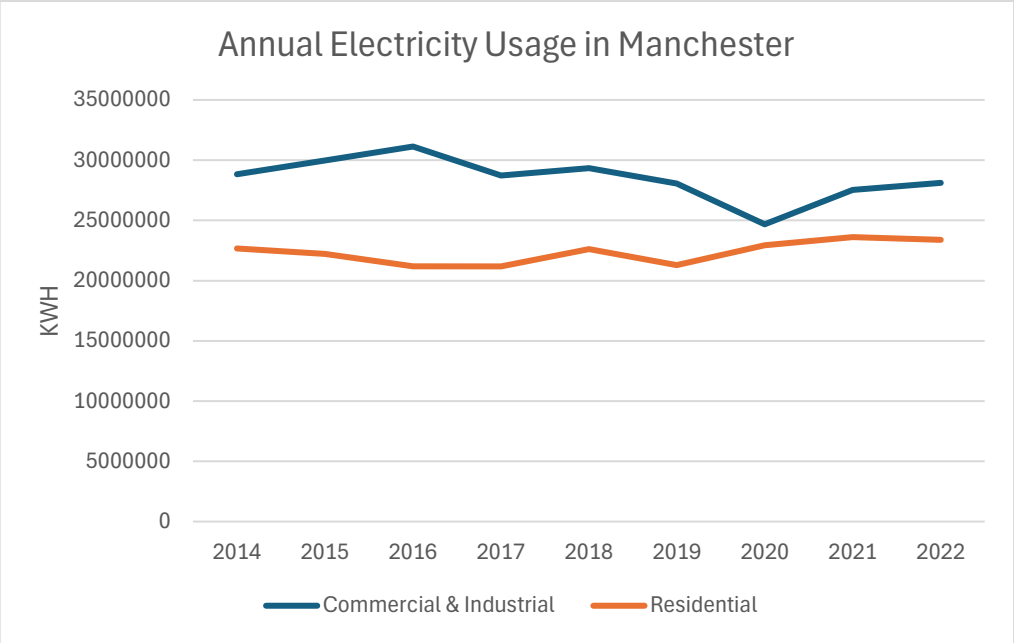


Figure 2.3. Data from Efficiency VT.

Although electricity use will initially increase (and has already begun to increase) with the electrification of the heating and transportation sectors, electricity is expected to become more efficient as electric technologies continue to improve and are adopted. Because electrification trends are expected to outpace demand-side management efforts (i.e. efficiency and conservation programs), electricity demand is expected to increase. However, demand-side efforts to reduce and manage electricity use will be important to mitigate increases and manage the timing of when electricity is needed.

Figure 2.4 shows the electric energy savings that are possible to achieve through the implementation of efficiency measures, such as those offered by Efficiency VT and Green Mountain Power. For example, by 2050 residents of the town could save approximately 5,300 MWh of electricity through efficiency programs, and businesses could save approximately 5,400 MWh of electricity (peak commercial electricity savings are projected to occur in 2035).

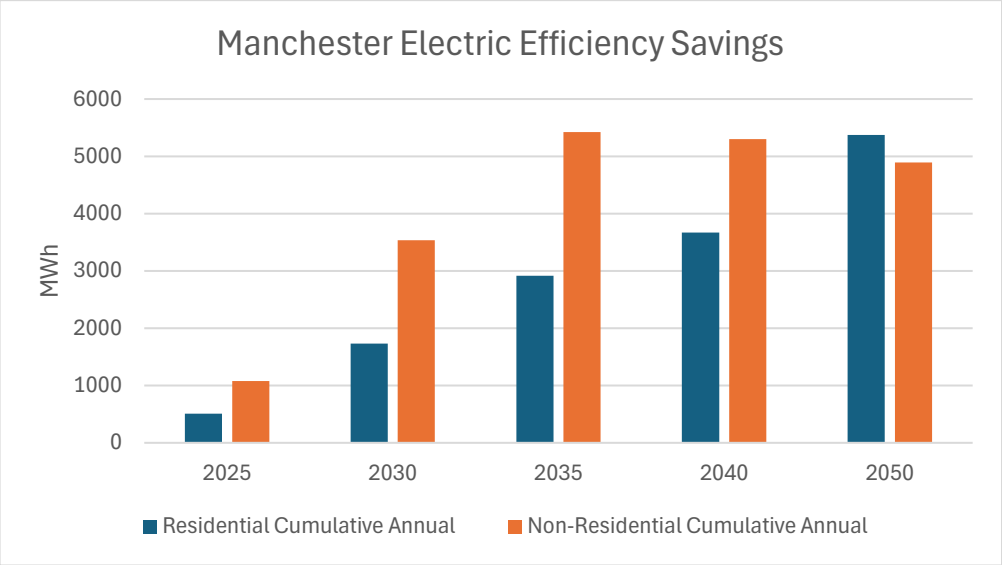


Figure 2.4. Data provided by the Public Service Department and sourced from the 2022 Energy Efficiency Market Potential Study.

Residential Energy Use

Manchester's households consume energy for heating and cooling, for electric lighting, appliances, and equipment, and transportation. Figure 2.5 illustrates how residential energy use could change over the next several decades to meet state energy and emissions goals. Under this scenario, residential energy use would decrease by more than 50% with increased efficiency, growing electricity use, and a phasing out of fossil fuels.

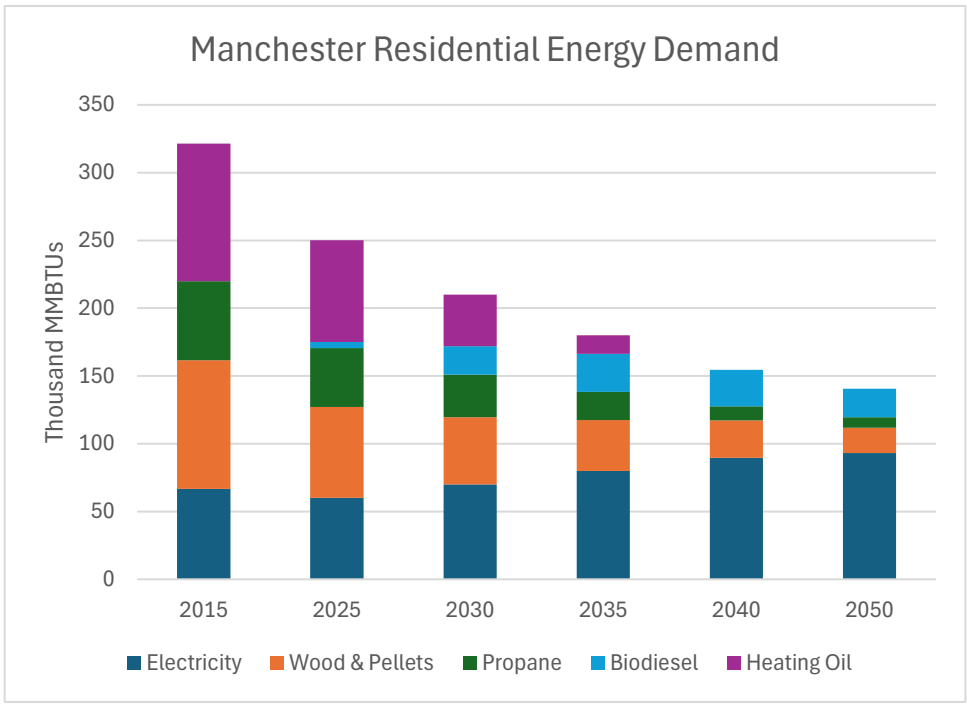


Figure 2.5. Data from CAP mitigation LEAP projections

According to US Census (American Community Survey) data from 2022, nearly half of the households in Manchester are heated with petroleum oil and another 40% are heated using LP gas. Relatively few, therefore, are heated using other types of fuel such as cord wood, pellets, or electric heat pumps (with some significant portion of the electricity derived from renewable generation sources). Even using more generalized regional LEAP modeling data, a significant majority of

Manchester's current residential thermal energy demand is met using fossil fuels. Profound changes in total energy demand and in the fuel mix will be required to meet 2050 energy goals (Figures 2.6 and 2.7).

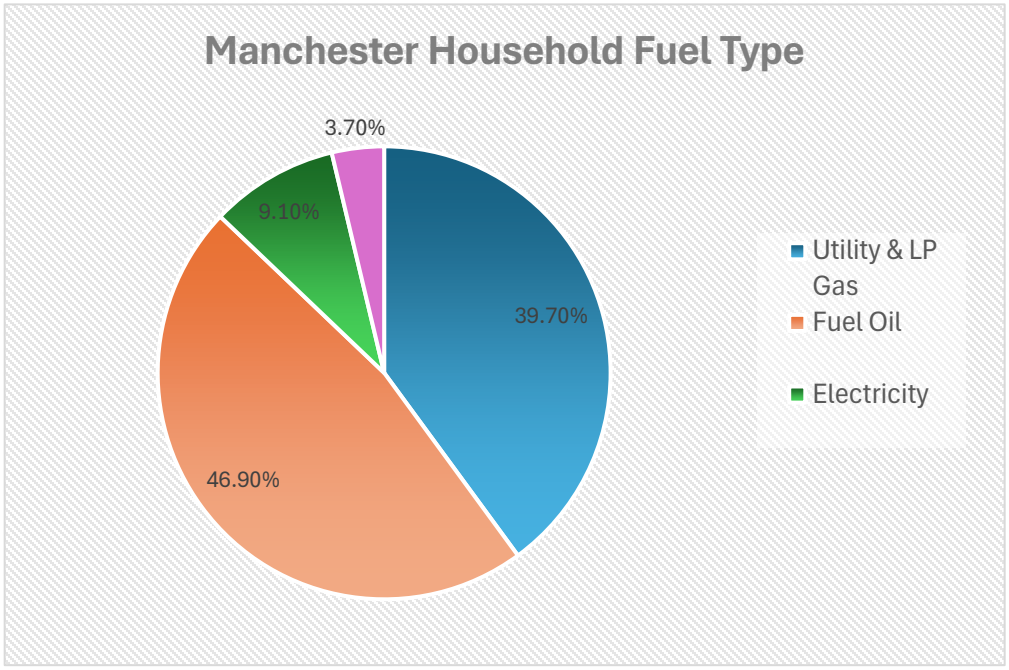


Figure 2.6. Data from ACS 2022.

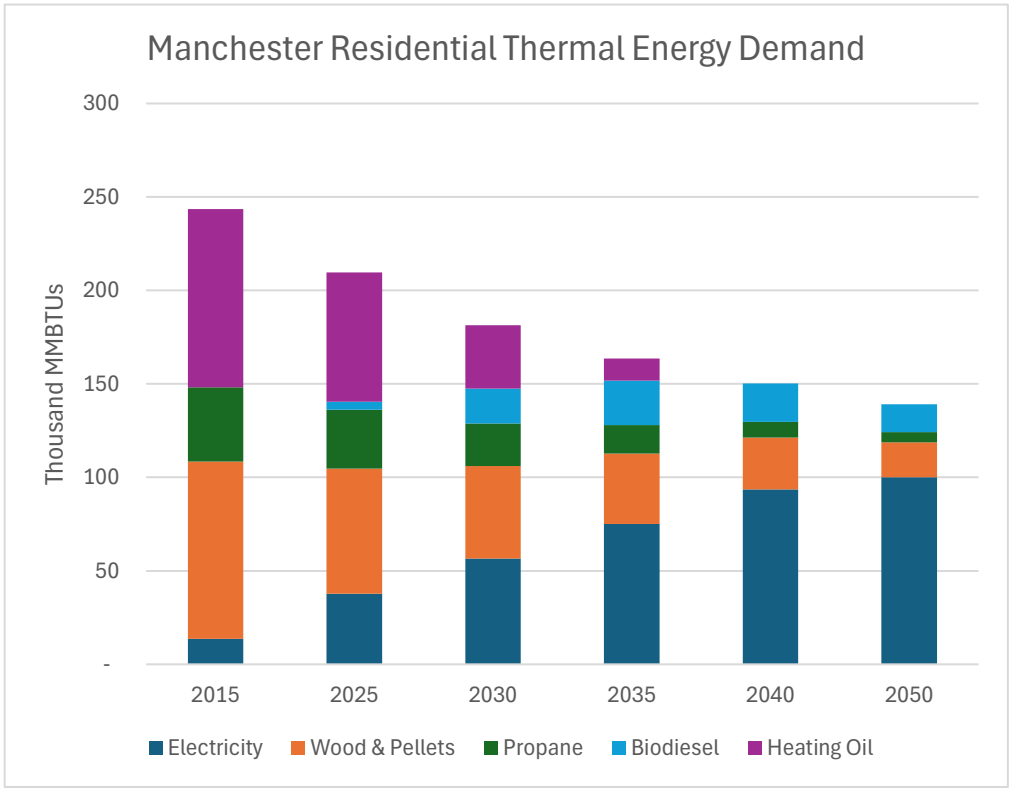


Figure 2.7. Data from CAP Mitigation LEAP projections.

Cold-climate electric heat pumps and heat pump water heaters are highly efficient technologies that will play a major role in lowering overall energy consumption. Cold-climate heat pump technology extracts cold air from ambient space and can be used for both heating and cooling. In addition to being more energy efficient than other heating technologies, heat pumps can also cool homes during the warmer months. Heat pump water heaters are an efficient way to heat water, typically one of the highest home energy costs, using electricity to pull heat from the air and offer a cleaner alternative to fossil fuel-based water heaters.

To meet 2050 goals, electric heat pumps should be adopted in accordance with the following targets as established by the CAP Mitigation LEAP projections:

Cold climate heat pumps: **896 heat pumps in use by 2025; 1,649 by 2030; 2,409 by 2035; 3,176 by 2040; and 3,550 by 2050**.

Heat pump water heaters: **589 heat pump water heaters in use by 2025; 1,272 by 2030; 1,962 by 2035; 2,659 by 2040; and 2,691 by 2050.**

As of 2023, 866 heat pumps and 221 heat pump water heaters have been installed in homes in Manchester (Vermont Energy Dashboard, EAN and Efficiency VT data), which indicates the town is very close to meeting it's 2025 goal for heat pump adoption, but a significant increase is needed to meet the heat pump water heater goal.

Gradually switching thermal systems to more efficient electric options will improve energy efficiency, but thermal conservation gains will also rely on extensive weatherization of existing homes and adherence to building energy codes for new construction.

The following household weatherization targets, as established by the CAP Mitigation LEAP projections, should guide efforts in Manchester:
649 households weatherized by 2025; 1,113 by 2030; 1,402 households by 2035; 1,690 households by 2040; and 2,268 households by 2050.

As of 2023, there have been 366 weatherization projects in Manchester (Vermont Energy Dashboard and Efficiency VT), which means that a significant ramp up of these projects will be needed to meet the first 2025 benchmark goal.

Energy Burden

For Bennington County and Manchester, one strategy for improving environmental justice and equity is reducing energy burden, which is defined as the proportion of household income spent on energy costs (2023 Vermont Energy Burden Report | Efficiency Vermont). Manchester's energy burden is 9%, slightly lower than the state average energy burden of 10.6%. Nationally, an energy burden greater than 6% is considered high and is correlated with a "greater risk for respiratory diseases, increased stress and economic hardship, and difficulty in moving out of poverty" (ACEEE).

According to a University of Vermont study, energy expenses disproportionately hurt Vermonters who are rural, lower-income, non-white, and non-homeowners. It is also important to note how energy spending often competes with other basic needs such as housing, healthcare, and food. According to EAN's 2024 Progress Report "Vermont households with the lowest incomes – those earning less than 60% of area median income (AMI) – spend an average of 19% of their income on heating fuel and electricity. Households at or above 100% AMI…typically spend 4% or less of their income on heating fuel and electricity costs."

In Manchester, approximately 26% of households rent their homes (2022 ACS 5-year estimate). Renters are often subject to what is known as the split incentive, where landlords are responsible for the heating system and weatherization of the building, but the tenant is responsible for the utility bill. This may disincentivize the landlord to make efficiency improvements to the building that would lead to greater comfort and reduced heating costs for the tenant. As Vermont continues the energy transition to meet its renewable energy goals and the requirements of the Global Warming Solutions Act, it is important to remember that the transition will not affect all Vermonters equally. Despite various state incentives, many clean energy technologies are out of reach for Vermonters with low-incomes or who rent their homes.

Transportation Energy Use

With the transportation sector's high energy use and greenhouse gas emissions, it is clear that major changes must occur in the ways that people and goods are moved around the town and region. Reliance on personal light duty vehicles (LDVs, generally cars, pickup trucks, and SUVs) is widespread across the country and especially so in rural areas like southwestern Vermont. The independence and convenience provided by LDVs is considered essential to Manchester residents and businesses. Consequently, a variety of changes - in technology, alternative transportation modes, and land use patterns - will need to take place over time to maintain quality of life and economic vitality in Manchester.

Targets for gradually reducing energy consumption by passenger cars and light trucks are presented in Figures 2.8 and 2.9. Over the next three decades, total energy demand for transportation would fall gradually to just over one third of 2015 levels, and gasoline use would decrease dramatically. Electrification of the light duty vehicle fleet would account for much of this reduction in energy use.

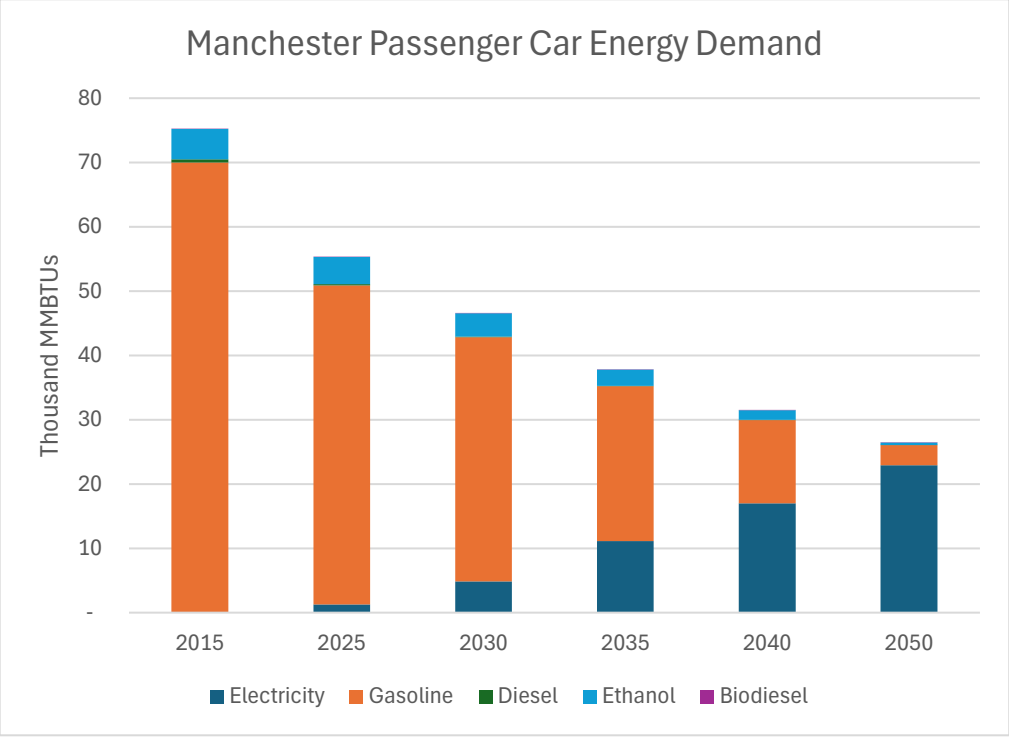


Figure 2.8. Data from CAP Mitigation LEAP projections.

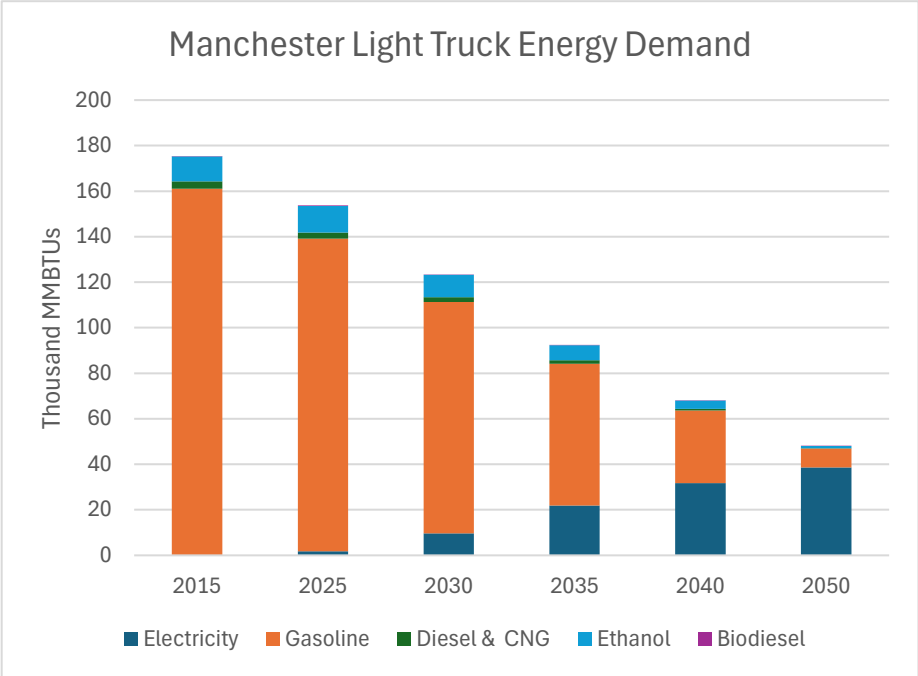


Figure 2.9. Data from CAP Mitigation LEAP projections.

Fortunately, electric vehicle (EV) technologies have advanced significantly in recent years and these systems should replace internal combustion engines at an increasing rate in coming decades. By steadily transitioning the town's LDV fleet, Manchester residents, businesses, and government can improve transportation efficiency while keeping money in the local economy to support renewable electricity generation and local businesses in general.

The following EV targets, from the CAP Mitigation LEAP projections, should guide adoption rates in Manchester:
72 EVs by 2025; 312 EVs by 2030; 745 EVs by 2035; 1,182 EVs by 2040; and 1,754 EVs by 2050.

As of 2023, Manchester had 85 registered EVs, and 43 PHEVs, and the number of EVs in town has been increasing rapidly since 2015 as indicated by Figure 2.10.

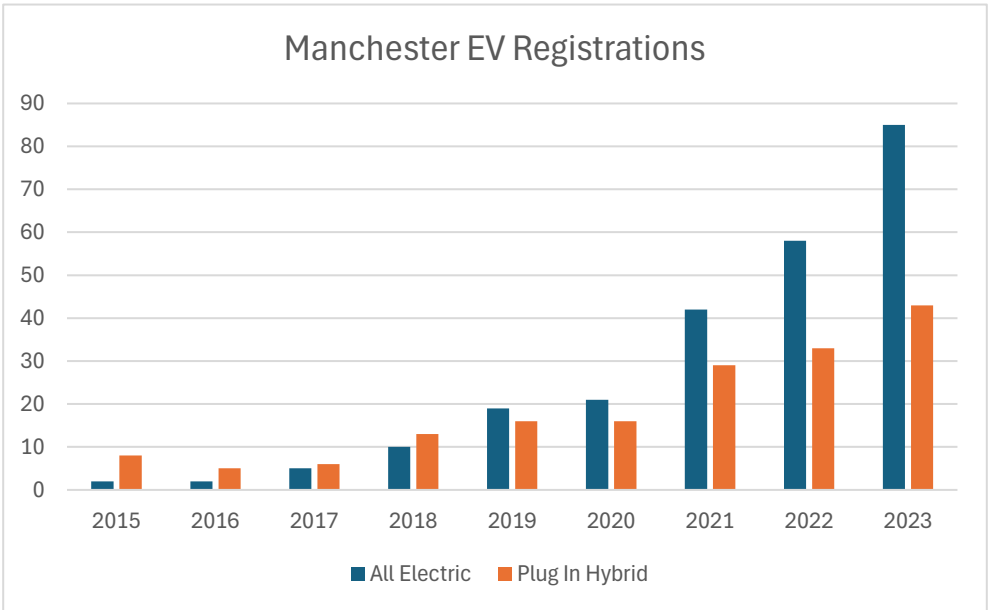


Figure 2.10. Data from Efficiency VT.

There are three main kinds of EVs: full electric vehicles, plug-in hybrid (petroleum and electric) vehicles, and hybrid vehicles (in which batteries provide an assist to the internal combustion energy and are charged while driving). Full EVs have larger batteries and do not rely at all on petroleum diesel. With increasing efficiency and driving range, it is expected that most vehicles will be full-electric by 2050. EVs of any type have significantly greater fuel efficiency than that of internal combustion engine vehicles, leading to significant efficiency gains projected over time.

State programs and incentives can help reduce the cost of an EV, but the high upfront cost, and an adequate supply of EV charging infrastructure are still barriers to widespread adoption, especially for low-income people and renters.

Although EVs certainly will play a major role in reducing energy use while allowing Manchester residents to continue to rely on personal vehicle travel, efficiency gains from EVs alone will not account for all the energy reduction needed to meet future transportation energy targets. Conservation through behavior changes such as carpooling, transit use, and increased reliance on walking and biking will be critical to reaching 2050 energy targets. Policies and programs that encourage compact mixed-use development and implementation of bicycle and pedestrian friendly ("complete street") roadway design are necessary to shift the predominant transportation model to less on vehicles. Expansion of local and intercity bus systems, exemplified by the Vermont Translines shuttle between Manchester, Bennington, and transportation hubs in the Albany metro area is another example of the type of change that will be needed to allow residents to reduce reliance on personal vehicles while retaining the ability to conveniently access local, regional, and national destinations.

Land Use

Effective land use planning promotes energy efficient design. Higher density development in the core with mixed uses including housing, lessens the need for car travel and allows for more efficient provision of services compared to scattered development. An efficient network of sidewalks and trails, along with effective parking strategies, make it easier and more comfortable to walk or bike instead of driving.

The siting, design, and construction of buildings effects the amount of energy needed for heating and cooling, as well as the amount of electricity needed for lighting. Proper subdivision design, building orientation, construction, and landscaping provide opportunities for energy conservation measures such as less vehicular travel, passive solar heating and cooling, and natural lighting. These strategies are discussed further in part 2 of this plan. Additional energy savings can be realized by retrofitting existing buildings with insulation, more efficient doors and windows, weatherstripping, compact fluorescent or LED (light emitting diode) lights, more efficient appliances, and more efficient use of those appliances.

The town itself will set a positive example by considering energy issues in all decisions concerning capital expenditures on municipal infrastructure, as well as operating and maintenance costs for buildings, facilities, and vehicles. An *ad hoc* Manchester energy committee active in 2008 and 2009 spearheaded energy conservation projects, including replacement of streetlights and energy audits of town buildings and facilities. Accomplishment of recommended actions from the energy audits led to energy conservation measures at the town hall and public safety facility, as well as a new more energy efficient pool house at the Dana Thompson Memorial Park. The town will continue to pursue energy conservation, use of cleaner fuels, and other strategies to optimize energy efficiency in all municipal buildings, vehicles, and programs.

Commercial Energy Use

Manchester is an important retail and service center for the region, with over 400 businesses and approximately 4,000 employees located in the town. Those businesses use a considerable amount of energy for space heating and cooling, operations, and transportation (for products, commuters, and customers). A particularly important consideration for Manchester and its economy is the energy demand for transportation for the many visitors who spend time in town and patronize local businesses throughout the year.

Commercial and industrial uses together account for more total energy demand than residential uses in Manchester (excluding transportation demand for each sector), and the decrease in consumption in these sectors is not expected to be as great as in the residential sector (Figure 2.11). Reliance on electricity in these sectors, already greater than in the residential sector, is expected to grow in importance due to use of heat pumps and electrification of manufacturing and other business functions. Reductions in fossil fuel use will occur in both sectors, although a significant amount of propane use will remain for certain commercial applications and residual fuel oil for some industrial applications.

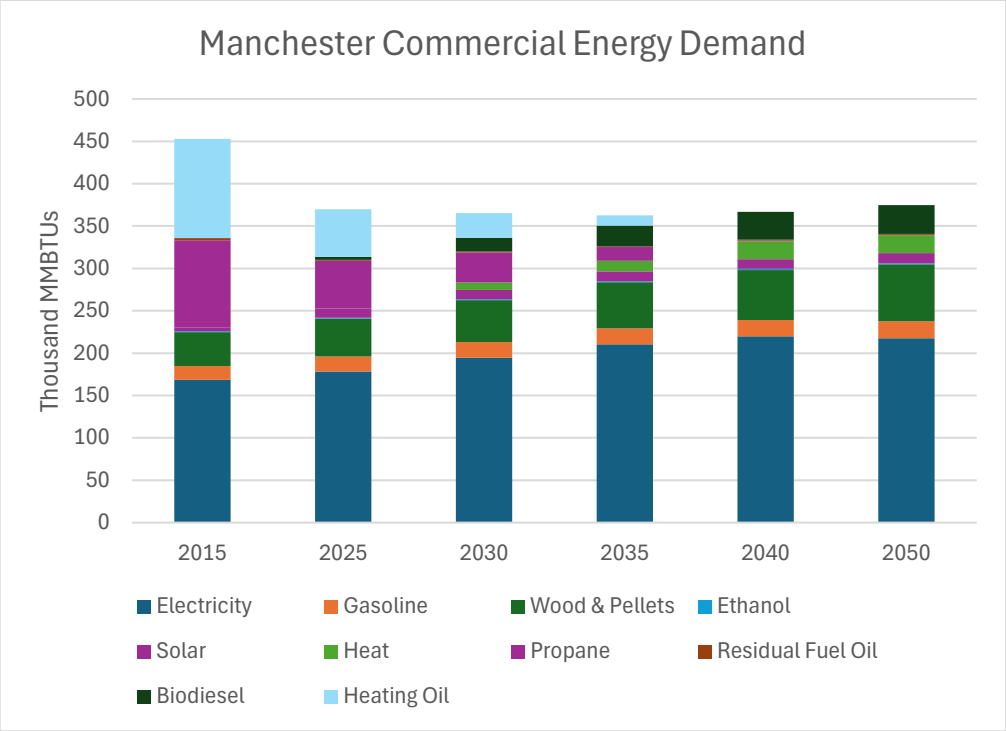


Figure 2.11. Data from CAP Mitigation LEAP projections.

As in the residential sector, cold-climate electric heat pumps will play a major role in lowering overall energy consumption in the commercial sector as well. According to CAP Mitigation LEAP projections, the following targets should guide commercial heat pump adoption:

1,241 heat pumps by 2025; 2,468 heat pumps by 2030; 3.754 heat pumps by 2035; 4,614 heat pumps by 2040; and 4,801 heat pumps by 2050.

These are very ambitious targets that will require a significant increase in adoption rates.

Energy conservation goals will also be realized by extensive weatherization of commercial buildings. The following commercial building weatherization targets should guide efforts in Bennington (derived from regional targets):
88 buildings by 2025; 200 buildings by 2035; 450 buildings by 2050

The clustering of commercial and industrial structures in the downtown and in business parks makes district heating systems, such as a Thermal Energy Network (TEN), a viable and cost-effective option for many sites. TENs utilize existing heat that is normally wasted, along with ground source heat pumps. There are no GHG emissions associated with Thermal Energy Networks. The energy and environmental benefits of such systems are complemented by the economic benefits of reducing the amount of money spent on imported energy.

Transportation is an essential component of all of the region's commercial and industrial enterprises. Commercial businesses require shipments of materials from suppliers for local sales, and industrial businesses receive raw materials and ship finished products to markets. Greater reliance on rail and public transit is anticipated and alternative fuel-electricity for light vehicles and biodiesel for heavy vehicles— will be used to power the private and commercial vehicle fleet. Tourism is a major component of the local economy and it will be necessary to ensure that those visitors have a way to reach the region and have sufficient mobility once there. Because electric vehicles are expected to play a large role in personal transportation, it will be important to ensure that sufficient charging stations are available at locations convenient for visitors as well as local residents.

In the commercial and industrial sector, biodiesel also may become an important fuel in the regional economy, and the ability to produce biodiesel fuels locally from oil seed crops offers significant opportunities for economic development through sustainable energy production. It will be important, however, to ensure the area's best agricultural soils are available for the production of food to meet an increasing demand for locally sourced foods. In summary, the energy demand forecasts through 2050 point to several key considerations and general approaches for addressing commercial and industrial sector needs:

- Continuation of conservation and efficiency programs to reduce overall energy demand.
- Use of combined heat and power (CHP) technologies (also known as cogeneration) whenever feasible.
- A focus on geothermal-based heating sytems or Thermal Energy Networks for clusters of commercial and industrial buildings.
- Greater reliance on electricity through the use of heat pumps in commercial buildings and electrification of industrial processes.
- Expanded public transportation options, including intercity and local connections.
- Development of EV-charging infrastructure and integration of local biodiesel production and use into the economy.

Municipal Energy Use

The Town of Manchester relies on energy to provide services to the community. The town owns and operates buildings, vehicles and equipment, and is responsible for other services such as the provision of water, treatment and disposal of wastewater, and street lighting. The town already has taken steps to reduce its energy use through use of more efficient lighting and equipment in office buildings, replacement of streetlights with LED fixtures, and by pursuing other initiatives through Efficiency Vermont and other resources. Town Hall is fitted with smart thermostat technologies. New town buildings and systems will be designed to take advantage of energy efficient measures. As repairs and improvements are made to existing buildings and systems, efficiency measures will

be an integral part of those projects.

In 2024, Manchester received energy audits on two municipal buildings as part of the Municipal Energy Resilience Program (MERP): the town office, and public safety building. The reports identified energy and cost saving opportunities and assessed the feasibility of installing solar, battery storage, and EV charging at each of the sites. After receiving the assessments, the town applied for and was awarded a $450,000 implementation grant from the Department of Buildings & General Services to make energy upgrades to both buildings which will include the installation of heat pumps, insulation and air sealing.

The town has taken a leading role in improving transportation energy efficiency in the community by actively developing bicycle lanes, multi-use pathways, and sidewalks that connect the downtown, schools, neighborhoods, and recreation facilities. In line with energy goals, the town will continue to support extension of bike and pedestrian pathways and to encourage dense development of its core.

Another area in which the town can have significant impact is in its vehicle fleet. The town operates a sizeable fleet of vehicles and heavy equipment that use gasoline and diesel fuel. The Highway Department, with its dump trucks, pickup trucks, and array of heavy equipment is the largest user of transportation fuel in the local government. Consequently, its costs will rise more rapidly than any other department as gasoline and diesel fuel costs increase. The police Department also has a significant vehicle fleet. The Water and Wastewater Departments also rely on vehicles and heavy equipment. The use of hybrid SUVs and battery systems that allow for reduced idling might achieve significant fuel savings across town departments. As development and bike and pedestrian infrastructure expansion occurs in the downtown, limited police patrols may be conducted on foot or bicycle, further saving on fuel costs. The town will seek to replace gasoline powered vehicles with electric and alternative fuel vehicles as the technology becomes available for specialized town uses.

Local Renewable Energy Generation

The vast majority of energy used in Manchester is imported from outside the town (and generally from outside the state and nation) in the form of gasoline, oil, propane, and electricity. Some of the imported electricity is generated from renewable sources, primarily electricity obtained from hydroelectric generating facilities in Quebec and Labrador via utility contracts with Hydro Quebec. Even imported renewable energy has environmental impacts, however, including damage to river and forest ecosystems from hydroelectric projects in Canada. On the other hand, the impacts of local energy sources can be regulated more directly and such energy sources are more secure over the long-term. Therefore, assessment of the potential for renewable energy development in Manchester is a critical component of this energy section.

According to recent data from the Department of Public Service, there is currently about 3.1 MW of distributed renewable energy generation in Manchester which represents approximately 13% of total renewable energy generation in the region. The entirety of this installed capacity comes from solar sites (see Table 2.1, and Map 2.1)

Table 2.1: Summary of Renewable Generation in Manchester as of April 2024

	# of Sites	Installed Capacity (MW)	Annual Production (MWh)
Solar	106	3.1	4,041
Wind	0	0	0
Hydropower	0	0	0
Total	106	3.1	4,041

**Only reflects active, permitted sites as provided by the Department of Public Service*
**More information about the calculation of annual production can be found in the appendix of the Bennington Regional Plan.*

This energy element establishes ambitious renewable energy generation targets for the years 2025, 2035 and 2050. The targets were developed using the Department of Public Service Generation Scenarios Tool, with an assumption that 20% of Vermont's energy needs would come from in-state generation. The Generation Scenarios tool is an Excel-based tool that calculates renewable energy generation targets at the municipal and regional level based on population, land availability, and existing generation (see the appendix of the Regional Plan for more information). A significant acceleration of renewable energy development in will be needed to meet these targets.

Table 2.2: Manchester Renewable Energy Generation Targets (in MW)

Year	Solar	Rooftop Solar	Wind	Hydro	Total
2025	1.7	1.3	0.1	0	3.1
2035	3.5	2.8	0.2	0.1	6.6
2050	5.2	4.1	0.3	0.1	9.7

This plan includes energy resource potential maps that show modeled solar and wind potential (See Maps 2.2 and 2.3). Map 2.3 reveals Manchester is not well suited for industrial scale wind production. There are no prime resource areas for wind development in Manchester and only limited secondary resource areas which may be constrained.
That, coupled with the scenic importance of ridgeline areas to the town's visitor-based economy and quality of life, leave little area suited for large scale wind generation in Manchester. Some residential areas may be suited for smaller-scale wind turbines of 100kW capacity or less. Manchester will explore and encourage further local renewable energy production with solar and small-scale wind, using information from these maps as starting points. There may also be limited potential for small-scale hydroelectric installations in Manchester. These different potential energy systems will be discussed in the following energy strategies section of the plan.

Manchester recognizes the importance of protecting forested lands as a key element of the town's environment. Forests play a crucial role in sequestering carbon from the atmosphere, and the state's Climate Action Plan accordingly places significant emphasis on protecting forest blocks and habitat connectors to achieve statewide goals of greenhouse gas emissions reductions and carbon sequestration.

The Planning Commission identifies all forested land in Manchester as a possible constraint to the development of renewable energy facilities. For the purposes of this plan, forested lands are identified using the Agency of Natural Resources' Habitat Blocks. Habitat Blocks are defined as "an area of natural cover (including forest, wetland, shrubland, rivers, streams, lakes & ponds)."[1] The forested lands reflect all of the state-identified Habitat Blocks, which include the highest priority forest blocks already represented in the 'Possible Constraints.'

This policy reflects the desire of the town to minimize the impact of renewable energy development on forests, while balancing other important goals of reducing the town's reliance on fossil fuels and contributing to the broader community's goals of generating renewable energy.

Energy Strategies

A diverse array of targeted policies and actions will be required to effectively advance the town toward its conservation, efficiency, and renewable energy development goals and to support

[1] Habitat Blocks Summary, https://anr.vermont.gov/sites/anr/files/documents/Habitat%20Blocks%20Summary.pdf.

attainment of Vermont's goal of obtaining 90 percent of all energy used in the state from renewable sources by 2050. Some general strategies can be realized through cooperation with utilities, including the following:

- Support integration of advanced energy storage in the area.
- Support full integration of "smart grid" technology throughout the town and region and use of "smart rate" pricing plans.
- Cooperate with Green Mountain Power (electricity generation) and VELCO (electricity transmission) to ensure that areas planned for renewable energy generation are consistent with the capacity of the grid infrastructure and to ensure that any upgrades needed are implemented.

More detail on many of the approaches listed and discussed here can be found in Chapter 13 of the 2024 Bennington Regional Plan and in Guidance for Municipal Enhanced Energy Planning Standards (Vermont Department of Public Service, January 2024). Additional information about the town's land use and transportation policies and recommended actions can be found in the land use and transportation sections of the Manchester Town Plan. Strategies for distinct energy sectors and institutional actors are discussed individually in the following pages.

Town Energy & Land Use Policy

Through the development of this energy component of the town plan, significant recent transportation improvements to Main Street and Depot Street in the downtown, and a comprehensive rezoning effort, the Town of Manchester has moved toward energy and land use policies that maximize energy efficiency and encourage renewable energy resource development and use. The following general strategies are reflected in the town's energy and land use policies:

- Encourage high density mixed-used development in the downtown and surrounding areas and low density development that does not require extensive infrastructure or services in rural areas.
- Actively support investments in the downtown and surrounding neighborhoods that bring new housing and essential businesses, as well as employment opportunities, into the walkable center of the community.
- Encourage development to be planned to take advantage of opportunities for utilization of solar energy.
- Encourage extension of the sidewalk network as part of new development within the town core.
- Support efforts of the Manchester Riverwalk and Bike Manchester, as well as the extension of multiuse recreation pathways connecting the downtown to outer residential and recreation areas.

The Town of Manchester actively seeks opportunities to support local renewable energy generation in the management of its physical plant and public infrastructure, and the procurement of equipment and facilities. On November 13, 2018, the Manchester selectboard approved a 25-year contract with Pig Pen Development, LLC, to make use of a new solar generation facility on a former gravel pit off of Bonnet Street. This net metering project will allow the town to save 7.5% on its electric bills regardless of prevailing electric utility rates. The arrangement will offset all of the electricity used in municipal buildings from fossil based, nuclear based, and large scale hydroelectric based sources to this locally sourced solar generation. This leaves building weatherization, conversion of heating systems, and conversion of the town's vehicle fleet and equipment to electric or liquid biofuel technologies as strategies to pursue. In 2024, the town conducted energy audits and has since moved toward implementing identified weatherization improvements in municipally owned buildings. Accordingly, the town is pursuing the following strategies:

- Reduced energy consumption resulting in return on investment should be accounted for in the town's capital planning process.
- Seek renewable alternatives to the propane system for heating the pool water at the town recreation center, particularly a geothermal heat pump system.
- Assess the potential for deploying ground or air source heat pumps for heating and cooling in all municipal buildings.
- Purchase more fuel efficient vehicles, including electric vehicles where practical. Hybrid sedans and SUVs might be particularly effective for the police department, as would new anti-idling technologies.
- All new lights purchased by the town will be LED, and all town-owned streetlights have been replaced with LED.

Residential Energy Conservation & Efficiency

All zoning permits for new residential construction or renovation in Manchester include reference to the state mandated Residential Building Energy Standards. Furthermore, prior to issuing a certificate of compliance for any such permit the Residential Building Energy Standards certificate for the permitted work must be recorded in the town land records. In addition to these requirements, the town can help Manchester residents pursue energy conservation strategies by publicizing state and regional energy programs aimed at implementing energy saving practices. Through organizing periodic workshops and an annual energy fair, the town Energy Committee can publicize energy efficiency strategies and pursue policies and actions that will help achieve residential sector energy goals, including the following:

- Promote use of the "Energy Star" or similar building performance rating system and related building practices that limit energy consumption in new and remodeled homes.
- Promote the use of Vermont's residential building energy label or score.
- Publicize energy education programs sponsored by Efficiency Vermont, and other organizations, that focus on residential energy savings
- Publicize NeighborWorks of Western Vermont (NWWVT) "Heat Squad" home energy improvement programs, including low-cost audits and assistance with construction and financing.
- Support programs that provide funding for weatherization of the homes of lower-income residents, including the Weatherization Assistance Program offered through the Bennington Rutland Opportunity Council (BROC).
- Encourage home energy audits that allow homeowners to make home energy investment decisions by providing prioritized lists of improvements with costs and payback amounts and periods.
- Promote the use of heat pumps for space heating and domestic hot water.
- Provide demonstrations of new energy efficient technologies.
- Educate the general public about how energy is harnessed and used.

Commercial & Industrial Energy Conservation and Efficiency

Just as the Residential Building Energy Standards are referenced, all zoning permits for new or renovated commercial space include reference to the state mandated Commercial Building Energy Standards, and the Commercial Building Energy Standards certificate must be recorded in the land records before a certificate of compliance may be issued. Furthermore, the town will encourage developers of commercial properties to use the "Stretch Codes," mandated through Act 250, in any new commercial construction regardless of whether an Act 250 permit is required.

The town can further promote improvements in the commercial and industrial energy sector by supporting Manchester's forest products businesses. As in the residential sector, air source heat

pumps are an efficient and cost-effective way to reduce reliance on oil and propane fuels in many commercial and industrial applications. In addition, Manchester is well-suited for new geothermal heat pump systems—an option that may be particularly viable for new construction and larger commercial or industrial projects. Furthermore, the town can support the development of businesses that provide geothermal systems and support (e.g., well drillers, excavators, and HVAC contractors) as well as coordination between those businesses and electrical contractors. As within the residential sector, the town Energy Committee can further energy conservation within the commercial and industrial sectors by publicizing strategies at an annual energy fair or through periodic workshops. Strategies publicized at such events should include the following:

- Encourage businesses to obtain feedstock for heating systems from local sources to support regional economic development and renewable energy goals.
- Promote the sale, installation, and service of heat pumps.
- Encourage business owners to work with Efficiency Vermont and energy service companies to assess the potential for converting all or part of their space heating and cooling to efficient ground source or air source cold climate heat pumps.
- Encourage businesses to acquire the services of an energy auditor to assist in identifying measures to adjust operations and minimize energy use.
- Encourage employers to provide facilities to encourage bicycling, walking, and carpooling.
- Provide businesses information about electric vehicle charging stations and encourage them to install such facilities to support employees who would like to use electric vehicles for commuting.
- Publicize Efficiency Vermont incentive programs for businesses.
- Publicize the town's successful LED streetlight conversion and encourage commercial and institutional landowners to make similar changes to their external lighting.

Transportation Energy Conservation & Efficiency

As already noted in this energy component of the Town Plan, the transportation sector accounts for significant energy usage in rural areas such as Manchester. Beyond the conversion of the local LDV fleet to electric, as discussed previously, other town transportation and land use policies and strategies will help contribute to conservation and efficiency in this sector. The town will continue to improve and expand the sidewalk network, on-road bike lanes, and off-road recreation pathways as identified in the Transportation and Recreation sections of the Town Plan. Compact development that is concentrated in the core of the town will continue to be required or encouraged by the Manchester Land Use & Development Ordinance. The town will work to ensure that local and state roadway construction and maintenance projects include accommodations for pedestrian and bicycle travel, incorporating "Complete Streets" principles whenever possible.

The town will continue to plan and implement modifications to local streets to make them more bicycle and pedestrian friendly and to present more attractive streetscapes for all residents and users of the transportation system. Safety improvements, gaps between important destinations, and other alternative transportation needs will be continually identified, and the town will continue to seek funding through the VTrans Bicycle – Pedestrian and Transportation Alternatives program, as well as from local funds and other sources, to plan and implement identified bicycle and pedestrian improvements. The town will pursue the following strategies:

- Consider EV charging stations in town owned public parking lots.
- Consider large new commercial, industrial, and multifamily development to provide EV charging stations at convenient locations.
- Require large new commercial, industrial, and multifamily development provide a location for a public transportation stop.

- Require bike parking at commercial and civic buildings that generate significant local traffic. Bike parking must be convenient to the building's entrance and have two points of contact between the bicycle's frame and the bike rack.
- Encourage the use of bicycles for short trips by creating low-stress routes and facilities.

As within other sectors, the town Energy Committee can further energy conservation within the transportation sector by publicizing strategies at an annual energy fair or through periodic workshops. Such events should include the following:

- Highlight availability and location of EV infrastructure in the community.
- Publicize regional bus services and transfer locations.
- Promote electric vehicle use through cooperation with Drive Electric Vermont and other organizations.
- Encourage local auto dealers to supply electric and plug-in hybrid electric vehicles.
- Promote the Go! Vermont website to support carpooling, ridesharing, and other opportunities.

Local Food Systems

As has been pointed out already in this energy plan, transportation costs in rural settings such as Manchester's are relatively high. One way to reduce transportation costs is to locally source foods. In addition to reducing energy costs expended on the transport of food products, increasing the amount of food sourced locally or regionally and supporting more lands in agricultural production can help retain ecological functions provided by those lands as well as contribute to a resilient local and regional economy. This theme of supporting local food production and consumption should be reflected in the annual energy fair hosted by the town energy committee. This would be accomplished by including a local food systems program element for the annual fair. This element of the fair would promote local food producers in the local economy, with special focus on farm to table programming at local schools, and matching food producers with institutional and restaurant customers.

Institutional Energy Use

Although the town no longer operates a standalone school system, the town should encourage local schools to participate in energy conservation programs and grant opportunities through the Vermont Department of Public Service and Efficiency VT. This can occur through engagement with the Taconic and Green School District, and local independent schools at the town sponsored annual energy fair. Furthermore, the energy committee could encourage Burr and Burton Academy and other area schools to investigate development of a Thermal Energy Network or geothermal based heating system.

Local schools also should be encouraged to promote the use of school buses and walking and biking to school — including participation in the Safe Routes to Schools program— to reduce reliance on single-passenger vehicle transport. The town can help by continuing its program of expansion of its sidewalk system, and continued bicycle and pedestrian enhancements to its road network through VTrans grant funding. The town's plans for improvements to parking and traffic circulation along Memorial Avenue and School Street as outlined in the Downtown Strategic Plan will contribute significantly to this goal for Manchester Elementary and Middle School, in particular.

Dark Skies

Manchester recognizes the importance of dark skies in reducing energy use, protecting public

health and the life cycles of our resident flora and fauna, and providing for recreational astronomy and wilderness opportunities.

Controlling artificial light in Manchester protects the natural wax and wane of the light cycle and permits the beauty of the night sky to shine, thus enabling both residents and visitors of our town to marvel at the wonders of the universe. Light pollution, defined as any adverse effect of artificial light, is a growing problem throughout the world, including in Manchester. Sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste, are some of the negative consequences of excessive and poorly designed lighting, particularly outdoor lighting.
Light pollution disrupts the earth's natural rhythm of day and night. Humans, and most other organisms on earth, evolved within the context of the light-dark cycle of day and night. Research is making it clear that artificial light, particularly blue light at night, contributes to many human health problems. Manchester's dark skies constitute a precious resource. To protect Manchester's dark skies, enhance public safety and limit energy waste, the *Manchester Land Use & Development Ordinance* limits the brightness of exterior lighting and requires it to be shielded. The planning commission will propose strengthened ordinance provisions with regard to outdoor commercial lighting to require lights to be extinguished by a certain time past closing with the exception of security lights triggered only by motion sensors.

Renewable Energy Development

Hydroelectric Generation

Although hydroelectric generation is the most efficient renewable source of electricity, the impacts to aquatic ecosystems are so problematic that it is highly unlikely that new dam construction will be undertaken in Vermont. Consequently, retrofitting existing dams with new turbine technologies or installation of new inline turbines are the only hydroelectric projects that are feasible for Manchester. Commercial-scale hydroelectric generation is limited in Manchester due to the limited number and suitability of existing dam sites. The town supports efforts for environmentally responsible hydroelectric development; the most likely site being at the existing dam on the West Branch of the Batten Kill adjacent to the Town Green at the Kimball Grist Mill property.

The town rejects the idea of bringing upslope dams on Mount Equinox and Prospect Rock into production as too ecologically damaging. The Kimball Grist Mill is a different matter, the infrastructure is in place as foundation to the adjacent building and roundabout. Inline turbines in the municipal water mains leading from each of the municipal water storage tanks may offer potential for hydroelectric generation, but it is likely that Manchester's system lacks the vertical drop to make such a project feasible.

Solar Energy Generation

Solar radiation refers to the electromagnetic energy that emanates from the sun. We can harness that energy to produce heat or electricity via several different solar technologies. These technologies vary in their costs and appropriateness for different locations and applications. Passive solar approaches use site design and building material choices to maximize the capture of heat and light from the sun. Active solar technologies use equipment to convert solar radiation into electricity or equipment that uses solar radiation to heat water. These active systems vary in scale from very small panels to very large solar farms covering several square miles with over 500-megawatt capacity. Both passive and active systems are encouraged for Manchester; however, large active solar installations should be limited to areas that will not degrade the scenic character of the town, adversely affect agricultural potential, nor harm ecologically sensitive resources.

Net metering is the arrangement that utilities use to credit solar energy system owners for the electricity produced by their solar panels. With net metering, the owner of the solar panels only pays for the electricity used beyond what the solar panels generate. It is possible to go off the grid with a solar energy system that includes battery storage, but it will cost significantly more and is unnecessary for most residential applications with easy access to the power grid.

The Town of Manchester establishes the following general policies concerning solar energy development:

- Small-scale (150 kW capacity or less) electricity generation from solar energy at homes, businesses, schools, and other institutions, is encouraged.
- The town supports the development of net metered solar projects.
- The town supports larger scale solar development (greater than 150 kW capacity) on preferred sites as defined in state statute or as described in this plan.
- Rooftop solar energy development, of any scale, is encouraged.
- Passive solar principles are encouraged for all new development.

Map 2.2 illustrates the areas of potential solar resources in Manchester and incorporates statewide constraints, as defined in Act 174. Individual sites should be assessed for specific technologies, and careful siting should occur to mitigate any adverse effects. The town also encourages more local considerations as follows. New solar facilities shall be restricted to areas that do not adversely impact the community's traditional and planned patterns of growth, of a compact downtown surrounded by a rural countryside, including working farms and forest land. Preferred sites shall include rooftops; gravel pits, quarries, or other earth extraction sites; brownfields as defined by the state or federal government; abandoned impervious cover; and as canopies for functional parking areas. Locations that would significantly diminish the economic viability of the town's working landscape, should be excluded from consideration for solar development. Therefore, forested tracts should not be clearcut to provide for solar installations. Relatedly, the impact on soils of prime and statewide agricultural significance must be minimized during project planning and design. Similarly, the use of perimeter fencing around solar installations should be limited to avoid adversely impacting both aesthetics and wildlife. Alternative perimeter treatments, including natural vegetative screening, should be considered and used whenever possible.

Solar facilities should not be sited in locations that adversely impact important scenic views. Specifically, solar sites should not adversely impact views from public roadways across open fields that have been identified for viewshed protection. Similarly, solar development adjacent to established scenic byways such as the Stone Valley Byway and the Shires of Vermont Byway, should be carefully sited to minimize adverse impacts to the byway. Solar installations must not visually impair prominent ridgelines or hillsides that can be seen from widespread public vantage points throughout Manchester. Finally, the architectural integrity of historic buildings should not be adversely impacted by solar installations, nor should visual gateways to historic districts be blocked by solar developments. Specifically, development of solar generating facilities shall be excluded from the following locations:

- Lands within FEMA-defined floodway and ANR-mapped river corridor.
- Class I or II wetlands. • Rare, threatened, or endangered species habitat as mapped by the Vermont Agency of Natural Resources.
- Steep slopes (>20%) as defined in the Manchester Land Use & Development Ordinance.
- Surface waters and water resource buffer areas.
- Lands within the Forest Conservation zoning district.

Wind Energy Generation

Wind is the result of the movement of air from an area of high pressure to an area of low pressure within the earth's atmosphere. Variable air pressure across the earth's surface results from the rotation of the earth on its axis, the warming of air by the sun, and the subsequent cooling of air as it rises or as the earth turns. Wind flow patterns are further modified by terrain, bodies of water, and vegetative and developed land cover. Wind can be harvested by wind turbine technologies. Turbines convert the kinetic energy of wind to mechanical power. That mechanical power can be directly used to grind grain or pump water as has been accomplished for centuries. Alternatively, that mechanical power can be converted into electricity. The citing of wind turbines must consider average daily wind speeds of a given area. Wind harvesting technologies, furthermore, must account for changing wind flow patterns in the immediate area of the wind turbine.

Because relatively small areas are needed for turbine foundation and infrastructure, wind turbine installations are largely compatible with various other land uses such as agriculture. However, noise from turbines can have adverse ecological, agricultural, and anthropomorphic effects. Consequently, for large scale wind turbine potential, a residential buffer of 1 kilometer is used in the GIS modeling to map areas for potential development in Manchester (See Map 2.3). As noted already, this excludes much of the town's land area from consideration for industrial scale wind development. Modern small wind turbines are relatively quiet, emitting sound that is barely discernable from ambient noise. Such smaller scale turbines (100 kW capacity or less) could be located throughout the town if specific sites have appropriate minimum prevailing wind speeds.

Concern for bird and bat mortality associated with wind turbines has resulted in significant research. A comprehensive study of bird collisions and wind turbines found avian mortality to be related to turbine cut-in speeds and turbine hub height with higher bird mortality associated with higher hub heights (SR Loss, T Will PP Marra. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. Biological Conservation. 168:201-209). This research suggests that because Manchester is not well suited for industrial scale wind development, turbine hub height may be low enough that wind development in Manchester would not result in significant bird mortality. As for bat mortality associated with wind turbines, Vermont requires a minimum turbine cut-in speed that is estimated to avoid most bat collisions (J Lemaître et al. 2017. Bat Mortality Caused by Wind Turbines: Review of Impacts and Mitigation Measures. 10.13140/RG.2.2.36392.67848). Various research-based technologies are being developed to mitigate wildlife mortality associated with wind energy development. For example, AI software is being developed to detect raptors or large groups of approaching birds and adjust turbine controls accordingly. Another simple solution involves painting turbine blades colors that are less attractive to insects, which in turn attracts fewer birds and bats. In any case, most researchers agree that bird and bat mortalities associated with fossil fuel based energy development are significantly higher than wind energy associated mortality rates.

In Manchester aesthetic aspects of wind turbines and resulting changes of the visual landscape are of significant concern. Having a visitor-based economy, protection of Manchester's scenic landscape and particularly of the town's prominent and defining ridgelines is paramount. As revealed by the mapping exercise illustrated in Map 2.3, Manchester has limited potential for large-scale (more than 100 kW) wind energy development, as areas with sufficient access to consistent wind are restricted primarily to higher elevations on Mount Equinox and adjacent ridgelines where severe environmental constraints limit the potential for development. Because very few locations in Manchester have suitable wind resources for utility scale development, infrastructure availability, or are free from significant environmental constraints, no utility-scale (100 kW capacity or greater) wind energy facilities should be located in the town.

Smaller scale wind projects, including residential-scale turbines (10 kW or less) and turbines installed at farms, municipal properties, or school and business campuses (up to 100 kW) are encouraged in Manchester. Individual sites should be assessed for appropriate specific turbine technologies, and siting should occur to mitigate any adverse effects in terms of noise generation, wildlife, or ecosystem services.

Biomass

Advanced wood heating systems may be appropriate at the residential scale and the replacement of older wood burning stoves with efficient, EPA-approved pellet and wood stoves is encouraged. Although advanced wood heating systems have greater efficiency, and lower emissions than previous wood heating systems, wood heat is still a combustion-based fuel source that emits CO_2. Advanced wood heat has a role to play in the energy transition, and locally sourced wood products can benefit the local economy, but electrification of the thermal sector should be prioritized over biomass heating systems when possible. Excessive forest clearing for woody biomass should also be avoided especially in important forest blocks and habitat connectors.

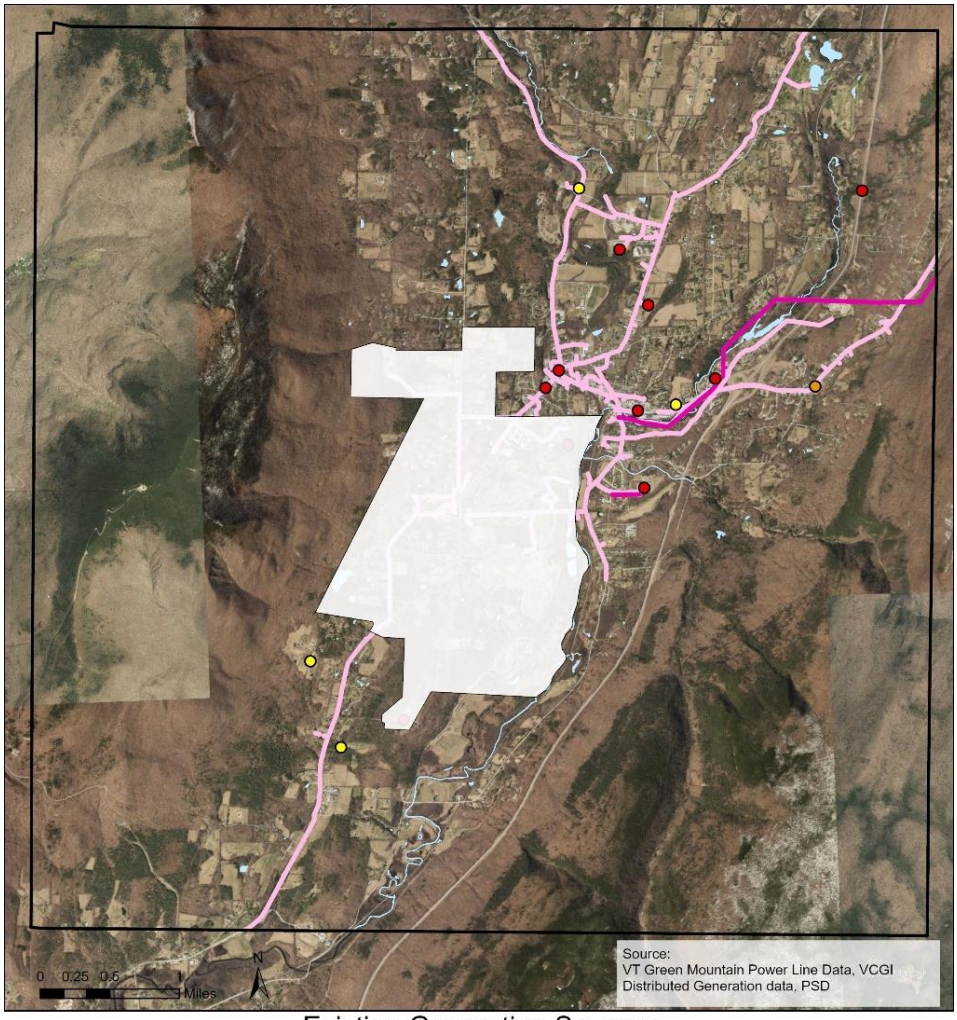
Screening of Energy Generation Facilities

Energy generation facilities in Manchester should be limited in height and screened with natural growth or landscaping to mitigate potential adverse effects on neighboring property or scenic viewsheds.

Preferred Site Designation Requests

This plan does not identify sites as "preferred" for renewable energy generation development. Rather, proposed net-metered solar arrays requiring "preferred site" designation in order to proceed through the Public Utility Commission (PUC) process, must submit an application to the Town of Manchester using the Preferred Site Scorecard available from the Manchester Planning & Zoning Office.

Map 2.1. Existing Renewable Energy Generation Sources. This map shows the locations of existing solar sites over 15kw in Manchester. It also includes the location of three-phase power and transmission lines from Green Mountain Power.



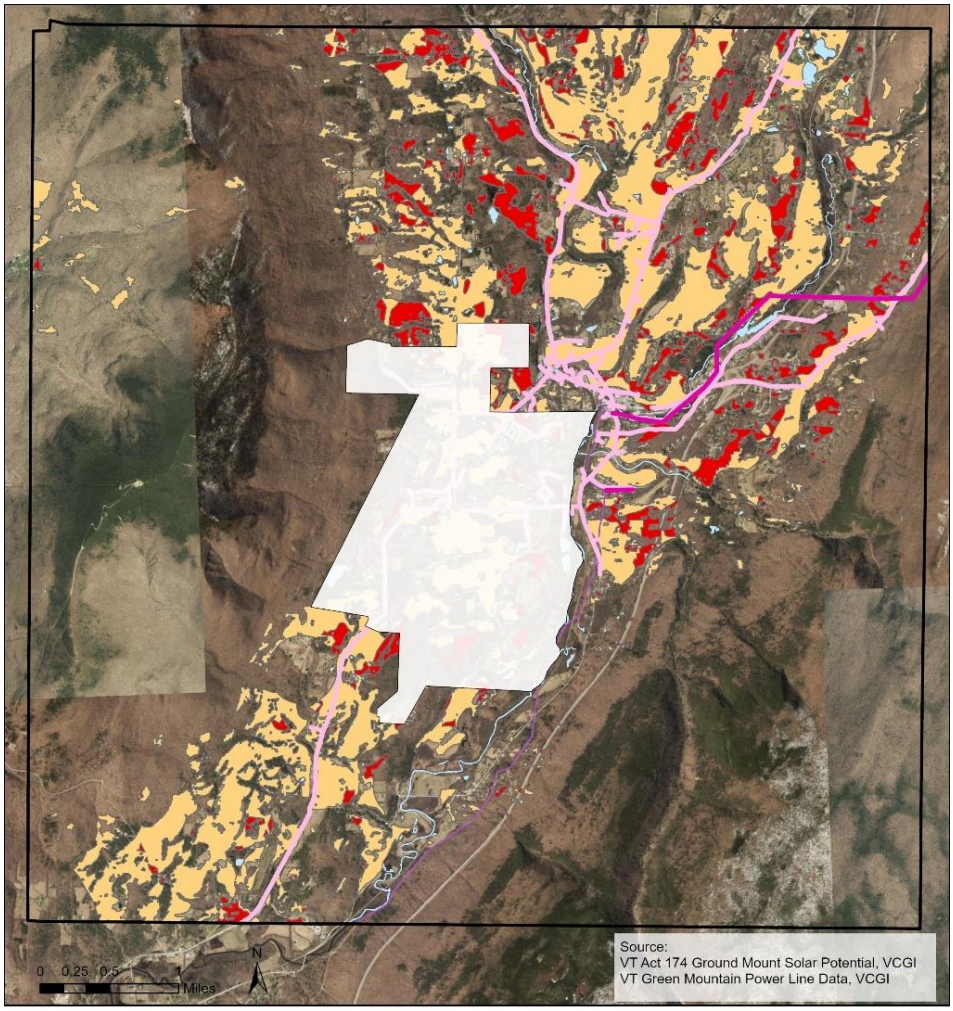
Existing Generation Sources

Existing Generation Sources
- Ground-mounted Solar
- Ground-mounted Solar: Tracker
- Roof-Mounted Solar

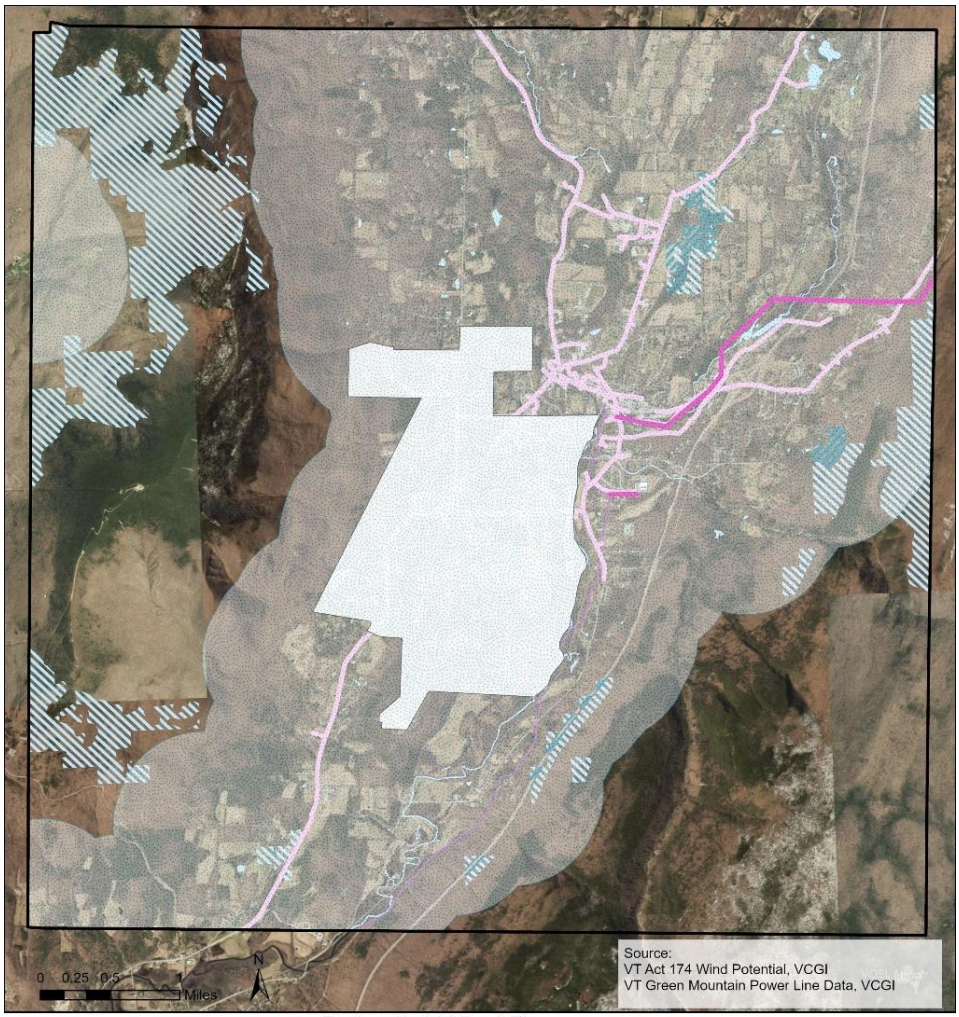
Green Mountain Power Line Data
- Three-Phase Power
- Transmission Lines

- Water bodies
- Manchester Village Boundary
- Town Boundary

Map 2.2. Potential Solar Resources. State data indicates where potential resources for solar energy generation are located in Manchester. Prime resources have no state-identified constraints according to Act 174, while secondary resources have possible state-identified constraints. Individual sites should be assessed for more local constraints and considerations.



Map 2.3. Potential Wind Resources. State data indicates where potential resources for wind energy generation are located in Manchester. Prime resources have no state-identified constraints according to Act 174, while secondary resources have possible state-identified constraints. This map also identifies the local constraint of a 1 kilometer buffer around residential structures in Manchester. Individual sites should be assessed for more local constraints and considerations.



Map 2.4. Example of Rooftop Solar Potential in Manchester. The Vermont Public Service Department has developed a rooftop solar generation planning tool that takes into account roof aspect; however, it does not account for roof condition or existing rooftop arrays. Consequently, the tool output is a significant overestimation of rooftop solar potential. Energy planners in the state have recommended considering only 25% of the potential estimated by the tool until newer versions are developed that can incorporate additional variables. Outputs from this tool are shown for Manchester's urbanized area.

Section 2.2: Natural Resources

Natural Resources Mission: Protect Manchester's natural resources, particularly its scenic ridgelines and the Batten Kill.

Manchester's long-term success as a livable community depends upon how well we maintain and enhance our unique natural resource assets. Natural resources have inherent value above and beyond their perceived value from a human perspective. Natural resources are the foundation for life and the natural processes that form essential interconnections between all living species and earth systems. What happens to one resource invariably affects others, including human systems. Manchester's economic success over the past 200 years (and undoubtedly over the next 200 years) is inextricably linked with its natural resources and natural beauty. Thus, even from a purely human perspective, the town must take the long view, and protect and conserve its natural resources.

Understanding the natural environment is a key consideration when planning for appropriate

land use. Physical conditions (including but not limited to soils, slopes, elevation, critical habitats, wetlands, drainage channels, and flood hazard areas) may limit the type of development that is appropriate for a particular area. The need to preserve forests, wetlands, riparian areas and other critical natural resources must also influence land use planning. Indeed, general land use plans as well as specific site development plans must consider natural resource opportunities and constraints first, and then design appropriate site development plans with these in mind. Land use policies are described in Part 2 of this plan.

A variety of unique natural features have been identified as important to the ecological and socioeconomic wellbeing of Manchester. These are identified and described in Appendix A. These unique natural features and other critical parcels of land, including but not limited to those described in Appendix A, should be conserved or preserved as they are or in a natural condition. The town may wish to further refine and prioritize this list so that conservation efforts are effective and efficient in achieving municipal goals. Conservation or preservation can be achieved by fee-simple acquisition, donation or acquisition of development rights or conservation easements, involvement of land trusts or other charitable organizations, and other cooperative strategies or partnerships which accomplish the desired goals. Indeed, several of the natural features listed in the appendix are already protected by a variety of means by various partnerships, agencies or organizations.

Ridgeline Resources

The Town of Manchester recognizes the essential economic, ecologic and spiritual value of the Green Mountain and Taconic Ridgelines. Ridgeline resources should be protected from development including telecommunications towers.

Manchester is situated in the Batten Kill Valley with the Green Mountains on the east and the Taconic Range on the west. Equinox Mountain on the west is singularly iconic of the Manchester experience and has been the subject of passionate protection from wind energy development of its southern flank, Little Equinox Mountain. Hundreds of acres of the eastern slopes of Mt. Equinox have been protected through the efforts of the Equinox Preservation Trust. However, the ridgeline is largely owned by the Carthusian Foundation of America, which operates a monastery on the western flank of the mountain.

Ridges and mountaintops provide much of Manchester's natural beauty; protection is an important local and regional goal. Manchester's surficial geology is among the most diverse in the state, and the mountain tops and ridges of the Taconic and Green Mountain Ranges form a striking backdrop for the town. Many glacially formed hills and ridges are found at lower elevations in Manchester. This topographic diversity provides an important natural, visual contrast to the built environment. These hills, ridges, and mountains contribute to the natural beauty of Manchester and warrant protection. With regard to lower slopes and hillsides, the intent is not to prohibit all development; rather, that development and structures be sited sensitively and appropriately, in ways that fit into the landscape.

Land areas at higher elevations are fragile and susceptible to damage, since environmental conditions are more severe (more precipitation, higher wind speeds, lower air and soil temperatures, and shallower and more poorly-drained soils). Since fewer plant and animal species can survive such conditions, there is less ecological diversity in these higher-altitude communities. Therefore, these areas are generally more vulnerable and need greater protection from development.

Policy: Ridgelines and other important aesthetic resources should be protected from large-scale development.

Surface Water Resources

The Town of Manchester recognizes the importance of healthy riparian zones and surface waters in protecting both the natural and socioeconomic wellbeing of our community.

When in good condition, aquatic ecosystems such as streams, rivers, ponds, lakes, and wetlands can provide numerous benefits to human communities, including recreational opportunities like fishing and swimming, flood control, and a predictable and sustained water supply for irrigation and other uses. Collectively, these ecosystem services provide considerable economic benefit. For example, a healthy river filled with clean cold water and trout means revenue for hotels, restaurants, fishing guides, and regional retailers. Similarly, having healthy aquatic systems also means spending less money building flood control infrastructure or on after-flood recovery.

One of the most important issues in protecting and maintaining aquatic systems is good stewardship of riparian zones. Riparian zones are bands of vegetation serving as interface between uplands and aquatic systems. Riparian zones should be thought of as both unique ecosystems in their own right and as integral parts of the aquatic system, as the health of the riparian zone is a direct reflection and control on the health of the aquatic system. Riparian zones provide many important services to aquatic systems, including providing shade, which regulates water temperature (a critical concern for healthy fish populations), trapping nutrients and sediments that would otherwise enter and pollute the aquatic system, stabilizing riverbanks and preventing bank erosion, and providing "riverwood" into the aquatic system which is an important habitat element. Riparian zones also provide important habitat for many species of birds, mammals, amphibians and reptiles. When viewed at a landscape scale, riparian zones often function as movement corridors for both resident and migratory species, as riparian zones are, or could be, near continuous bands of high quality habitat latticed across an otherwise developed landscape.

As a general guide, a healthy riparian zone can be thought of as one where native species predominate and where multiple vegetation strata are present, including ground cover such as native grasses, ferns or duff layer, a community of intermediate height shrubs and both young and old trees. Old (*i.e.*, large) trees are particularly important in riparian zones, as they provide the greatest benefits to the system in terms of bank stabilization, shade, nutrient inputs and filtering, and current and future habitat. The protection of these large trees in riparian areas must be a notable priority in land use decisions.

The most pervasive threat to riparian zones, and one well under human control, is the removal of existing trees and shrubs, whether it is for timber harvest, expansion of agricultural fields, or simply to provide a view. Manchester seeks to limit, or fully eliminate, encroachment of these kinds of activities into riparian zones. Other common threats to riparian zones include exotic species, which can smother native plants and typically offer little or no habitat or food value to native animals, and alterations to the hydrology of the aquatic system (*i.e.*, water diversions or other consumptive uses) that can promote drying out of riparian zones and their eventual progression to upland like conditions.

Perhaps the most widely applied approach for protecting riparian zones is the idea of buffers, meaning a width of land around the perimeter of the aquatic system and encompassing all or some part of the riparian zone within which certain land use activities are regulated. While there is no hard and fast rule on how wide a buffer strip should be to protect a water body, a general rule is that for smaller streams *(e.g.*, headwater streams), the stream edge buffer should be 10 to 20 feet on each side of the stream. For larger streams, rivers and still waters, buffer widths of

anything from 20 to 100 feet have been used with the basic approach that the more pristine or otherwise ecologically important an area is, the wider and more restrictive of uses the buffer should be.

Wetlands provide a transition between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. A wetland has one or more of the following three attributes: (1) at least periodically, the area supports predominantly hydrophytic (water loving) vegetation; (2) the substrate is predominantly undrained hydric (wet) soil; or (3) the substrate is nonsoil, and is saturated with water or covered by shallow water at some time during the growing season of each year. Benefits provided by freshwater wetlands include: flood and stormwater control, critical fish and wildlife habitat, protection of subsurface water resources, provision of recreational opportunities, pollution abatement, erosion control, educational and scientific research opportunities, open space and aesthetic appreciation, and provision of nutrients for freshwater food cycles. As such, wetlands should be protected from development. Before changes are made to streams, rivers, wetlands, or riparian land, consultation with appropriate state agencies is required. Streams and rivers are not just passageways for water; they are a fundamental part of our ecosystem, and a watershed approach to land use management is important in protecting these resources. In addition to riparian buffers, setbacks from lake and pond surface waters should also be required.

Batten Kill: The Town of Manchester recognizes the essential economic, ecologic and cultural values of the Batten Kill and its major tributaries.

The Batten Kill and its tributaries are an important natural, recreational, and economic resource which should have the greatest protection possible. Designation of the Batten Kill by the State of Vermont as only one of four Outstanding Resource Waters within the state reinforces these local values. Any expenditure of funds by the town for conservation purposes should give the highest priority to the acquisition of land or easements for property identified for protection along the Batten Kill. Special measures will be taken to conserve and enhance the natural, scenic, recreational, historic and cultural elements of the river and landscape.

Forest Resources

The Town of Manchester recognizes the importance of healthy forest ecosystems in protecting both the natural and socioeconomic wellbeing of our community.

Forest and timber lands cover much of Manchester. These forests stabilize soils and slopes, prevent flooding, provide valuable timber, wildlife habitat, and recreational resources, filter air pollutants, and have important recreational, economic, and aesthetic value. Indeed, our forested ridgelines are key to our economic wellbeing. Consequently, land use and development of forested lands in Manchester should maintain natural vegetative cover to the greatest extent

possible. Steep slopes and higher altitudes are more sensitive, and require higher levels of protection and review. Logging, timber, and forestry activities must, at a minimum, follow the State's recommended Accepted Management Practices for maintaining water quality. In addition, loggers should employ strategies that ensure a long-term sustainable yield of timber, maintain and enhance the ecological integrity of forest ecosystems, and minimize or prevent adverse impacts upon the land.

Rural sprawl is a significant driver of forest fragmentation in Vermont, which has experienced an overall loss of forest cover in recent years (Act 171 guidance 2018, 11). This type of fragmentation occurs incrementally, beginning with cleared swaths or pockets within an otherwise unbroken expanse of tree cover. Over time, new roads, homes, businesses, driveways, and yards intrude into connected forest acres. Eventually, the contiguous forest is reduced to scattered and disconnected forest islands surrounded by land uses that threaten the health, function, and value of these forests as animal and plant habitat. Furthermore, as forest fragments become ever smaller, practicing forestry becomes operationally impractical, economically nonviable, and culturally unacceptable. In turn, we lose the corresponding and significant contributions that forestry makes to our own economy and culture.

Forest pattern addresses the configuration of forest blocks and habitat connectors and the degree to which forest blocks and habitat connectors connect across the landscape or within a particular town. A healthy forest pattern is one in which a town's largest forest blocks connect to one another via smaller forest blocks and riparian areas. These large blocks also connect to large forest blocks beyond the town boundaries. Ultimately, a healthy forest pattern is a network of contiguous streams and forest blocks that extends across town, interrupted only by a few roads or non-forest land cover.

Map 2.5. Forest and Connectivity Blocks. This map indicates areas that are important as forest blocks and habitat connectors, as required by Act 171. All forest blocks larger than 20 acres, also called "habitat blocks," are mapped statewide. Highest priority interior forest and connectivity blocks are two different subsets of the of the 4,502 habitat blocks. They are considered to be the highest priority because they provide interior or core forest conditions (Forest Blocks) or for their connectivity function (Connectivity Blocks). This subset of blocks is critically important to create enough connectivity among populations of single species, allowing for genetic exchange between wildlife populations.

Habitat connectors refer to land or water that links larger patches of habitat within a landscape to allow for the movement, migration, and dispersal of animals and plants. They can be a forest block, riparian area, or a specific road crossing that wildlife repeatedly use. Habitat connectors should be considered at two scales: landscape and local.

The effects of forest fragmentation are minimized when we maintain an ecologically functional landscape. In Vermont, an ecologically functional landscape is one with large areas of connected forest, riparian areas, wildlife habitat, and natural communities. A high degree of diversity and connectivity is needed to be resilient to shifts in ecological processes and to allow species to access required habitat.

The *Manchester Land Use & Development Ordinance* establishes the Forest Conservation zoning district, encompassing more than 50% of the land area of the town and including all lands above 1,600 feet in elevation on the Taconic ridgeline and all lands above 1,200 feet on the Green Mountain ridgeline. Uses in this district are limited to those requiring a forested landscape. Development of buildings serving these uses is allowed only at very low density, with a minimum lot size of 25 acres.

Wooded lands are extensive in other rural parts of town, but the ordinance does not explicitly require maintaining them as forest except in the case of some required surface water setbacks. In fact, many of these lands fall in the Rural Residential and Rural Agricultural zoning districts, which have 5- and 10-acre minimum lot sizes, respectively. These minimum lot sizes—increased from the previous 2-acre minimum in the Farming & Rural Residential district—is intended to help protect existing wooded lands. However, targeted permanent conservation lands may be important to protect such lands that provide irreplaceable functions if lost to pasture or development**.**

Additionally, the subdivision of lands and design/siting of them in more rural areas can lead to forest and habitat fragmentation outside of the Forest Conservation district. The Planning Commission should consider strengthening subdivision regulations, design standards, and/or site plan review requirements to preserve continuity of forest and habitat resources in the Rural Residential and Rural Agricultural zoning districts.

Action: The Conservation Commission will work to identify wooded lands providing irreplaceable ecological functions and seek funding for conservation easements or other appropriate protection tools.

- ***Actions: The town will support landowners working to reduce the fragmentation of important forest blocks and habitat connectors (e.g., through enrollment in the current use program, conservation efforts, or other efforts a landowner may undertake).***
- ***Development should be designed and sited in a manner to preserve contiguous areas of active or potential wildlife habitat. Corridors connecting habitat areas for large mammals must be incorporated in plans for management and conservation of forested areas. Fragmentation of significant and necessary wildlife habitat should not be approved.***
- ***Incorporate development review standards in zoning bylaws, such as conditional use standards and site plan review standards, to address forest and wildlife resources.***
- ***Encourage Planned Unit Developments (PUDs).***

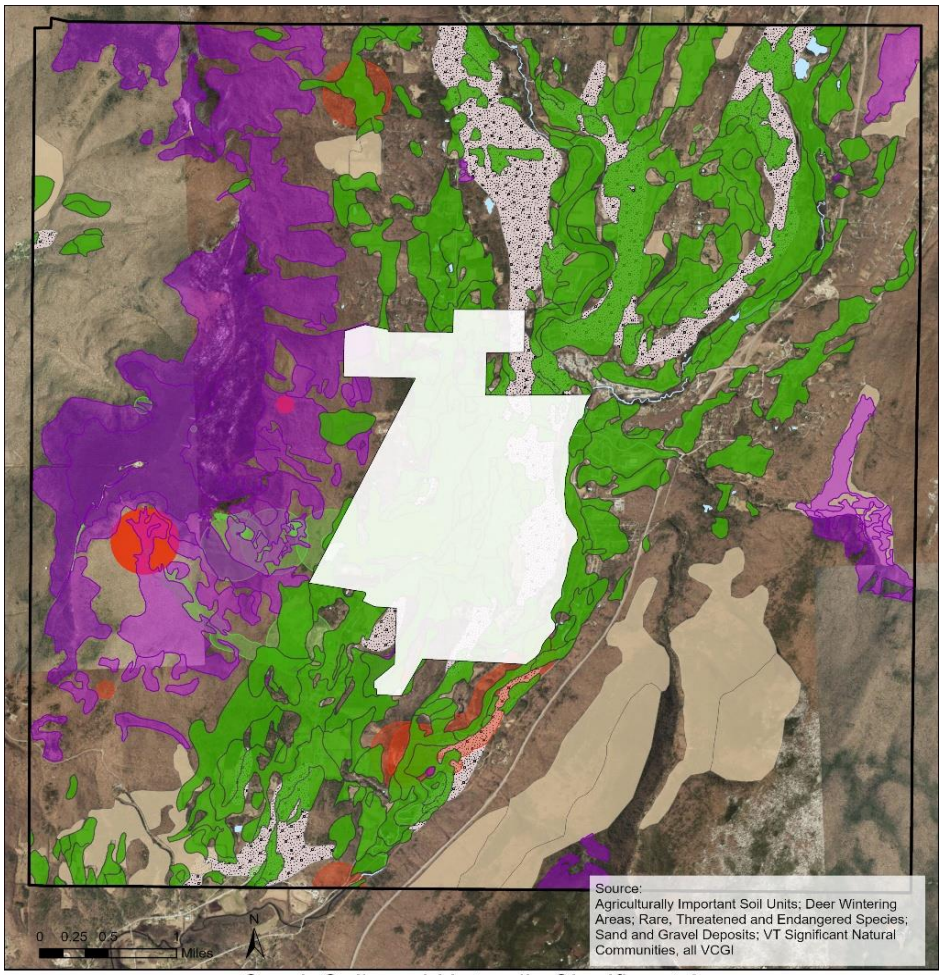
Agricultural Resources

The Town of Manchester recognizes the importance of successful agricultural enterprise to the socioeconomic wellbeing of our community.

Agriculture, while not a dominant land use in Manchester today, remains essential to Manchester's working landscape cherished by residents and visitors alike. It is important to conserve agricultural lands for this reason and to provide for potential future needs. Therefore, the town will pursue all available tools to protect agriculture as a viable use of land, and to ensure that high quality soils for agricultural use will be available in the future. Indeed, many believe that more localized food production will be a key component of future economic vitality in our region. Accordingly, support for local agriculture is in line with economic development goals identified by NEDS to establish a culinary trail in Manchester and to support value added

food production in town. The town enacted changes to the zoning ordinance in 2018 that allow more rural enterprise activities and light food manufacturing. Other zoning changes included encouraging clustering in residential, commercial, or industrial developments, and allowing the transfer of development rights from farmlands to other lands in the core.

Despite Manchester's relative lack of working farms, agricultural soils are extensive in town and correspond roughly with the Batten Kill Valley and its tributaries. Some of these soils are essentially protected from development because they fall in flood hazard areas. Others may be susceptible to development pressures. Subdivision review should carefully evaluate the presence agricultural soils of primary and statewide significance and measures should be required to protect them. This may involve clustering of lots such that agricultural soils remain on a common conservation parcel. Where subdivision is not proposed, review of commercial projects should also note the presence of agricultural soils and approvals should include conditions that offer their protection.



Map 2.6. Mapped Wildlife Resources, Agricultural Soils and Sand and Gravel in the Town of Manchester. Mapped agricultural soils are extensive in Manchester, including soils of both primary agricultural importance and statewide agricultural importance. Other important natural resources shown on this map include sand and gravel deposits, significant natural communities, rare, threatened, and endangered species, and deer wintering areas.

Source: Vermont Natural Resources Atlas (http://anrmaps.vermont.gov/websites/anra5/)

Other than regulatory approaches to ensuring the economic vitality of local agriculture, the town will encourage opportunities for farmers markets or community supported agriculture programs, as well as farm to table programing in local schools and elsewhere. The town supports the seasonal Manchester Farmers Market by providing its Adams Park location. Going forward, the town will work with the Manchester Farmers Market to ensure its success and ongoing viability. Participation in the development of a Manchester Culinary Trail as identified in the

economic development section of the plan can function as another means of supporting local agriculture insofar as participating businesses purchase foods from local farms.

In addition to these efforts, a few dozen Manchester landowners take part in the state Current Use Program, or Use Value Appraisal of Agricultural, Forest, Conservation and Farm Buildings Property Program. This program allows for the valuation and taxation of farm and forest land based on its agricultural or forest use instead of its significantly higher market value. A total of about 1,000 acres of agricultural lands within the Town of Manchester are enrolled in the program (with about 4,800 acres of forest lands enrolled). The program offers positive means toward protecting agricultural resources that minimize hardship for agricultural landowners and the town will continue to help eligible landowners take advantage of this state program.

Historically agricultural operations have been the cause of significant environmental damage, particularly with regard to water quality and riparian health. This continues to be the case most significantly in Vermont with the water quality of Lake Champlain being significantly negatively impacted by agricultural runoff. Although Manchester does not lie in the Lake Champlain Basin, agricultural practices in town have the potential to negatively impact the water quality of the Batten Kill. Conversion of riparian zone natural cover to pasture or cropland, stream channeling, and implementation of erosion control measures are all practices that threaten stream water quality. Without direct regulatory jurisdiction, municipalities in Vermont must rely on the Vermont Agency of Agriculture, Food and Markets to enforce its Accepted Agricultural Practices and Best Management Practices for agricultural operations to ensure the protection of water quality.

Geologic Resources

The Town of Manchester recognizes its geologic resources as important components of our community wellbeing.

Sand and gravel deposits are abundant throughout the Batten Kill Valley in Manchester, and demand remains strong for these resources (See Map 2.X). As specified in the *Manchester Land Use & Development Ordinance*, mining or extraction must be conducted in ways that minimize adverse impacts upon surrounding lands, prevent depreciation in the value of surrounding lands, and ensure that residential areas are not disturbed by noise, truck traffic, disruption of water supplies, or other impacts related to extractive operations. Extra care must be taken regarding all aspects of extractive activities in highly visible areas, during project review and then during permitted operations.

Following sand and gravel extraction disturbed land must be rehabilitated in a timely manner so that it is usable for other purposes. Land rehabilitation should take place in a phased approach as material is removed, and should not wait until the subject parcel or resource is played out. This will ensure that large areas of land are not laid bare for long periods of time before rehabilitation activity begins and concludes.

Land development continues to depend on a clean and adequate groundwater supply. To ensure maximum yield and quality, areas with high groundwater storage or recharge capability must be protected. Hydrologic features, aquifer recharge areas, and watersheds which replenish surface and ground water supplies providing clean water for public consumption must be protected from incompatible development. The town's wellhead protection area (see Map 3.4 in Section 3.2) should be expanded as needed. From an ecological perspective, the entire town is underlain by an aquifer. Indeed, much of the valley consists of gravel soils, through which water and other

materials can percolate easily. This increases the potential for contamination of subsurface aquifers. In order to protect the municipal wells, an Aquifer Protection Area has been established in the land use and development ordinance which restricts land uses to those which present low probabilities for contamination. Other strategies will be considered for further protection of water supplies throughout town. More details about the municipal aquafer and protection area is provided in section 3.2 of this plan.

Wildlife Resources

The Town of Manchester recognizes its natural flora and fauna as important components of our community wellbeing.

The Vermont Agency of Natural Resources online natural resources atlas identifies a number of rare and threatened species occurrences and important natural communities in Manchester (See Map 2.7). The species sightings include grasses, sedges, flowers, trees, butterflies, salamanders, and bats. Bat populations in general have suffered severe decline in recent years due to Whitenose Syndrome, and Manchester should be involved in state bat monitoring and protection programs. In addition to threatened species, bear, deer and turkey are quite commonly observed in town, along with many other smaller mammals and birds. Moose have also been recently sighted. Each individual wildlife species offers certain and important functions for a healthy ecosystem in Manchester. As such the town seeks to ensure that adequate habitat is available for the continued survival of wildlife populations. Accordingly, the Manchester Energy Committee has identified habitat connectivity between the eastern and western forested
mountain ranges as important to the protection of the town's wildlife resources.

Action: To ensure habitat connectivity for wildlife, the conservation commission will partner with public agencies and private organizations to identify corridors. The commission will work with partners to protect these corridors and install safe pathways across roads or other developed features where needed.

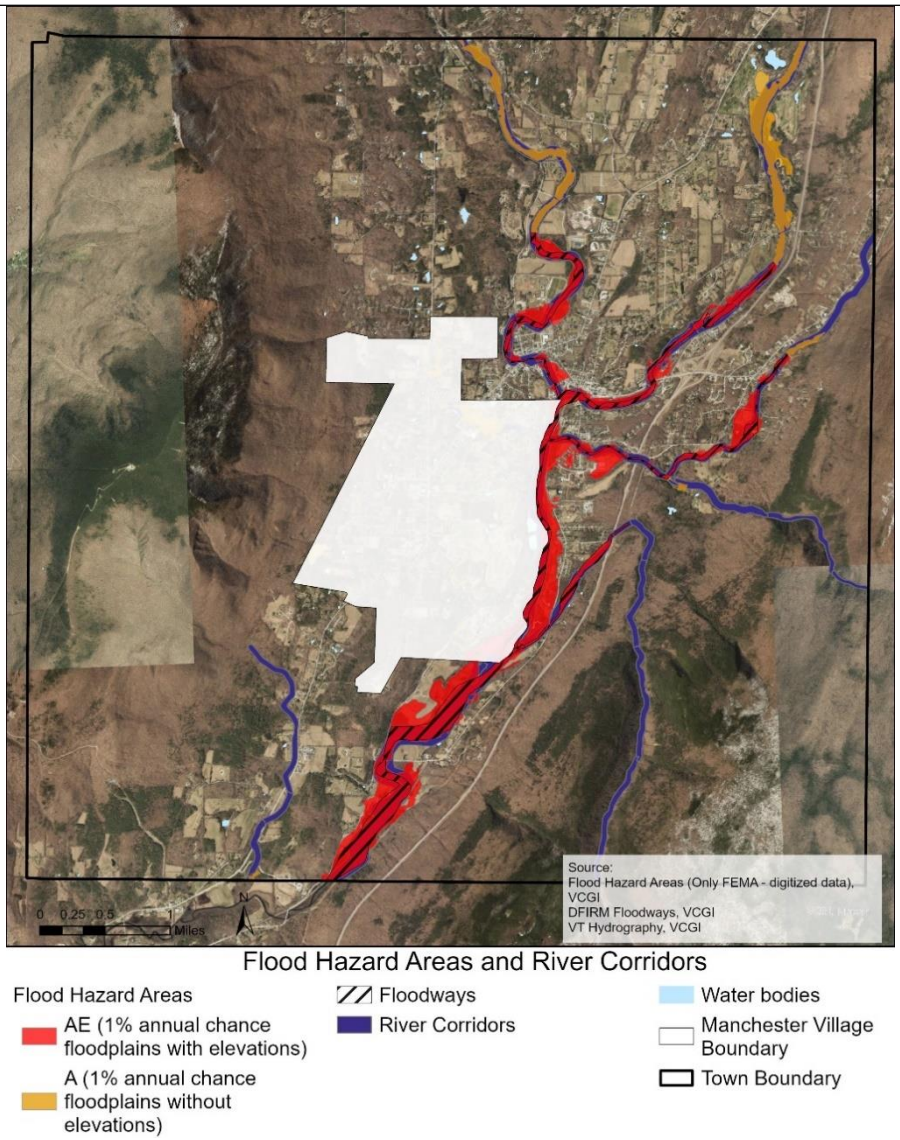
Deer wintering areas, also known as deer yards, provide shelter and browse for deer during extreme winter conditions and are crucial to the survival of deer herds in the region. Deer yards are delineated in the online Natural Resources Atlas by the Vermont Agency of Natural Resources. The atlas shows extensive deer yards within the Green Mountains in the southeast section of town, but limited wintering areas in the Taconic Mountains on the west side of town (See Map 2.7). Fortunately, most of the mapped deer yards fall within the Forest Conservation (FC) zoning district, which offers protection of these areas to remain wooded. In fact, several acres of mapped deer yard were lost at the corner of Beartown Road and Three Maple Drive within the Rural Agricultural (RA) zoning district to make way for a 30 acre horse farm. Several adjacent acres of this mapped deer yard were lost years before to clearing for residential meadows.

Action: The conservation commission will seek to identify deer wintering areas not indicated on the ANR atlas. If such areas are found, the Energy Committee, in partnership with landowners and private conservation organizations, will work to encourage their protection by easement or other deeded restriction.

The Vermont Agency of Natural Resources has identified invasive species as the second most significant threat to biodiversity in Vermont and around the world. Invasive species in Manchester include both terrestrial and aquatic threats.

Action: The conservation commission will partner with The Equinox Preservation Trust and other organizations, as well as the State of Vermont, to raise awareness and work to eradicate invasive species from Manchester.

Flood Resilience Mission: Encourage and enact practices that minimize and protect against the loss of life, or damage to health, natural resources and property in Manchester during flood events.



Map 2.7. Flood Hazard Areas and River Corridors. Two types of FEMA-mapped Flood Hazard Areas are shown here: AE, which represents areas with a 1% annual chance of flooding with elevations included, and A, which represents areas with a 1% annual chance of flooding without elevations taken into account. Floodways show the channel where floodwaters would be carried. River corridors are mapped by the state Department of Environmental Conservation to include the width of the meander belt of a river and an additional 50' buffer to allow for a stable wooded bank when the river is at its equilibrium.

In 2011, spring flooding and Tropical Storm Irene caused extensive and unprecedented damage in Vermont. Consequently, all town plans adopted after July 1, 2014, are now required to address flood resilience. Resilience generally refers to a community's capability to anticipate, prepare for, respond to, and recover from natural disasters with minimum damage to social wellbeing, the economy and the environment. Climate change will result in more frequent and greater magnitude high discharge weather events; therefore, flood resilience will become increasingly important. The town is in the process of developing a new Hazard Mitigation Plan (HMP) with an anticipated completion date of December 2025. Hazard mitigation actions are designed to reduce potential losses from natural hazards, including those from floods. The HMP risk assessment identified flooding and fluvial erosion as the highest priority natural hazard to be addressed with mitigation measures in the Town of Manchester. The town recognizes that maintaining a healthy watershed and providing for limited and well controlled development in flood prone locations and along streamside slopes are key elements of protecting our community from flood and fluvial erosion damage. Consequently, healthy watersheds and controlled development in riparian areas must be priorities.

Aspects of a healthy watershed relevant to flood control include limiting the amount of impervious surfaces, maintaining well forested hillslopes, protecting wetlands and groundwater recharge areas, and providing adequate space for both larger rivers and smaller streams to spread laterally during high water events. This includes protecting river-floodplain connectivity by limiting dyking and berming of waterways. It is also advisable to limit river simplification (*e.g.*, straightening of the channel, dredging the channel to increase flow velocity, confining the channel within berms, and removal of roughness elements like large trees that have fallen into the channel) and the armoring of river banks (*e.g.*, installation of rip-rap on banks for erosion control), as these types of efforts simply transfer energy to downstream locations and ultimately may increase the destructive power of high water events.

The land use and development regulations prohibit or limit new development and require floodproofing standards for allowable development within these FEMA-defined and -mapped flood hazard areas and ANR-mapped river corridors (See Map 2.8). The ordinance also requires proposed land development plans to provide buffers for adjacent surface waters - including wetlands, lakes ponds, and streams. Furthermore, the ordinance requires all proposed development or redevelopment to provide stormwater treatment and retention on site. Maintaining natural pervious cover and protection of wetlands are among the most important means of minimizing the frequency and intensity of flooding and fluvial erosion. ***The town will administer and enforce its flood hazard area, river corridor, and surface water regulations and encourage the implementation of other mitigation measures to realize the goal of being a flood resilient community.***

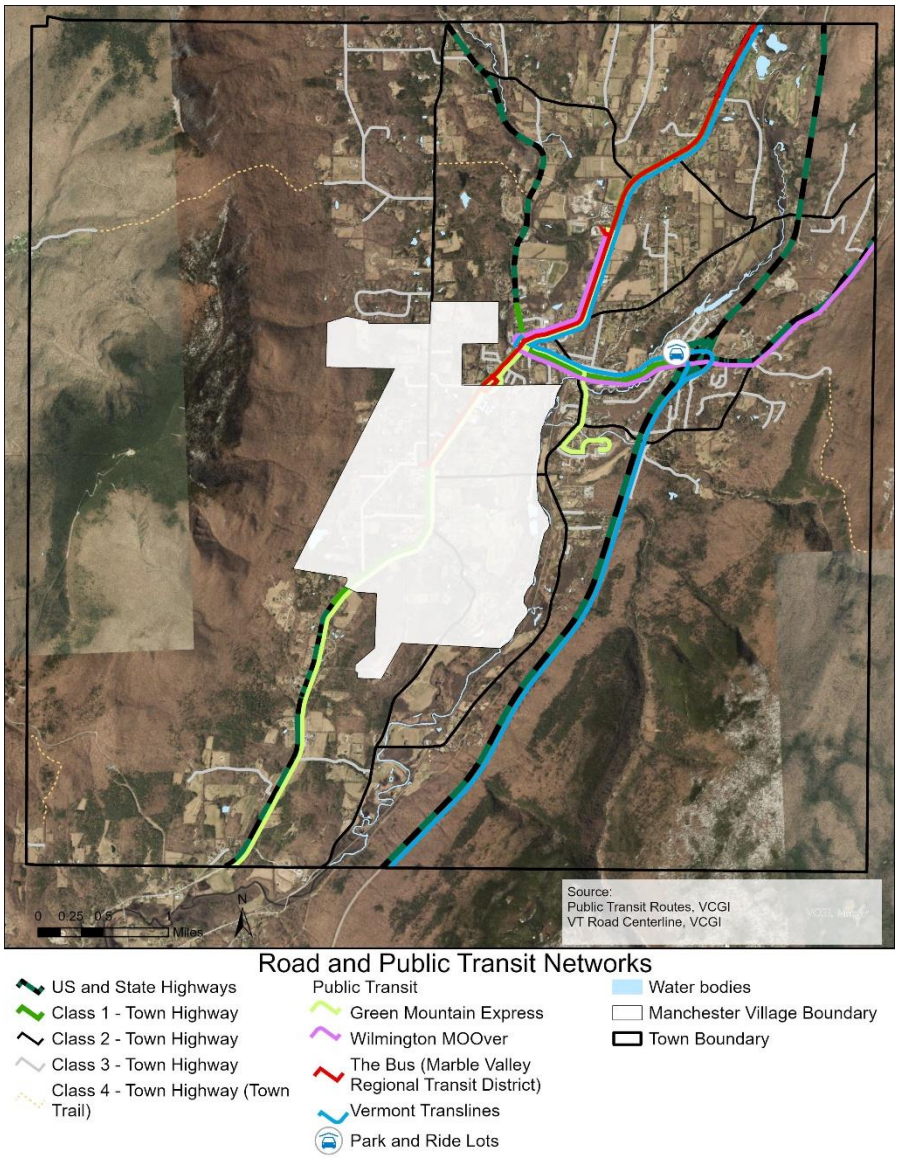
The town recognizes that resilience extends beyond mitigation of flood and fluvial erosion hazards. As articulated in *Vermont's Roadmap to Resilience: Preparing for Natural Disasters and the Effects of Climate Change in the Green Mountain State* (Institute for Sustainable Communities, 2013) Vermont communities need to recognize potential impacts of climate change beyond flooding and build resilience to other potential disasters, including drought, wildfires, and winter storms. ***Recognizing that resilience extends beyond flood mitigation, Manchester will pursue further articulation of risks, mitigation measures, and planning toward community resilience, particularly through updates to the Manchester Hazard Mitigation Plan.***

Section 3: Services: Transportation, Utilities, Public Health & Safety, Education

Section 3.1: Transportation Infrastructure

Transportation Mission: Develop a multimodal transportation system that functions well for all users.

Map 3.1. Manchester Transportation Infrastructure.
Map 3.1. Manchester Transportation Infrastructure. This map illustrates roads throughout Manchester by class type, as well as public transit lines that serve the town and surrounding areas.



Manchester recognizes that desired transportation improvements are significant, and will not be accomplished all at once. It is important to keep a long-term perspective, so that incremental improvements are achieved within the context of the big picture. It is also essential that infrastructure is designed to meet general needs throughout the year, and not be overbuilt to accommodate peak demands at limited times of year. Transportation infrastructure should be designed in an integrated fashion, with opportunities to share needs between a mix of uses in both time and space, especially where evening peak demand overlaps little with daytime needs. The town maintains and resurfaces its roads on a planned rotation cycle, so as to avoid the greater costs and problems associated with delayed maintenance and roadbed deterioration. In order to minimize the escalation of cost over time, the town's policy has been to maintain existing paved roads, but not to pave additional roads.

Downtown

After a 1994 transportation study, and the development of the 1996 Commercial District Parking and Pedestrian Plan, Manchester pursued redefinition and implementation of desired patterns of land use through changes to the zoning ordinance. Since then, the town has continued to focus on downtown improvements, creating a more pedestrian-friendly environment, more effective pedestrian and vehicular links between commercial projects, and more effective intersection design, all of which help the transportation network to function more efficiently. Most significantly, in 2014 the town realized the long planned redesign of what was widely known as Malfunction Junction at the intersection of Vermont Routes 7A and 11/30. A full roundabout at the Depot Street-Main Street intersection and a button roundabout at the Bonnet Street-Main Street intersection is now referred to as Function Junction, and has received wide praise for resolving traffic problems in Manchester, particularly during peak tourist seasons. Additionally, upgrades along the Depot Street corridor were implemented to improve traffic and pedestrian and cyclist conditions. Following a 2016 Depot Street Bicycle and Pedestrian Enhancement project, this project redesigned Depot Street to offer safe pedestrian and bicycle amenities that had been lacking along the corridor, including upgrades to the historic streetlights, pedestrian crossings, and traffic calming measures.

Downtown parking and traffic have been debated at length over the years, typically, with regard to answering quantitative questions: how many cars, how many parking spaces, how much traffic? We now know that the qualitative questions are more important in mitigating traffic issues: where are parking spaces located, is there provision for pedestrian links, is there coordination and consolidation of curbcuts, and what difficulties arise when visitor traffic is heavy? It is now widely recognized that good access management (*i.e.*, fewer curbcuts), greater connectivity, mixed uses and enhanced bike and pedestrian amenities tend to alleviate traffic and parking issues.

Rather than design streets or sites for the convenience of vehicular travel as was done through much of the 20th Century, we now design for the convenience of people using all modes of traveling through town. This includes centrally-located, safe and convenient parking areas, a safe and convenient sidewalk network, safe and well-marked crosswalks, bicycle lanes, amenities such as benches, mini-parks and greenways, and other design elements that encourage people to park their cars and walk or bike throughout the town. The town will encourage public-private partnerships to accomplish these multimodal connections, whether through direct funding or other mitigation strategies, with the private sector paying for a share of these improvements in conjunction with commercial or large residential development approvals.

Map 3.2. Manchester Sidewalk Network. Public concrete sidewalk depicted in pink. The town has steadily extended its sidewalk network and will continue to do so throughout the core. In addition, improved and increased crosswalks and other pedestrian infrastructure will be pursued.

The following transportation policies are in line with 21st Century norms of designing for all transportation users rather than just automobile drivers:

- ***Curbcuts should be as narrow as possible while serving vehicular needs.***
- ***The number of curbcuts should be reduced or minimized by closing curbcuts and consolidating access with or between adjoining parcels or projects.***
- ***Sidewalks that cross curbcuts should be constructed of a different color, material, and/or texture to help clarify these areas as safe havens for pedestrians.***

Appropriate traffic mitigation for new development falls into two categories: on-site and off-site improvements. On-site improvements typically include project-specific needs, and may include

intersection improvements, public sidewalks, closing curbcuts, sharing and consolidating curbcuts and parking areas, bicycle parking facilities, provision for public transit, benches and other pedestrian amenities, easements for or construction of walkways and driveways creating off-street links between projects, street trees, and other similar design enhancements. Off-site improvements may include contributions toward broader identified needs (such as improvement to public parking facilities) that are beyond the scope of any single development project, and beyond the ability of the town to finance on its own. High traffic generators, such as drive through fast food restaurants and drive through banks must not access directly to Main Street, Depot Street, or Bonnet Street. Access to a side street should not be less than 100 feet from the intersection of that side street and any of these three main streets.

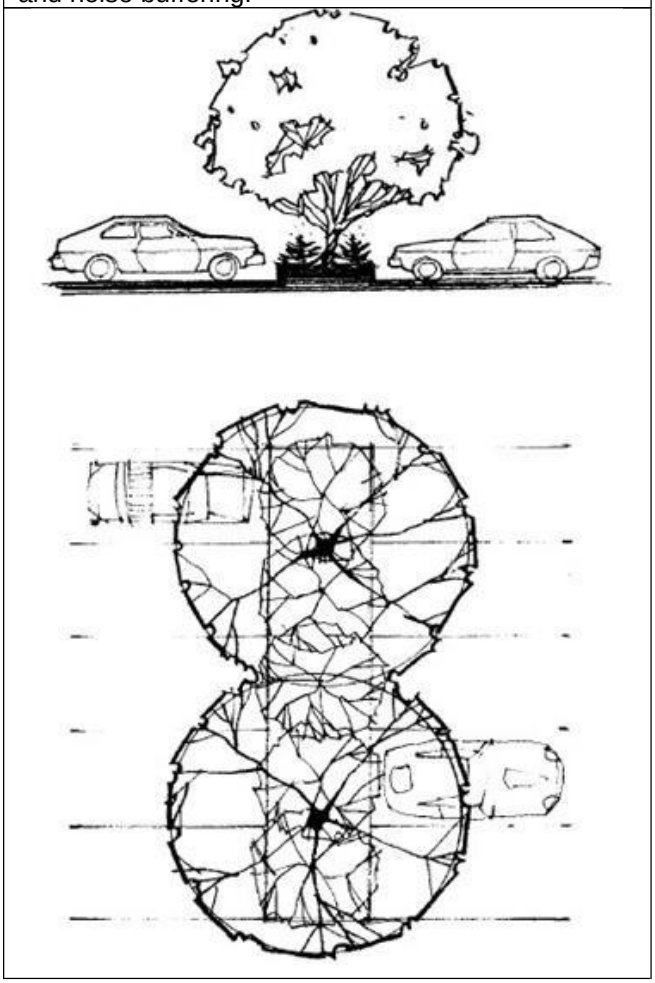
To further enhance the pedestrian-friendly nature of Manchester, and to discourage reliance on cars, the town has improved and expanded its sidewalk system. In concert with private landowners, who are required to rebuild sidewalks and curbs to town specifications in conjunction with commercial development projects, significant progress has been made in this arena. Other areas noted for possible future sidewalks include:

- further extension along Richville Road
- East Manchester Road, from the Post Office heading east toward relatively densely developed residential areas
- Barnumville Road, from the intersection with Main Street at least to Highland Avenue, if not beyond
- Main Street, from the intersection with Barnumville Road to Cemetery Avenue, where the new Manchester Community Library is located
- Memorial Ave to improve drop-off and pick-up ease and safety for MEMS students

In 1997 the Town of Manchester established a park and walk program with seed money from the High Ridge development court settlement. The program included signage and shared parking arrangements with various commercial developments along Main Street, Bonnet Street and Depot Street. Wayfinding kiosks were also installed, as was the town's first roundabout to serve Shaw's and the new High Ridge development. Most of the High Ridge development has been recently demolished to make way for the Hampton Inn and three associated commercial buildings. The wayfinding kiosks, which were maintained by the now defunct Manchester and the Mountains Chamber of Commerce, fell into disrepair and are actively being removed by the town. The park and walk signage has also suffered deterioration and is in need of replacement. Approaches to shared parking and wayfinding should be reviewed as part of a comprehensive parking study that examines Manchester's core commercial area.

While development may be seen as the cause of traffic problems, development may also serve, or be used as a tool, to help solve some of those same problems. The 2018 zoning bylaws guide development toward desired patterns that improve pedestrian linkages and amenities. Where consistent with this plan, and when clear and compelling benefit to the town is demonstrated, the boundary of the commercial zone may be changed to follow natural features or contours, follow existing parcel or project boundaries, allow commercial development in appropriate locations, or allow effective parking to be created. However, any non-residential uses which adjoin residential land must provide substantial screening and buffering in order to minimize or prevent adverse impacts upon adjoining residential lands. Measures should be taken to minimize or prevent impacts including but not limited to noise, odor, traffic, heat, light, glare, dust, vibration, and security. Non-residential uses must not channel significant traffic onto local or connector streets in or near residential areas.

Figure 3.2. Example of parking lot landscaping with year-round screening for aesthetic beauty, shade, and noise buffering.



The town will continue to work to enhance and encourage or facilitate services provided by mass transit providers. Regular, cost-effective, energy efficient transit, whether by bus, rail, or other means, will become ever more important in the future, whether within town, for daily commuting between towns, or other long-distance travel. High priorities include maintaining the existing commuter bus services linking Manchester with both Bennington and Rutland, as well as promoting the existing long-distance bus service linking Manchester with the Albany to New York City corridor. Manchester also supports opportunities to bring passenger rail service back to the region, as statewide planning efforts are beginning to consider.

Parking facilities should be designed, consolidated and reconfigured in ways that maximize the effective use of land, while providing appropriate design, pedestrian and vehicular links, and screening. Consideration must be given both to patron traffic, as well as service and emergency vehicles. Parking areas must be screened or hidden as much as possible, ideally behind buildings. Creative landscaping and screening should also be used as a buffer between parking lots and sidewalks or residential areas, and to provide delineated pedestrian pathways, screen cars from the road, provide shade, and provide year-round color and aesthetic beauty.

Creative approaches should also be used where appropriate, including payment in lieu of parking, shared parking, or other strategies. Shared parking is encouraged within or between projects or lots, and may be on-site, on adjoining land, or off-site. Shared parking arrangements should acknowledge actual, on the ground needs during normal business conditions, not just theoretical distinctions in time and space. Satisfying temporary, peak demands for roadway capacity or parking supply would be wasteful and counterproductive. Creating effective parking is the goal, ultimately through multiple strategies that provide a better balance between supply and actual demand in both time and space. This may also include encouraging better use of existing public parking through promotional efforts in partnership with the private sector.

Another way of lessening traffic impacts is to minimize or avoid the need for traffic. Commercial and residential projects should be designed to help satisfy this goal. Mixed use developments, especially those which include housing; shared parking lots; off-street pedestrian and vehicular links between projects; and pedestrian and bike paths that feed into an overall greenway plan are all design examples that help realize this goal. Manchester will continue creating incentives to encourage such designs.

Figure 3.3. Undesirable Scenario. Buildings widely spaced, parking between buildings and quite visible, and no buffer between sidewalk and road.

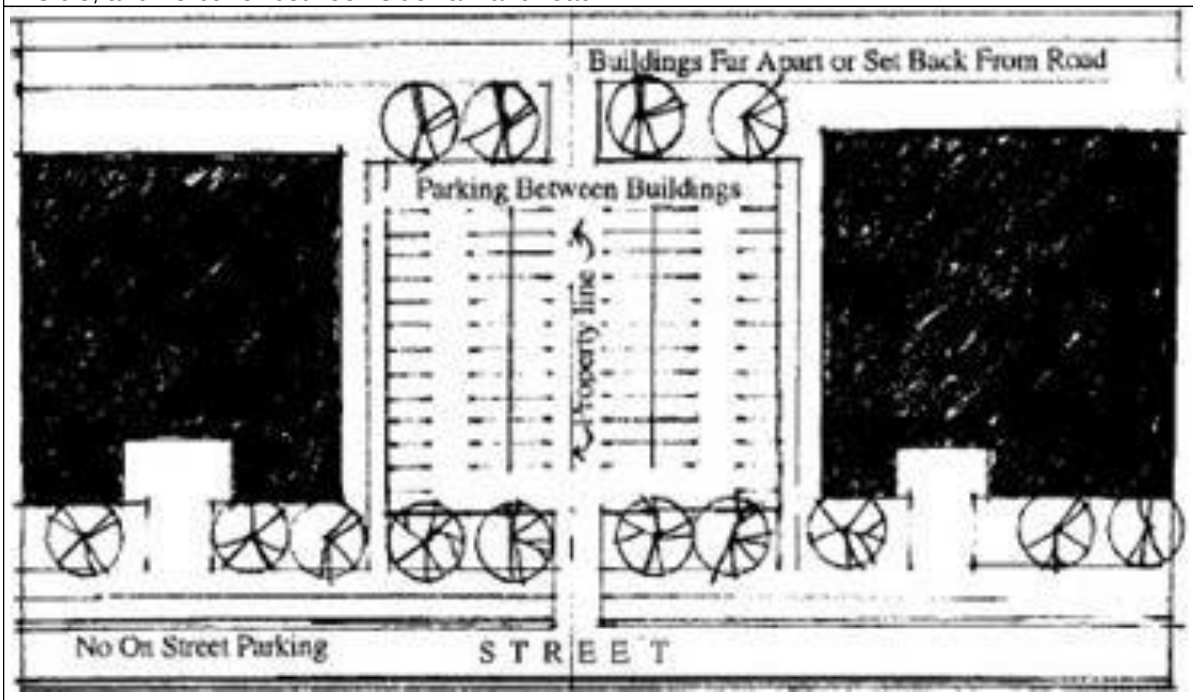
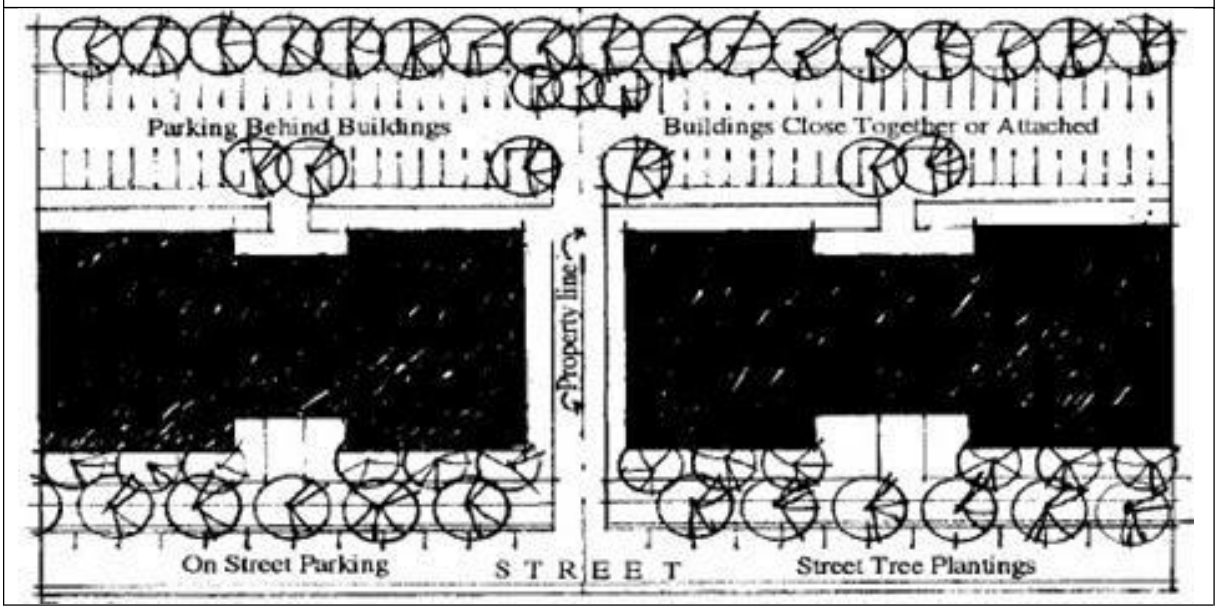


Figure 3.4. Desirable Scenario. Buildings closer together, parking well-screened and behind buildings, on-street parking, significant street tree plantings, greenspace buffer between sidewalk and road.



Scenic Roads

The Town of Manchester recognizes its scenic roads as important components of our community wellbeing seeks to protect these assets.

Two designated scenic byways run through the Town of Manchester. They are the Shires of Vermont Byway and the Stone Valley Byway. The Shires of Vermont Byway begins in Pownal at the Massachusetts border and runs along Route 7A to Manchester, where it continues on Main Street until turning onto Depot Street and terminating at the Route 7 interchange. The Stone Valley Byway begins at the Bonnet Street intersection with Main Street and courses north along Route 30 all the way to Hubbardton. These scenic byways are recognized officially, protected under state statute, and marketed by the state's tourism department. These roads are often lined by stone walls and sugar maples, and provide especially scenic views, as well as historic sites. Other roads in Manchester also provide such scenic amenities, including Barnumville Road, East Manchester Road, Overlook Road, Richville Road, River Road, West Road and Wind Hill Road. Public or private actions which would impact these roads must be carefully evaluated, and development must be planned to minimize adverse impacts.

In addition to traditional engineering considerations, rural character, natural topography, and scenic corridors should be considered when designing new roads in Manchester. Roads that are wider than necessary cause the destruction of trees, stone walls, and other features integral to the area's rural character. In order to protect the town in the future, appropriate rights-of-ways must be dedicated, and roadbeds constructed, to town specifications. However, the constructed road width should be appropriate to the traffic flow anticipated. The town will reserve or allow sufficient rights-of-way for longer-term future needs, and yet avoid building roads that are wider than necessary and negatively impact the scenic qualities that are essential to Manchester's community well-being.

Shared-Use Pathways

The Town of Manchester values shared-use pathways and seeks to support the expansion of such a network in town.

The Manchester community has long expressed a strong desire for a greenway network of pedestrian, cross-country ski, and bicycle paths that would link the outskirts of town with the downtown. Although debate about the extent of public funding and the particular locations of pathways continues, the town supports the concept. Such a network would improve opportunities for non-motorized travel within the core, while creating new opportunities close to town for residents and visitors alike. In line with this desire, public sidewalks should be continuous throughout the entire downtown and should connect with adjacent neighborhoods. Provisions for pedestrian and bicycle travel should be incorporated into all private developments and public works projects. Consequently, links should be made between new development and adjoining paths, bike racks should be provided, sidewalks should be extended along bridges, ample crosswalks should be provided throughout the town core, and roadway shoulders should be paved and adequately stripped wherever possible. Furthermore, Manchester employers should be encouraged to provide appropriate facilities, including showers and secure bicycle storage, in order to encourage energy-efficient commuting.

The 1996 Manchester Commercial District Parking and Pedestrian Plan evaluated six potential corridors that would comprise a network of pathways.

- Of the six, a spur from MEMS through the Dana Thompson Memorial Park and on to Riley Rink has been developed.

- Other corridors include a Manchester Depot spur running roughly parallel to Main Street from Town Hall to Barnumville Road and then continuing south to Depot Street roughly parallel to Highland Avenue along an abandoned rail bed and ravine.

- Two of the spurs essentially run along the Batten Kill through the downtown, corresponding at least partially with what the Manchester Riverwalk hopes to establish as a public pathway along the river. In 2024, the Manchester Riverwalk Association secured funding from the Vermont Outdoor Recreation Economic Collaborative (VOREC) community grant program to construct an ADA-compliant pedestrian and bike bridge over the Batten Kill River to connect the Town Green and Old Main Street. Construction has begun on the bridge and is expected to be finalized by May 2025. Following the construction of the bridge, the Riverwalk Association plans to rebuild steps that used to go down to the Batten Kill from Town Green, and is in the process of applying for grant funding for that project.

- The fifth spur would link the Batten Kill with the Equinox Hotel in Manchester Village. Some progress has been made on this goal of creating a safe and inviting bike connection between the town and village centers, and this project is in scoping as of fall 2024. The project would encourage residents, workers, and visitors alike to bike instead of drive for short trips between the two municipalities.

A town meeting vote in 2016 authorized town officials to pursue planning of a northerly spur linking Riley Rink to North Road along the old OMYA railroad bed. This effort—conducted in cooperation with the owners of the old rail bed and abutting landowners—has resulted in the Manchester Rail Trail, a 5.5-mile roundtrip multi-use path that connects the rail bed from the northern edge of Manchester to the existing recreation path at Riley Rink and the historic business district. After completion, the Town of Manchester officially took responsibility of the Rail Trail in January 2024. Further enhancements, in the form of amenities along the trail and extensions to the north, are of interest to the town and should be pursued as funding opportunities become available.

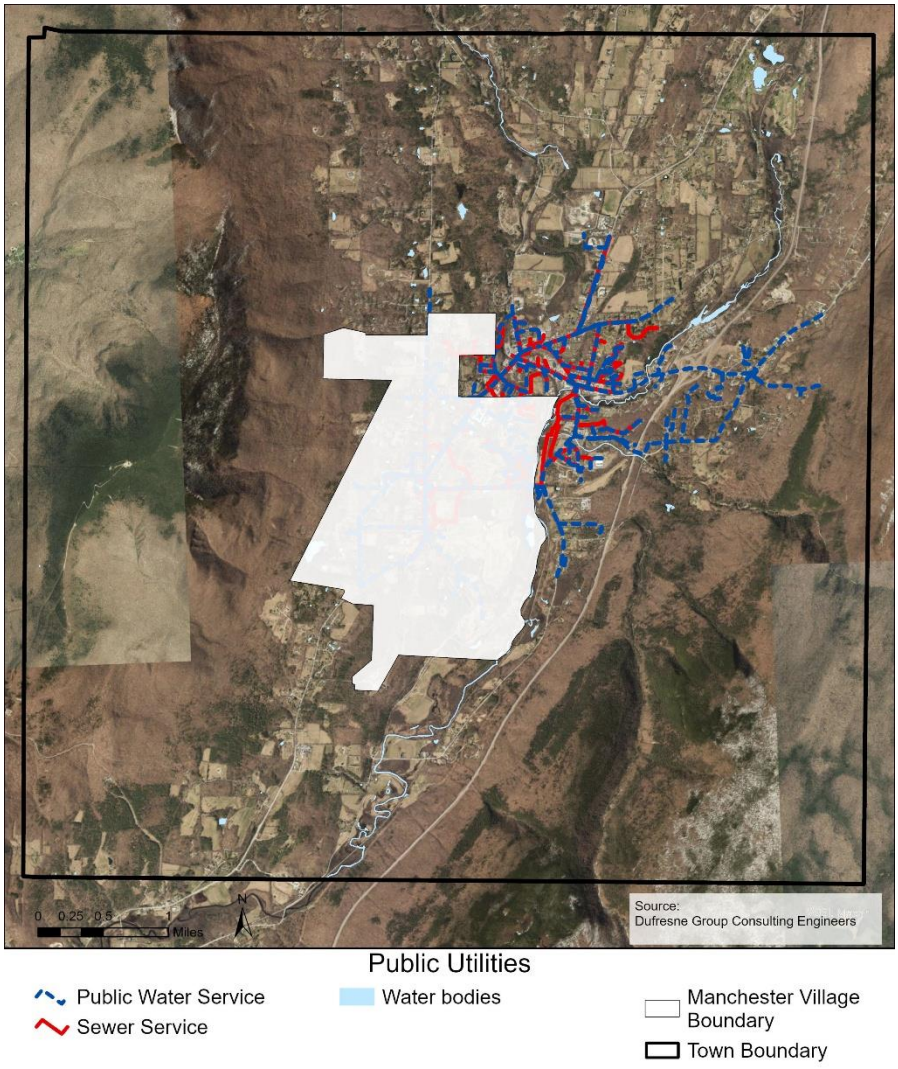
Section 3.2: Municipal Utilities

Municipal Utilities Mission: Maintain a safe and functioning water and sewer infrastructure that efficiently serves residents, businesses and institutions into the future.

Sewer System

The town's sewer treatment consists of a lagoon system relying on natural algal and bullhead fish populations to aid the treatment of wastewater. Additional secondary level treatment includes disinfection and dechlorination to increase the quality of the effluent and minimize adverse impacts upon the Batten Kill. With average flows of 307,000 gallons per day (GPD), the sewer plant is not operating at its permitted capacity of 600,000 GPD. Capacity can be expanded by changing some operating procedures, and by minimizing groundwater infiltration into the system. The town is actively pursuing these approaches at this time, which are more cost effective than adding new capacity. As the town approaches 80% capacity, the state will require engineering redesign and capital funding for expansion of the system. The town will continue to analyze capacity to determine future options. In the meantime, the town will guard and allocate wisely its limited capacity, to maximize options and minimize future costs.

As additional allocation is awarded to new development, different kinds of uses must be carefully considered with regard to their particular effects on the existing lagoon system. The system is not designed for industrial wastewater with high oxygen demands. Although expanded residential allocation may pose no threats to the functioning of the current treatment system, certain other uses potentially may. A slaughterhouse, for example, would increase biological oxygen demand (or BOD, the amount of dissolved oxygen required to break down organic matter) significantly and compromise the existing system. Restaurants with garbage disposal grinder pumps could significantly increase settleable solids and thereby threaten the system. Various industrial, research or artisan uses may involve heavy metals that could contaminate the sludge and thereby increase the costs of disposal. Other uses, such as brewpubs, may significantly change the pH of the treatment system and thereby threaten its functioning. Although, certain pretreatment measures for these uses are possible, failure of pretreatment could permanently damage the lagoon system. Therefore, significant allocation to these types of uses would likely require the town to move to an activated sludge treatment system that would require a newly engineered facility and significantly increased staff.



Map 3.3. Utilities Service Area. Manchester's public water and wastewater utilities serve the core of town, as well as areas to the northeast and southeast. Water services extend to the eastern part of town, but wastewater is more confined to the core.

Map 3.3. Utilities Service Area.

The area that the town has determined can be served economically and efficiently with municipal sewer, and which is appropriate for higher density development, is referred to as the Sewer Service Area (SSA), a legally defined area shown in Map 3.1. Expansion of the SSA is encouraged where clear and compelling benefit is demonstrated for the town and the sewer system. For example, the town expanded sewer along Main Street to the Town Offices (along with sidewalk improvements) in 2023-2024, which will lower barriers to denser residential development adjacent to downtown. In addition, at the urging of the state, the town is planning on extending sewer service south to Cass Terrace along Richville Road to better protect the municipal aquifer in this area.

Given limited capacity, a key policy question for the planning and sewer commissions is whether land within the existing SSA should be served before expanding to serve additional land. In instances where the town allows the extension of service lines outside the boundary of the sewer service area, increased development densities must be carefully evaluated. The town must keep a close watch on current and projected growth, so that sufficient time is available for informed decision making regarding any upgrades or expansions that may be needed as sewer capacity limits are approached.

In 2024, the town took over management of the infrastructure in Green Mountain Estates. Under town control, the roads have been paved and sewer systems are planned to be upgraded. Manchester is planning on a further extension of sewer service along Richville Road south of Green Mountain Estates. The Dufresne Group has been working on a preliminary engineering study for this expansion in 2024, which covers the feasibility and preliminary costs of extending the sewer line along Richville Road and will likely be finalized in spring 2025. This would achieve a major goal of the Water Department–further protecting the town's well heads located near the intersection of Richville Road and Union Street–and as such, the Water Department will participate to some degree in any expansion of sewer service on Richville Road.

The project is still in the planning stages and could be advanced if a developer steps forward with a plan. Ideally, this would be done in combination with the development of the town-owned land (located adjacent to the Old Airport Industrial Park and currently zoned Mixed-Use 2) and possibly funded by the creation of a sewer assessment district as well as a Tax Incremental Finance (TIF) district, related to the town-owned land. Details of the proposed sewer improvements will continue to become available with the finalization of the engineering study in 2025.

Wastewater Service Policies & Actions

The Wastewater System Master Plan—developed in 2010 and scheduled to be updated in 2030 by Dufresne Group Consulting Engineers—guides maintenance, planned improvements, and continuing evaluation of the town's sewer system infrastructure. In addition, the town identifies the following policies and actions regarding its wastewater treatment system:

- ***Require connection to the municipal sewer system for all new development or redevelopment proposed in the town core within the sewer service area.***
- ***Pursue strategies to expand capacity by minimizing infiltration and maximizing system efficiencies.***
- ***Evaluate the assimilative capacity of the Batten Kill to determine the maximum permitted treatment capacity of the plant.***
- ***Maintain the existing sewer service area, and extend only where clear and compelling benefit to the town and sewer system is demonstrated.***
- ***Extend the sewer service area to serve existing development along Richville Road within the wellhead protection area.***
- ***As capacity of the current system is approached, evaluate feasibility and cost of converting to tertiary treatment.***

Water System

The Manchester Water Company, established in 1894, operated as a privately-owned enterprise until April 1980. The Town of Manchester later purchased the system, and during the mid-1980's, the town upgraded the water system with a new subsurface well and pump station, covered storage tanks, and new water lines. Since then, the town has embarked upon an aggressive program of improvements, including leak detection, replacement of old water mains,

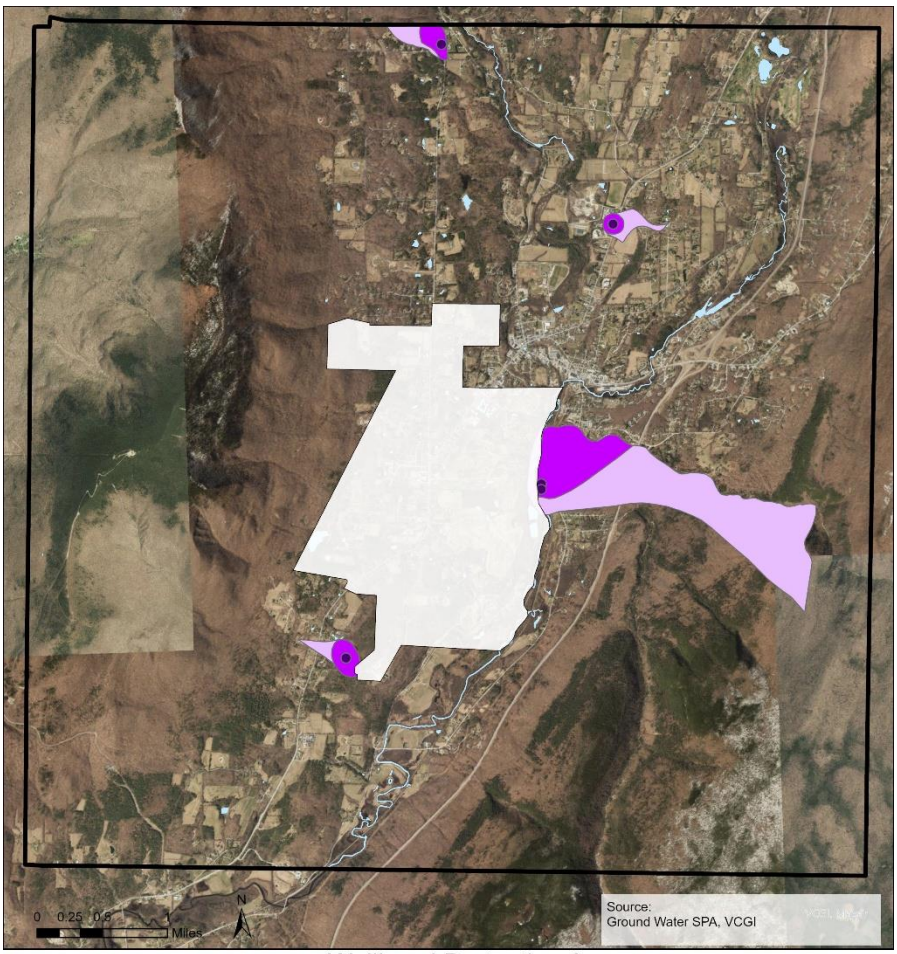
and replacement of water meters. Such improvements help maximize system efficiency, thus extending its service life, forestalling the need for costly capacity upgrades, and improving revenue through greater capture of billable flows. Replacements of old mains in Manchester Village took place along Main Street and Prospect Street, upgrading 4-inch pipes to 12 inches. The town added water main extensions in key areas, with an extension of the water line on Main Street north from the Town Office to Homer Road, and one on Barnumville Road east to Canterbury Road.

Batten Kill Wells and Pump Stations

All source requirements for municipal water service in Manchester, for both the village and the town, are presently satisfied by the primary Batten Kill well and an adjacent, secondary backup well. The Batten Kill wells tap a gravel aquifer which extends in a north-to-south direction along the river. These wells are permitted for 1,268 gallons per minute (GPM). When the second well was first tested in the 1980s it was shown to have a higher capacity than the 468 GPM it is currently permitted for. If the town wants to expand its capacity beyond the current number, there is likely room in the system but the town would need to go through a re-permitting process with the state. As with the sewer system, continued growth and development add demand. Manchester can extend the life of the wells by continuing to pursue system efficiencies, and guarding new allocations carefully.

Much of the valley lands in Manchester is underlain by gravel soils, through which water and other materials percolate easily. This increases the potential for contamination of subsurface aquifers. In 1984 the first Batten Kill well was put into use. State health regulations required that a well head protection area be delineated to protect the municipal water source. Wellhead protection areas consist of zones of decreasing levels of protection with increasing distance from the well head. Zone 1 consists of a 200 foot radius surrounding the well. Zone 2 consists of the area from where there will be probable impacts from potential sources of contamination. Zone 3 consists of the remaining watershed area of contribution to the well. In 1988 the backup well was installed requiring a new wellhead protection area be delineated for both wells. The entire well head protection area, along with Google imagery, is depicted on Map 3.2.

In 1989 the town adopted the Aquifer Protection Area (APA), an overlay zoning district that generally corresponded to Zone 2 of the well head protection area as mapped by engineering firm Dufresne-Henry (now Dufresne Group) in 1988 based on appropriate hydrogeological study of the aquifer area. The coverage of this protected area—now called the Aquifer Protection Overlay District (APO) in the current bylaws—has since been expanded to include Zones 1, 2, and 3 of the town's active source protection areas. The APO restricts land uses to those that present low probabilities for aquifer contamination based on where the proposed use falls in the overlay district.



Map 3.4. Wellhead Protection Area. Manchester's sourcewater is protected by a delineated wellhead protection area within which various land use activities are encouraged or discouraged depending on whether they might threaten the public water supply. . Zone 1 consists of a 200-foot radius surrounding the well. Zone 2 consists of the area from where there will be probable impacts from potential sources of contamination. Zone 3 consists of the remaining watershed area of contribution to the well.

The pump station includes an 800 gallon per minute pump and a 468 gallon per minute pump, both of which fill the town's two storage tanks. The east tank holds 850,000 gallons, and the west tank holds 500,000 gallons. Well water is chlorinated and pumped into these two tanks, which are at an elevation of 1100 feet (336 meters). Operation is controlled by a telemetry system, which was improved in 2019. The second (non-primary) well was improved in 2023.

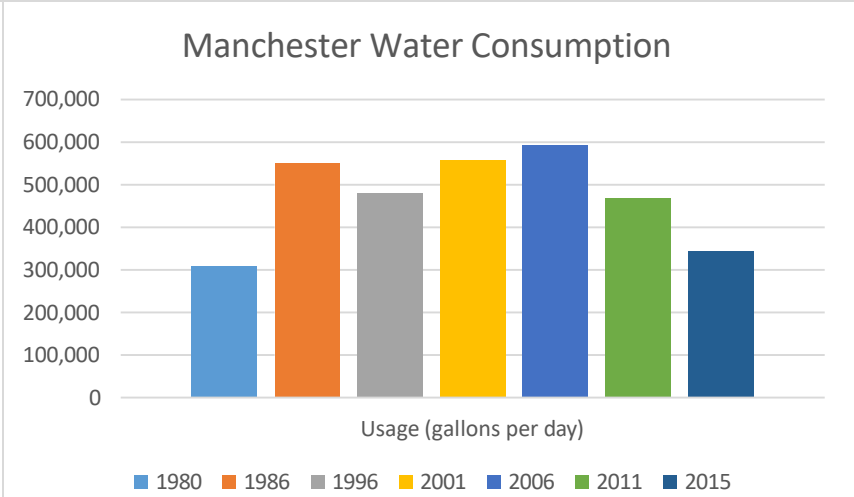
Pursuant to Vermont water supply rules, the town maintains a Source Protection Plan (SPP) for the Manchester Water Department. Originally prepared in 1995, the SPP is updated every three years, mostly recently in 2024. It involves inventory of properties, uses, monitoring activity, and public outreach efforts within the wellhead protection area, as well as recommendations for further actions. The 2024 update to the SPP largely focuses on the anticipated upgrades to the

Mountainview Estates system, which is now included on the Potential Sources of Contamination list for regular reporting.

Water Consumption

The town has recently largely addressed a long standing problem of water unaccounted for in gallons billed as compared with gallons pumped. In 2006, this ratio averaged about 62%, leaving about 1/3 of pumped water unaccounted for. In the first three quarters of 2006, this meant that an average of nearly 18,000,000 gallons of water per quarter were lost. Manchester pursued an aggressive program to detect and repair leaks in the system. Through the Capital Improvement Program, the town also continues to plan for replacement of old water lines, some of which date back to the 19th century. System wide replacement of water meters is also occurring to ensure that water used is actually paid for. New meters can be read by radio device, which will also improve the accuracy of meter reading and billing.

Figure 3.5. Water Consumption. A program to detect and repair leaks has resulted in decreased water consumption in the last decade.



According to the town's water and sewer superintendent, the Batten Kill wells appear to have adequate hydraulic capacity to serve Manchester's rate of consumption. However, similar to state rules governing the sewer system, when the system reaches a certain threshold of capacity, planning for and eventual construction of system upgrades will be required. These are significant capital expenses that also have other implications such as expansion of the wellhead protection area.

Water Service Policies & Actions

- ***Continue to pursue system upgrades to maximize system efficiency.***
- ***Protect the municipal aquifer from potential contamination by carefully monitoring and controlling activities within the wellhead protection area.***
- ***Support the expansion of sewer service for existing and new development within the wellhead protection area.***
- ***Carefully monitor increases in water usage and allocation and be prepared for system expansions, including expansion of the wellhead protection area, as capacity is approached.***

Section 3.3: Power & Telecommunications Facilities

Manchester recognizes the importance of efficient and functioning electrical power and telecommunications facilities, and will work with utility providers to ensure that siting of facilities is accomplished in a manner that protects the scenic, cultural and natural resources of the town. The town is very sensitive to its scenic and environmental assets and considers protection of those assets' paramount. The town will manage this concern through appropriate zoning restrictions.

Electric power is supplied to the town by Green Mountain Power (GMP), a regulated utility under the jurisdiction of the Vermont Public Utility Commission (PUC).

In the past, electrical transmission and distribution lines have been located primarily at the convenience of the electric company, with little regard given to aesthetic or environmental concerns. The town is concerned about tree trimming done by the power company, which tends to have adverse impacts upon the beauty and longevity of trees. While important throughout town, this is of special importance in the downtown area, where great emphasis is placed upon streetscape design and street tree planting. While respecting and appreciating the need for a reliable electric supply, street trees are important to the town's vitality and ways to protect them from trimming by the electric utility should be pursued. The provision of underground utility lines or other techniques (such as rerouting power lines behind buildings) to minimize visual impacts in developed areas, particularly in areas having special design and improvement priorities, will be pursued. Electric or utility lines and related infrastructure should be installed so as to minimize aesthetic and ecological impacts.

When planning new lines or upgrades to existing lines, special consideration should be given to any primary or secondary impacts that would reduce resource values (including but not limited to aesthetics and streetscape design, agricultural and timber resources, natural areas, and historic sites). When a new electrical transmission corridor is planned, it must be demonstrated that the proposed location is necessary based upon economic considerations, potential impacts on resource values, and the resulting public benefits. Where improvements are planned, such as those for major downtown streets, the utility company will be encouraged to install underground lines, or to use other suitable techniques to minimize the visual impacts of transmission lines and poles. These strategies were demonstrated in the heart of the downtown as part of the Junction Roundabout project, and will be pursued as much as possible with the Depot Street Enhancement project.

Upgrading or constructing new power lines must be done in ways that consider and balance the need for a reliable power supply while minimizing adverse impacts on land and valuable resources. Except where improvements can be made, existing power line corridors should be used whenever possible. In order to enhance the aesthetics and visual character of the downtown area, public utilities (including but not limited to power lines, substations, and telecommunications facilities) should be relocated from public view along main streets wherever possible. This may include behind buildings, away from the street, along streets, or underground. Where this is not possible, these should be screened from adjacent properties with dense coniferous plantings. Accordingly, with regard to wireless telecommunications facilities, the *Manchester Land Use & Development Ordinance* requires conditional use review of all proposed development and siting of towers and related infrastructure. Permits are not required for facilities that are subject to a Certificate of Public Good under Section 248. Visual impacts, lighting, noise generation, natural resource impacts, and site screening are all required to be carefully considered by the Development Review Board prior to approval of any new facilities.

Action: The town will pursue strategies to promote, encourage, and support the burial of utility lines, particularly in the downtown core to enhance the historic streetscape.

Section 3.4: Public Services

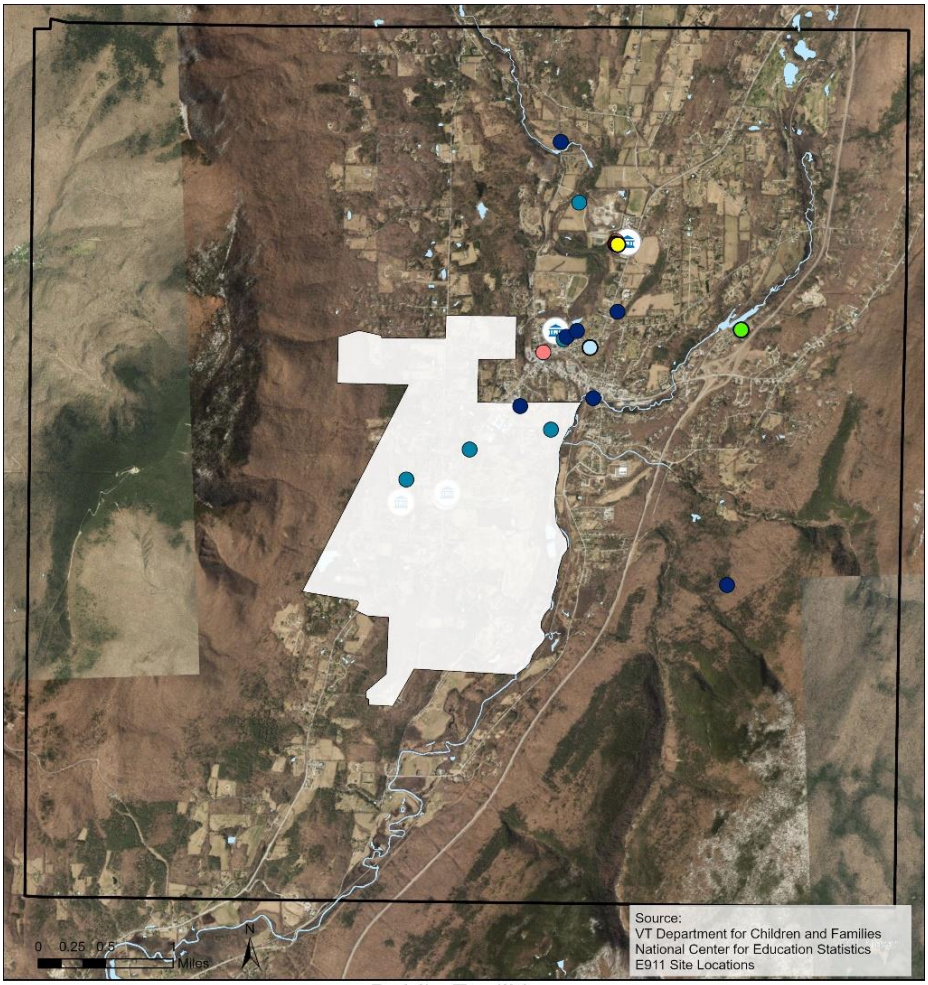
Municipal Services Mission: Encourage and maintain efficient municipal services that support an affordable and high quality of life.

Town Administration & Public Safety Services

In 1991, Town Hall was relocated from Depot Street to a facility on Main Street, in the former Mount Laurel Building. Offices for the Town Manager, Planning & Zoning Department, Town Clerk, Finance Department, and Assessing Office are found here (Map 3.5). The building also serves other public functions, including the Meals on Wheels kitchen, a weekday senior meal program, senior exercise classes, and the Manchester Community Food Cupboard. This site will accommodate town government for the foreseeable future, and continue to provide space to non-profit organizations serving the Manchester community. The Town Hall parking lot also serves as a bus stop for the regional daily buses linking Manchester to Rutland and Bennington.

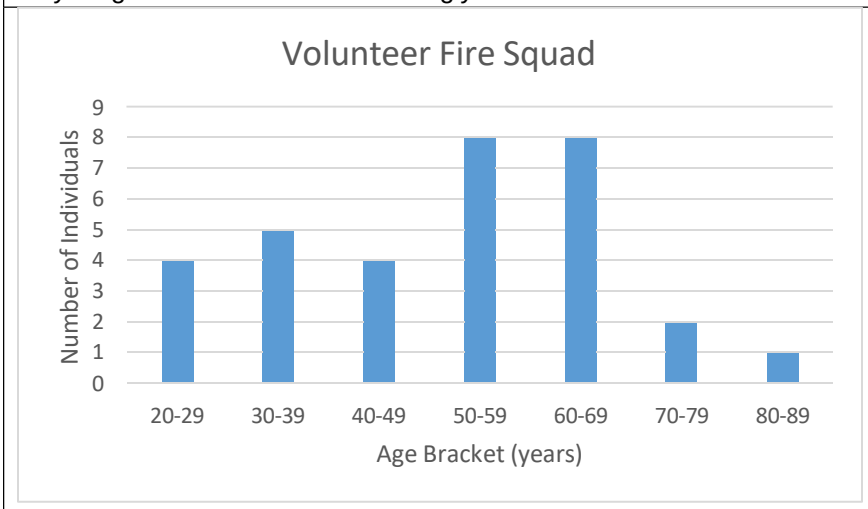
Manchester maintains a professional Police Department, staffed by a Chief of Police, eight police officers, and four full-time dispatchers. The Fire Department is staffed by a volunteer force of 32 individuals. In addition, the Manchester Rescue Squad (serving Manchester, Dorset, East Dorset, Mt. Tabor, Danby and parts of Winhall with 24/7 paramedic coverage) is staffed by 28 individuals. In 1996, the Manchester Police Department, Fire Department and Manchester Rescue moved to a new, combined facility located at the Town Hall site on Main Street. The public safety building provides space for equipment, personnel, and support for police, fire and rescue, and will continue to accommodate each department's needs for the foreseeable future.

Map 3.5. Public Facilities. This map illustrates the public services and facilities located throughout Manchester, as well as the Village. This includes government offices, schools, healthcare institutions, public safety facilities, and the library.



A long-standing and continuing challenge is maintaining an adequate complement of volunteers to staff Manchester's busy emergency services. This was a particular problem for the rescue squad, an independent non-profit organization, whose call volume increased dramatically a number of years ago and it ceased being an all-volunteer squad. With a sustained average of over 1,200 calls per year, the squad now employs six full-time professional emergency service technicians and paramendics, 16 part-time, and six volunteers.

Figure 3.6. Demographics of Fire Department. The Manchester firefighting force is aging and the size of the squad decreases each year as younger volunteers are increasingly difficult to recruit.



The Manchester Fire Department faces a similar problem in maintaining a full roster. The department is aging and increasingly unable to recruit new and younger volunteers. With a rooster of 38 individuals in 2015, the number fell to 32 in 2016. This is an issue that rural volunteer fire departments are experiencing nationwide, and one that has led to consideration by the selectboard of the necessity of a paid force in the future. The town is thankful for the dedicated volunteer firefighters, and for local employers who allow their employees to remain on the payroll while responding to emergencies. Manchester must do what it can to support the continuation of the current volunteer system, which has been effective in meeting community needs, and which is extremely cost-effective as compared to the resources needed to maintain professional fire and squads. However, the town must consider alternatives as the volunteer force continues to age and shrink.

Solid Waste Management

The Town of Manchester recognizes the importance of reduced solid waste generation both to protect the environment and reduce costs.

Manchester is a member of the 13-town Bennington County Solid Waste Alliance (BCSWA). As such it is party to the BCSWA Solid Waste Implementation Plan adopted in November 2020 and amended in August 2021. In line with Vermont's Universal Recycling Law (Act 148), passed unanimously by the state legislature in 2012, participating municipalities aim to reduce the amount of waste disposed in landfills through reduced generation, appropriate diversion to composting or recycling streams, and conservation and reuse of materials. The BCSWA plan establishes the goals of10% reduction of solid waste generation between 2020 and 2025, and 25% reduction of material disposal by 2025 from 2020 levels. Residents of Manchester can dispose of their trash for a fee, and can recycle a variety of materials for free at the Sunderland and East Dorset transfer stations operated by Casella Waste Systems, Inc. In addition, local haulers, including Casella and TAM Waste Management, Inc., remove solid wastes from residential and commercial customers throughout town in compliance with Act 148.

Health Services

Health Services Mission: Promote and support opportunities for expanded health care options in Manchester.

The Southwestern Vermont Medical Center (SVMC) in Bennington serves as the primary hospital for the region, although some residents choose the Rutland Regional Medical Center. Each is at least a 30-minute drive from Manchester. Fortunately, medical offices in Manchester, affiliated with both hospitals, offer some major medical services, and the Manchester Medical Center provides urgent care. Nonetheless, the area is underserved by medical practitioners. Many will not accept new patients at this time, and several physicians have either moved away or changed to a concierge type of practice that serves far fewer patients than before. In order to meet community needs now and into the future, continued efforts must be made to determine the best ways to facilitate greater provision of medical services in Manchester.

Like the state population as a whole, Manchester's demographics are aging. In terms of elder housing, we are fortunate to have The Fields and The Meadows as small, lower cost apartments within Manchester Village. On the other end of the economic scale, the Equinox Terrace assisted living facility, and the newer Equinox Village independent living facility next door are also located within Manchester Village. While each of these two facilities provide a high level of service or care, they are not affordable to many residents. Zoning changes were enacted in 2018 to allow higher residential densities in the town core, and to allow nursing home use in more areas of the town.

Manchester Health Services, Inc., is a non-profit organization that provides a variety of health programs and services, including child health conferences; diabetes, glaucoma and blood pressure clinics; school health programs; home nursing service; physical therapy service; social work services; and medical equipment loans. The Main Street facility, constructed with private donations in 1996, enhanced the staff's ability to provide high-quality services. The organization also runs a thrift shop to generate revenue for operational support. Local schools offer a limited range of in house nursing services to students. A number of private providers offer mental health counseling and psychiatric care, as does United Counseling Services, the Bennington County mental health agency.

Postal Service

Support opportunities for locating a small postal office with retail counter service in the downtown.

The Manchester Center Post Office is in the former "Stovilator" building at the corner of Richville Road and East Manchester Road. Although large enough to better serve the community's needs than the former post office, locating this facility away from the commercial core encouraged new development, and brought significant amounts of new traffic to what was a predominantly-residential area. However, its current location is not incompatible with adjacent uses for a bank, self-storage facility, health clinics, professional offices, and light industry, as well as residential. With its own zip code, Manchester Village is also served by its own post office

on Seminary Avenue. In the long run, the town would be better served by having a post office in a more traditional downtown location. Given the trend in the last decade for federal contraction of postal services, this goal may not be attainable in the short run.

Section 3.5: Education

Education Mission: Provide for the highest quality education for the children of Manchester, encourage youth to pursue higher education and training that will prepare them to be successful as adults, and promote lifelong learning opportunities for all residents.

Manchester is home to a number of educational institutions, including:

Burr and Burton Academy (BBA), grades 9-12

Fiddleheads Farm and Forest School, pre-K
Here Wee Grow Playschool, pre-K
Here Wee Grow Again, pre-K
Manchester Elementary-Middle School (MEMS), grades pre-K-8
Manchester Village School, grades 4-11
Maple Street School, grades K-8
Northshire Day School, pre-K and after school

Red Fox Community School, grades K-5
Take Five Childcare, pre-K and after school

The Taconic and Green School District (which includes MEMS), belongs to the Bennington-Rutland Supervisory Union. Manchester Elementary-Middle School, or MEMS, offers elementary and middle school instruction in grades Pre-K-8. As Manchester has no designated high school, students may attend the secondary school of their choice. Most students in grades 9-12 attend Burr and Burton Academy, or BBA, an independent school that serves as the de facto local high school. Voters have traditionally approved paying full tuition for students attending Burr and Burton Academy; and, by law, the full amount to other public high schools, and the state average tuition for secondary students wishing to attend other private or non-sectarian high schools.

Other educational institutions serving Manchester residents include Long Trail School and Lawrence School for Young Children in Dorset, Maple Street School and The Downtown School in Manchester, West River Montessori School in Londonderry, the Mountain School at Winhall, Stratton Mountain School in Stratton, Hiland Hall School in Bennington, and the Southshire Community School in North Bennington. Some parents also choose to provide home schooling for their children. However, most children at the elementary and middle school levels attend the town's public school, MEMS. During the 2023-2024 school year, Manchester Elementary-Middle School served 383 students, an increase of 20 students compared with the previous school year.

The Manchester community values education highly and has high expectations for school programs and student achievement. This is evidenced by annual support of school budgets and by a high level of parent involvement in the schools. The goals of the Taconic and Green School District are to establish high-quality teaching and learning, to develop consistency and continuity among the grades, and to increase capacity to achieve higher standards and increase student achievement.

The challenge, as always, is how to provide a high-quality educational experience that remains affordable to the taxpayers. It is clear that creativity and caution are needed in this arena.

Although Manchester gives the appearance of an economically-thriving community, a closer look reveals a wide range of income levels. While there are upper income households, a significant number of families fall within the lower middle income range and below. Manchester School District continues to reexamine its entire educational system, investigating how both mandated and desired services can be provided in the most efficient and effective ways. The special education program, use of paraeducators, and class sizes have all been altered to meet current demands.

Educational issues and concerns are not limited to the Pre-K- grade 12 years. For example, access to affordable, high-quality day care for young children is a continuing concern for both single- and two-parent families. Currently, daycare is provided in home settings as well as organized institutions such as Northshire Day School, Home Away From Home, Stepping Stones, and Take Five child care centers. Given the need for child care in today's society, the town should ensure that its policies and ordinances encourage, rather than impede, provision of these services. Consistent with this and with state statute, the *Manchester Land Use & Development Ordinance* provides for child care facilities in most zoning districts. It is important that these facilities are integrated appropriately into residential neighborhoods, especially with regard to traffic, parking, noise, and other potential impacts.

Other local nonprofits have long provided learning opportunities. The Manchester Community Library is a rich and varied resource for both students and community members. It offers opportunities for preschoolers through college students as well as children through seniors. The Manchester Historical Society hosts lectures and walking tours of historic neighborhoods. The Southern Vermont Arts Center has classes in a variety of media. Hildene: The Lincoln Family Home offers a multifaceted approach involving history, land use, conservation, summer camps, astronomy, and niche farming. Other programs are provided by the Green Mountain Academy for Lifelong Learning, Manchester Music Festival, and Equinox Preservation Trust. Our local schools also add to the town's cultural offerings, with the rich mix of artistic, musical, literary, and athletic events each year. There remains interest in further opportunities for higher education for both workforce training and personal enlightenment. Educational programs for all ages and levels should provide challenging, effective, and affordable opportunities for creative learning and personal and professional growth.

Section 4: Recreation, Arts & Culture

Section 4.1: Recreation

Recreation Mission: Develop, support and maintain world class recreational opportunities for residents and visitors alike.

Due to its location in the heart of Southern Vermont's ski country, incorporation of the Green Mountains and Taconic Range within its borders, and the recreational significance of the Batten Kill, Manchester is a very sports-oriented community. Recreation, especially outdoor activity, is integral to community life in Manchester. Hiking, biking, running, skiing, swimming, tennis, golf, boating, horseback riding, hunting, fishing, and other activities are all commonly pursued by residents and visitors to the town. School-based and community-based soccer, football, basketball, lacrosse, field hockey, baseball, volleyball, softball, swimming and ice hockey programs garner strong participation from all age groups in the town. In addition, local schoolchildren are able to learn to ski through JISP (Junior Instructional Ski Program), a unique, cooperative program between the local schools and ski areas.

Thus, the town's recreation area (officially known as the Dana L. Thompson Memorial Park, but more commonly just called the Rec Park) is heavily used year-round for both scholastic and community organized sporting events, annual events such as the July 4 celebration, and family gatherings. The Manchester Parks & Recreation Department maintains a full schedule of sporting events, summer camps, and pool activities at the Rec Park. The Park House was built in 2012 and offers office space for department staff, functions as a pool house in the summer, and is a venue for hosting yoga and other activities year-round. The Rec Park includes a full size track and several athletic fields, including Applejack Stadium, a championship quality regulation (up to 120 yards by 75 yards) soccer, football and lacrosse field complete with lighting, announcing booth, historic grandstand and food concessions. Eckhardt Field and McClellan Field, located just north of Applejack Field, are 125 yards by 75 yards and include benches and electronic scoreboards. The town also supported plans by a local skateboarding group for a new and expanded skateboard facility at the park; since completion in 2024, the skate park has attracted local and international skaters alike. An Eagle Scout project approved by the selectboard in 2016 added exercise stations along the one-mile walking path at the park.

In line with actions identified in the *Northshire Economic Development Strategy* (NEDS) in 2016, and after embarking on a $400,000 capital campaign, the town completed the construction of the new Eckhardt and McClellan playing fields and is continuing to improve existing playing fields at the park. These new and improved fields along with those at local schools, including a new turf field at Burr and Burton Academy, position Manchester to host sports tournaments. The town is actively working to develop a strategy to market Manchester as a tournament venue for soccer in particular. With the development of the 98-room Hampton Inn, and the completion of the 87-room Taconic Inn in Manchester Village, as well as the number of long established hotels and motels in town, Manchester is well positioned to function as a sports venue.

Concerts on the Green programming has become a popular summer activity at the Town Green in the heart of the downtown. In order to maintain and enhance the quantity and quality of its offerings, the Parks & Recreation Department will continue to depend upon the wide range of volunteer efforts which have proven so successful in the past. While the town has been supportive of department's expanded programming, it is clear that part of this support is due to the ability to earn revenue from program fees to help offset expenses.

In addition to municipal recreation services, a short bend of the Appalachian and Long Trail passes into Manchester along Bourn Brook above Rootville Road, and Manchester is a popular resupply stop for thru-hikers. The Long Trail runs along the crest of the Green Mountains from Massachusetts to Canada. This trail, which partially coincides with the Maine-to-Georgia Appalachian Trail, is the oldest long-distance trail in the country. The Long Trail is maintained with cooperative arrangements between the National Forest Service and the Green Mountain Club. The town is actively participating with area outdoor recreation partners -- including Manchester businesses, the Green Mountain National Forest, and the Green Mountain Club -- to establish Manchester as an Appalachian Trail Community, a program of the Appalachian Trail Conservancy. This would identify Manchester as an asset to thru-hikers and others seeking services in town such as a laundromat, overnight accommodations, post office, farmers market and grocery stores, or retail outfitters. The program would also engage and assist the Manchester community with sustainable economic development through tourism and outdoor recreation while preserving and protecting the Appalachian Trail.

Trails along the side of Equinox Mountain and other areas of town have historically been, and continue to be, used for hiking, cross-country skiing, horseback riding, hunting, and snowmobiling. Continued public access to these trails is essential, and must be maintained. Equinox Pond and its adjoining trail network, are now conserved, protected, and maintained through the efforts of Equinox Resort Associates and the Equinox Preservation Trust. While public access is now secure for these particular lands, similar arrangements should be pursued for adjoining lands so that a greenway network can be maintained and enhanced for the enjoyment of all.

As discussed in the transportation section of this plan, creating a greenway network of bike, ski, and pedestrian paths throughout the town remains a priority. Development proposals which include any portion of this network should allow for and incorporate these paths in site planning. This is especially important on land with existing paths or trails, along identified or potential trail corridors, and on land with river frontage. Creating parks or walkways along the West Branch of the Batten Kill in the central business district should be a priority for the town, local businesses, and community service organizations. The recent work of Manchester Riverwalk is addressing this priority and the town will continue to support the work of the organization to realize this goal.

Outside of the downtown, public access to riverbanks and trails should be preserved and enhanced. Toward that end, partnerships should be formed with private landowners, land trusts, the Green Mountain National Forest, and other natural allies. Lands adjacent to streams should be accessible to the public and may not be isolated or land-locked by properties in private ownership. This objective may be accomplished through land acquisition, stream bank easements, permit conditions, or other appropriate techniques. As in other situations, partnerships that accomplish mutual goals may be the most effective approaches.

Goals and Policies Regarding Recreation Services:

- ***Improve coordination and communication with other groups providing recreation services, including local schools, to minimize programming conflicts or duplication, and to maximize efficient and effective use of facilities, as well as service delivery.***

- ***Provide outcome-driven programming with an emphasis on community health and wellness. Specifically target cross-generational activities for families, teens, and seniors.***

- ***Ensure that user fees for programs and facilities are reasonable and establish a scholarship fund for low-income citizens.***

- ***Encourage other towns in the area to participate in activities, uses, and financial support for both capital and operational funding, as the Rec Park certainly serves as a regional facility. As an example, Burr & Burton Academy uses the park regularly. While this is Manchester's secondary school, roughly 60% of the students come from other communities.***

- ***Seek to include parks, trails and open space in the thinking for all future development within the community.***

Section 4.2: Arts & Culture

Arts & Culture Mission: Sustain and build on Manchester's strong arts and cultural assets for the enrichment of residents and to attract visitors to the town.

In February 2016 the *Northshire Economic Development Strategy* (NEDS) was completed. This was a collaborative effort among the Town of Manchester, Manchester Village, and the Town of Dorset designed to improve the overall economic conditions in the three municipalities. In the NEDS Action Plan, Goal 2 is entitled "Cultivate the Northshire's Tourism, Food, and Arts and Culture Industries." Within that goal, Action 2D is "Foster arts and culture in the region through collaboration and joint-marketing." The section has two action items: (1) develop an arts and culture committee, and (2) create an inventory of existing arts and cultural assets and assessment of needs. A basic inventory of Manchester arts assets is included in Appendix B. As a follow up to NEDS, Manchester and Dorset will conduct a needs assessment for arts and cultural institutions and activities in the Northshire.

Manchester, as the hub of the Northshire, recognizes the value of the arts, crafts, culture and entertainment assets to the quality of life and economic vitality of the town and the Northshire community at large. Fostering these assets brings important benefits to the town for visitors and residents alike. In this context, it is appropriate to consider the for-profit and non-profit activities as seamless. While bringing independent and separate skills and interests to the community, together artisans and arts organizations make a major contribution to the character of Manchester and represent a strong aspect of what makes the town special.

The activities and diverse offerings in arts, crafts, culture and entertainment include art exhibitions at Southern Vermont Arts Center (SVAC) and in many commercial galleries, music performances of all genres from professional classical performances to band concerts on the Town Green, and live theater and performances by students at Burr and Burton Academy. The strong talents of area craftspeople range from high quality furniture and cabinet-making, to glassblowing, stained glass, ceramics, fabrics, and many individual artists and artisans creating work for exhibition and sale in shops and at farmers markets.

Complementing the facilities in schools, rich cultural educational and learning opportunities are available through such venues as the Manchester Community Library, Hildene the Lincoln Family Home, and individuals with qualified skills in voice and a variety of instruments with classes offered for adults and children. These assets are amplified by local libraries, museums and historical societies. Live entertainment is available in many venues, from the Arkell Pavilion at SVAC, Streetfest in Manchester Center in June and July, live music in restaurants and hotels, to special summer events. Other entertainment events such as the Manchester Fall Art and Craft Festival, the Annual Manchester Antique and Classic Car Show and the Vermont Summer Festival Horse Show attract many visitors to Manchester and the area and provide enjoyment to all. Overall, the economic and cultural impact of these activities is significant. At little, if any, cost to the town budget, they are well worthy of town support and in that regard it would be beneficial to establish an Arts and Culture Committee as a recognized bridge with town government.

The goal is to promote public appreciation, participation and support for the valuable contribution that the arts, crafts, cultural and entertainment activities make to Manchester's economic health and quality of life. Supporting strong and viable arts and creative industries sector is key to this. Understanding the valuable role of the arts, crafts, culture and entertainment sector in attracting visitors and providing jobs in the area is also key.

Policies & Actions

- ***Support the establishment of an Arts and Culture Committee as an important bridge between for-profit and non-profit arts and cultural activities and town government.***
- ***Collect information on arts, crafts, culture and entertainment activities and events and assist in making the information available online and in print.***
- ***Working with the Arts and Culture Committee, measure the economic impact of arts and creative industries in Manchester.***
- ***With the town of Dorset, apply for a Municipal Planning Grant to conduct a needs assessment for arts and cultural institutions and activities in the Northshire.***

Part 2: Land Use Plan

Land Use Mission: Protect the traditional New England land use pattern of a densely developed downtown surrounded by rural working lands and forested ridgelines.

Large portions of the Town of Manchester remain largely undeveloped and forested. Another major portion of the town's land area comprises open land, agricultural, and rural residential use. About a sixth of the land area includes the commercial core, surrounding mixed commercial, industrial and residential areas, as well as neighborhood residential areas. Manchester Village, having its own municipal plan and zoning ordinance and therefore not subject to this plan, also comprises about a sixth of the land area of the town. The official land use map (Map 5.1) depicts these general land uses throughout town. These land use areas are discussed in turn in the following sections.

The town adopted a new land use and development ordinance in May 2018, which has since been revised in 2020, 2021, 2022, and 2024.

Section 5: Mixed Use Core & Historic Districts

Section 5.1: The Core

Mission for the Core: Promote development of a dense mixed use walkable core with compelling year-round daytime and nighttime activities.

The 2018 Downtown Strategic Plan defines the vision for Downtown Manchester as "the historic and future heart of the community and the hub of thriving local and tourist economies in the Northshire region, known for the opportunities for living, working and playing downtown, easy walking and biking, connecting to natural areas, engaging in cultural and civic life, and enjoying a vibrant arts, culture, nightlife and local food scene" (DSP 2018, 31). The *Manchester Land Use & Development Ordinance* adds to this vision by stating that development within the downtown core "must conform to design and historic preservation standards in order to maintain neighborhood commercial scale, pedestrian activity, architectural character and the traditional built pattern." Efforts should continue to promote the core as the area where the most intensive development is allowed, in a way that is truly mixed-use district, including residential, with emphasis on social vitality and pedestrian-friendly connectivity throughout.

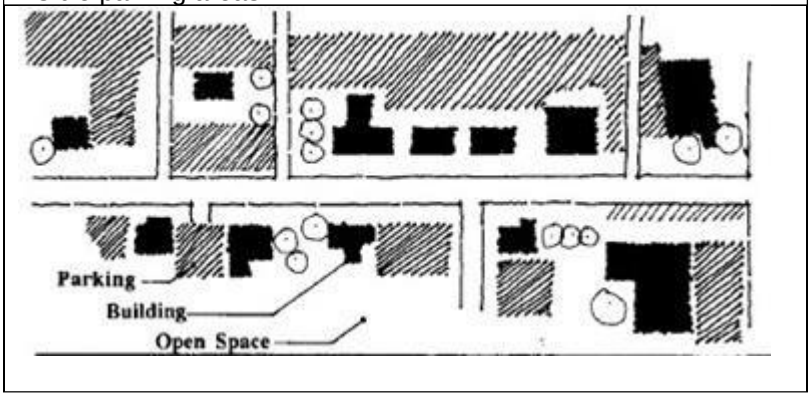
As of the 2018 Downtown Strategic Plan, it was estimated that only about 50 out of the town's then 4,300 residents lived within the Downtown area. The combination of adjacent residential neighborhoods and a growing interest in living in more walkable areas—from younger and older generations alike—suggests an opportunity for the Town of Manchester to encourage more housing in this core part of town. The town's significant updates to the land use and development ordinance in 2018 did make headway for allowing denser residential development in the core. Additional steps that could further this goal include: securing expanded downtown designation to expand eligibility for tax and permit incentives for mixed-use and housing projects; and encouraging the development of infill housing in Bennington neighborhoods through promotion of the Vermont Homes for All Toolkit and similar tools.

Although land uses other than retail are certainly desired and encouraged, concern remains about the nature and extent of retail development in the downtown. While the visitor-based economy remains key for Manchester, we who live and work here also have essential needs that must be met. As was identified in the *Northshire Economic Development Strategy*, there is room for

growth in retail geared toward serving the resident population. This challenges us to create an environment that supports and encourages a variety of economic uses, serving residents and visitors alike - a true mixed-use environment, with different types of retail activity, residential uses, professional offices, restaurants, service businesses, theaters, and other activities and amenities that contribute to a successful, vibrant community. A key part of this is creating and maintaining a business environment that is hospitable to locally-owned and managed businesses, and to businesses which provide the necessities and niceties of everyday living to residents. It also includes working to preserve existing and to provide new housing opportunities in the downtown area.

Policy: Ensure our zoning bylaws allow effective and efficient use of land, and offer incentives to provide for or achieve stated needs such as downtown housing that is affordable; affordable and attractive commercial space for locally oriented businesses; professional offices and services, and other types of land uses that will contribute to a stronger, more diverse economic base.

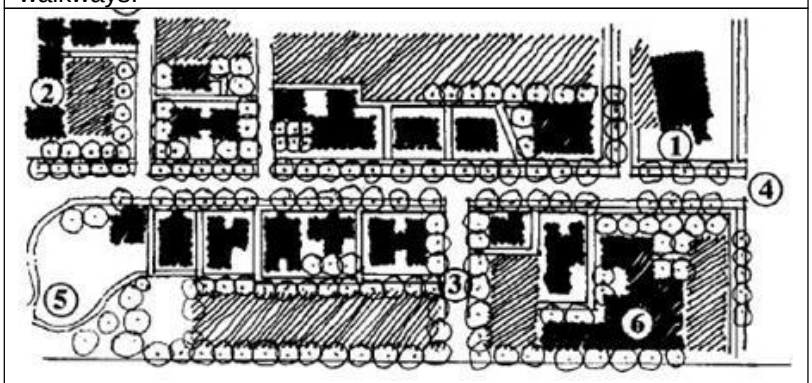
Figure 5.1. Existing Commercial Development. Problems here include buildings placed along an inconsistent streetline, lack of street trees, uncoordinated site access and circulation, and highly visible parking areas.



Aside from the mix of uses in the downtown, another aspect of the core requiring attention is the pattern of development. The updated zoning regulations were crafted to encourage architecture that references Manchester's historic buildings and is scaled and caters to the pedestrian rather than the vehicle. As such parking lots should be located behind buildings, buildings should be located at consistent setbacks from the street, greenspaces should be installed, curb cuts should be consolidated, and internal connections between adjacent developments should be encouraged, and an extensive network of walkways should be provided.

Redevelopment of commercial properties and road corridors within the downtown should result in a more pedestrian friendly environment that encourages people to get out of their cars and walk. This may include, but is not limited to: relocating sidewalks away from the road, adding bike lanes, improving greenspace and street tree planting, reducing the number and width of curbcuts, adding benches and other pedestrian amenities, and continuing to enhance both public sidewalks and off street links for pedestrians and cyclists. Redevelopment goals include creating off-street links between adjoining commercial uses, installation of landscaping and other screening, particularly to hide parking lots, preserving and adding new on-street parking where practical, and other strategies that take a holistic approach to transportation and land use design. The goal is to improve the overall function for all transportation modes in a complete transportation network, on both public and private property in the core.

Figure 5.2. Desired Commercial Development. Improved conditions include buildings placed along a consistent streetline, parking lots linked and hidden in rear yards, consistent street tree planting and greenspace areas, and enhanced pedestrian walkways.



At the same time, enhancement of the downtown streetscape through careful attention to architectural, landscaping, and siting standards should be accomplished. This will include providing improved access to the Batten Kill in the downtown through supporting the efforts of Manchester Riverwalk, and could be furthered by development of key commercial sites in Downtown, which the Riverwalk would then provide important and scenic connections between. It will also include protection of existing significant trees and other natural or topographic features throughout the downtown.

Respect residents' needs, and facilitate development which caters to the resident community, while respecting and acknowledging the economic values of visitor-based businesses. This challenges us to create an environment that supports and encourages a variety of economic uses, serving residents and visitors alike - a true mixed-use environment, with different types of retail activity, residential uses, professional offices, restaurants, service businesses, theaters, and other activities and amenities that contribute to a successful, vibrant community. A key part of this is creating and maintaining a business environment that is hospitable to locally-owned and managed businesses, and to businesses which provide the necessities and niceties of everyday living to residents. It also includes working to preserve existing and to provide new housing opportunities in the downtown area.

Policies:

- ***Preserve and enhance the historic integrity, and the scale and character, of the historic downtown and its buildings of local, state, or national historic significance. Enhance the historical look and feel of a rural, village-type environment while accommodating 21st century needs and circumstances.***

Section 5.2: Historic Districts

Historic Districts Mission: Protect the integrity of Manchester's four historic districts as living links to the town's past by requiring preservation of historic structures and new development to be compatible with the traditional historic neighborhood character within each district.

Manchester's residents value the protection of historically significant sites, buildings, and areas. A detailed historic site survey of the town was conducted in 1986 by the Vermont Division of Historic Preservation. This survey revealed a rich mixture of historic styles, and identified four historically significant districts: Manchester Center Historic, Bonnet Street Historic, Manchester Depot Historic, and North Manchester Center Historic districts. These four districts reflect the historic qualities of the town center, and are located at key entry points to the center. The 1986 survey was updated in 2008 with color photographs of each contributing structure and narrative information about changes that occurred between 1986 and 2008. In 2015, the town adopted a new name for the North Manchester Center Historic District to better distinguish it from other zoning districts, namely the Manchester Center Historic and Historic Main Street districts. The North Manchester Center Historic District is now called the North Main Street Historic District. The Historic Main Street District was renamed Manchester Center Historic District for similar reasons.

In 2016 town planning staff and members of the Manchester Historical Society began to develop new orthophoto based historic district maps and survey narratives. Expansion of districts to include a small number of noncontributing structures or contributing structures that had been excluded from the 1986 delineated districts is being contemplated. The aim of this effort will be to revise district boundaries for the four historic districts to offer more integrity to the historic neighborhoods. The effort would involve survey and mapping work for properties to be included in the expanded district, landowner involvement, public meetings and eventual application to the Vermont Division for Historic Preservation for inclusion of expanded areas in the State Register of Historic Places.

Actions:

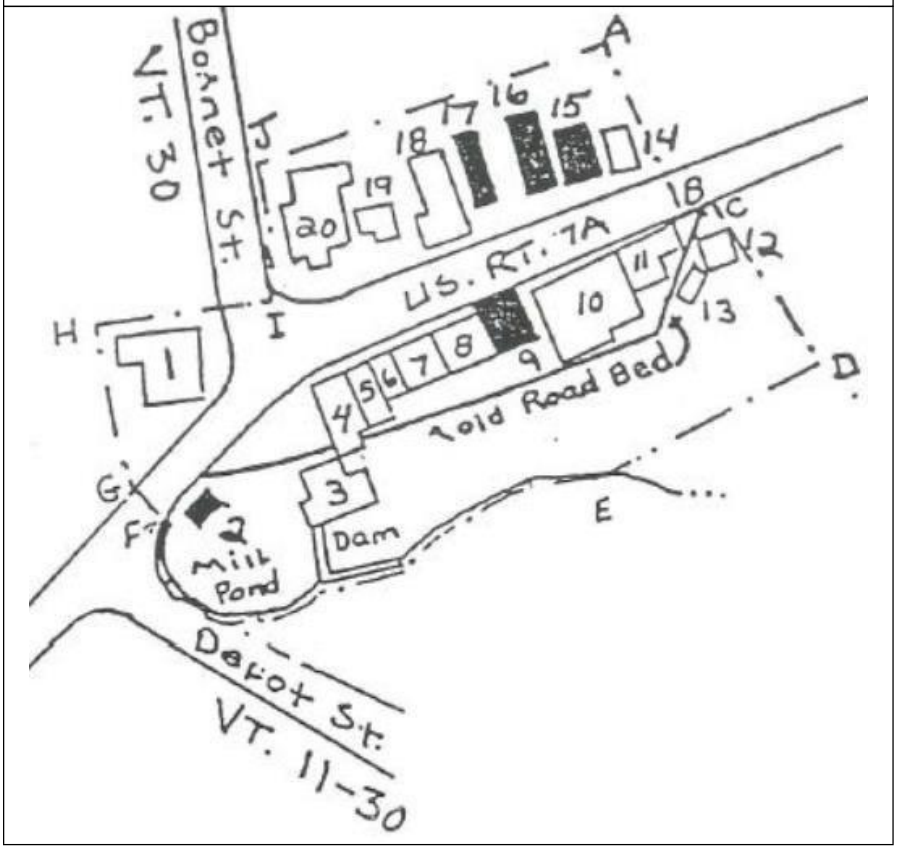
- ***Develop a plan for signage with QR codes specific to each district. Signage will be designed and installed to offer wayfinding and walking tour information for each historic district.***
- ***Apply to the Vermont Division of Historic Preservation for expansion of historic district boundaries.***

Manchester Center Historic (MCH) District

The Manchester Center Historic District is an example of a nineteenth-century crossroads commercial center. Topography was influential in determining the location of the center. The Batten Kill provided water power necessary for establishing various early mills and small industries (hence the early name, Factory Point, still associated with building number 10 shown in Figure 5.3 and Figure 5.4). The intersection of several important roads was a significant factor in making Factory Point the business center of town. Contributing structures include landmark buildings such as the Northshire Bookstore (building number 1), the recently redevelope

Factory Point Bank building (now called Factory Point Place), Kimball Grist Mill (building 3), and the Baptist Church (building 20) among over one dozen others.

Figure 5.3. Manchester Center Historic District. Original map from the 1986 state historic survey. Contributing structures outlined, noncontributing structures shown with black fill.



The town completed an updated survey of Manchester's historic districts and structures in 2008. The 2008 survey provides photographic documentation of structures and reveals numerous changes within the MCH district. For example, the update shows the Northshire Bookstore (building 1) has been significantly expanded now incorporating a formerly adjacent structure to the north. Building 6 on Main Street has been combined with building 5, and building 13 no longer stands. In addition, an old post and beam barn with marble foundation and slate roof next to building 12 – curiously not included in the original survey - is being renovated in conjunction with building 12. These changes combined with a few modified and repositioned historic structures on the two parcels east of building 14 may warrant establishing a new survey map with extended district boundaries. Extended boundaries may help protect the design integrity of the district by incorporating a few additional adjacent structures. Figure 5.4 is an example of what the new map might look like, minus new expanded boundary lines.

Actions:

- ***Plan for expansion of the MCH district boundaries to include the bridge under the roundabout, the buildings between the original district boundary and the Bonnet Street Historic Boundary, and historic structures within the Green Mountain Village Shops and adjacent property.***

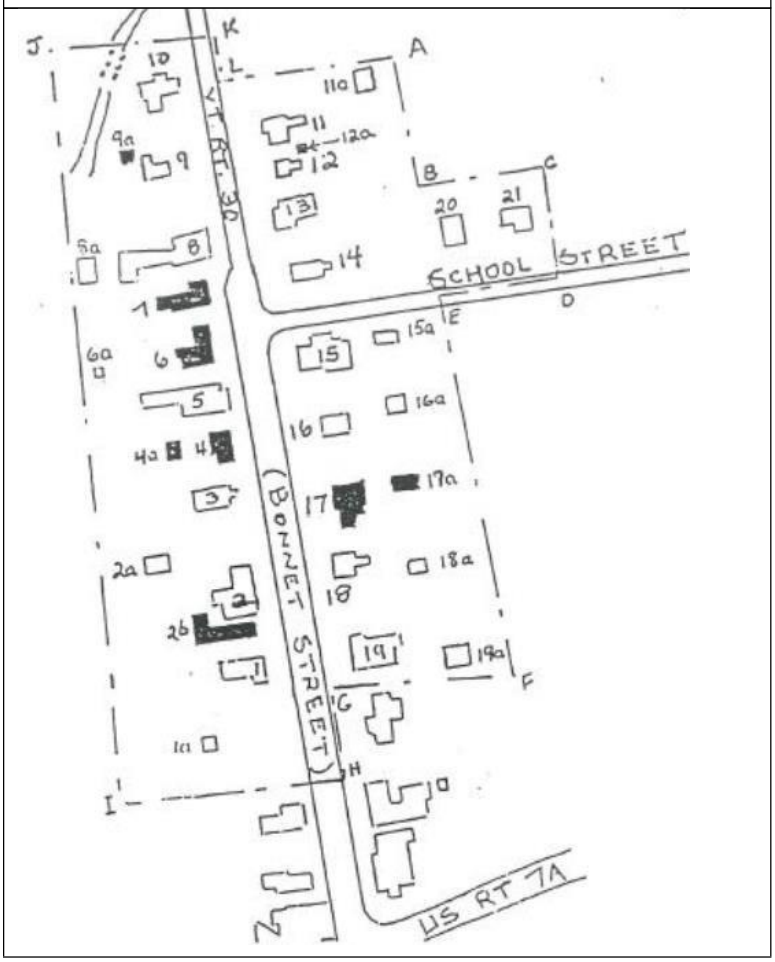
- ***Replace the original MCH historic district map with new orthophoto based map. See Figure 5.4 as an example of a new map, lacking the district boundary. A new map would have to incorporate the district boundary lines. Develop parking signage and restrictions. Work with private landowners to improve downtown parking.***

Figure 5.4. Manchester Center Historic (MCH) District. Contributing structures indicated numerically; noncontributing structures indicated alphabetically. Inclusion of noncontributing buildings A, B, C, D, and E would expand the district. Including the former bowling alley building next to building 14 and the adjacent Long Ago and Far Away building (not shown) could also be contemplated.

Bonnet Street Historic (BSH) District

The Bonnet Street Historic District is a linear residential district flanking Bonnet Street (Vermont Route 30) as it heads north out of the commercial center of Manchester. The district includes houses in a wide range of nineteenth- and early twentieth-century residential styles, a reflection of Manchester's slow, steady growth throughout the period. Significant activity in this district occurred in the decades around the turn of the 19th century, when a brick rectory (number 18 in the historic survey) and several Italianate-style and large Colonial Revival style houses were built, and the oldest house in the district (number 8 in the survey) was remodeled in a distinctive “Carpenter Gothic” style. White marble sidewalks, stoops and foundations unify the district visually, and serve as reminders of the importance of the marble industry in this area's economy. In 2015, the west side of this district was rezoned to be part of the Commercial 3 District to allow more commercial uses while protecting the historic residential character.

Figure 5.4. Bonnet Street Historic District. Original district map from the 1986 state historic survey. Contributing structures outlined, noncontributing structures shown with black fill.



Actions:

- ***Pursue expansion of the BSH district boundary to include the interior historic structure on east side of Bonnet Street behind building 20 and to coincide with the MCH district boundary.***

- ***Replace the original historic district map with new orthophoto based map.***

Manchester Depot Historic (MDH) District

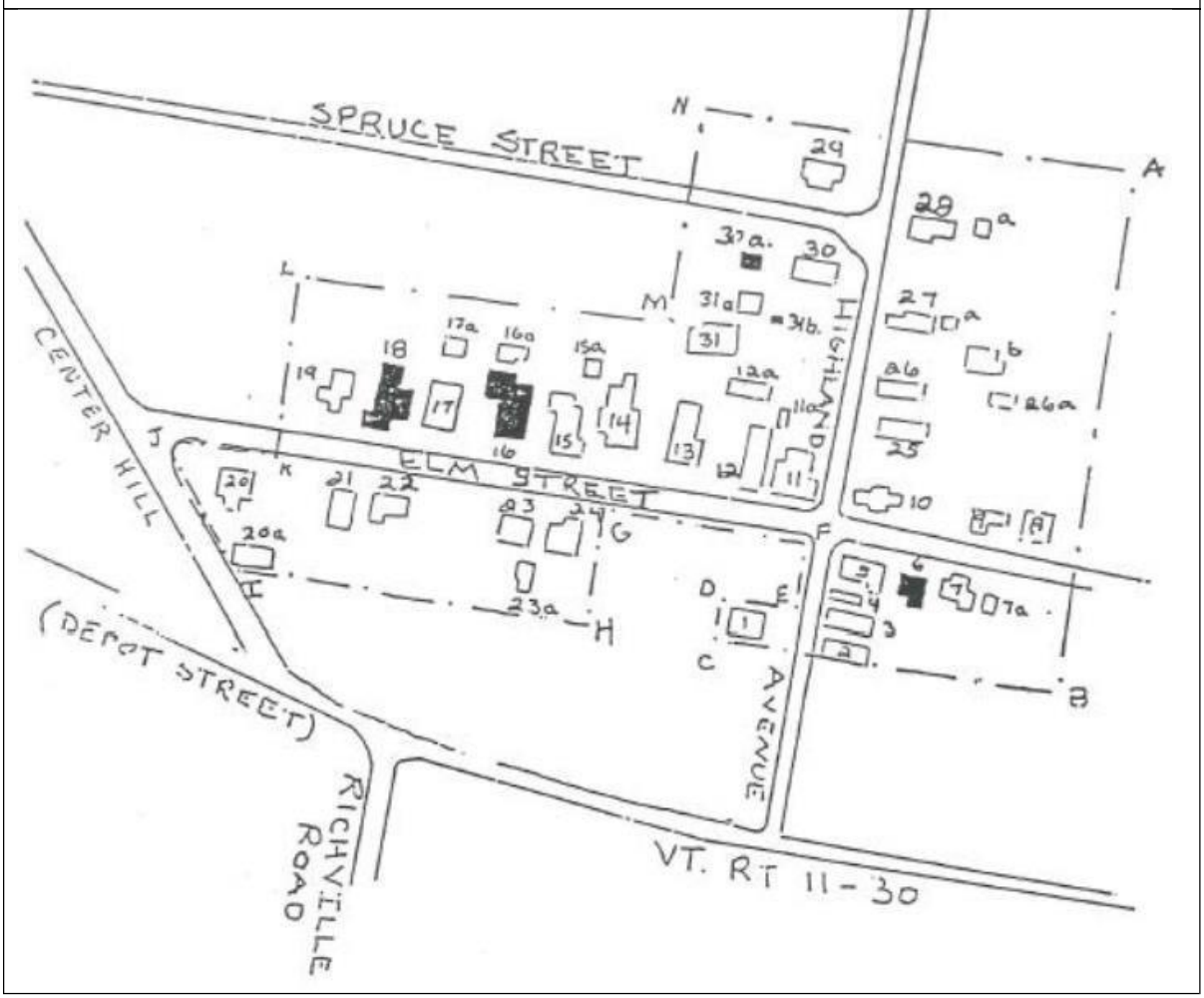
The Manchester Depot Historic District is a grid-plan district built up in the decades around the turn of the 19th to 20th century as a residential and commercial neighborhood associated with the railroad and with a booming marble milling and woodworking industry. Included in the district are a variety of little-altered vernacular houses and stores and one outstanding Shingle Style house (number 19). Intrusions are few and consist of two recently moved buildings (numbers 6 and 30a), a recent garage, and two severely altered houses (numbers 16 and 18).

The early core of the district was formed at the intersection of Elm Street and Highland Avenue. Here a few small stores were built in the 1870s, probably in response to the Western Vermont Railroad Company's institution of a daily through train from New York City to Manchester in 1871. Train service catered to tourists who came to enjoy Manchester's natural beauty and stay in the area's many hotels. As Lewis Aldrick wrote in his 1889 History of Bennington County, Vermont, “The shops at the Depot were built about twenty-one years ago, and at that time there was but one or two buildings in the village.”

The heyday of Manchester Depot was the first decade of the twentieth century. In 1890 the Rutland Railroad took over rail service, with plans to build up the line with fast passenger trains from New York City through Western Vermont to Canada, and to construct a new station. From 1903 to 1905, a large hotel was built at the depot. In 1902, Manchester's largest marble works, the Norcross-West Marble Company, began operations near the intersection of Depot Street and Richville Road. Norcross supplied marble to many public buildings, including the New York

Public Library. A single-track railroad, optimistically named the "Manchester, Dorset and Granville Railroad" (and later nicknamed "Mud, Dirt, & Gravel"), was built to haul marble from Dorset.

Figure 5.5. Manchester Depot Historic District. Original district map from the 1986 state historic survey. Noncontributing structures indicated in black, contributing structures outlined.



The first decade of the century also saw the beginning of commercial harvesting in the softwood forests covering the Green Mountains to the east of Manchester. Spruce was processed as pulp or lumber in the large mills that were built in the Richville section of town. Most of the houses in the Manchester Depot Historic District were built during these same years. Although they vary in plans and architectural details such as gable windows and window lintels, these houses are similar in style, lending a continuity to the district. Today the district sports a lively mix of color and activity and is served by a paved municipal parking lot at the corner of Highland Avenue and Elm Street.

Actions:

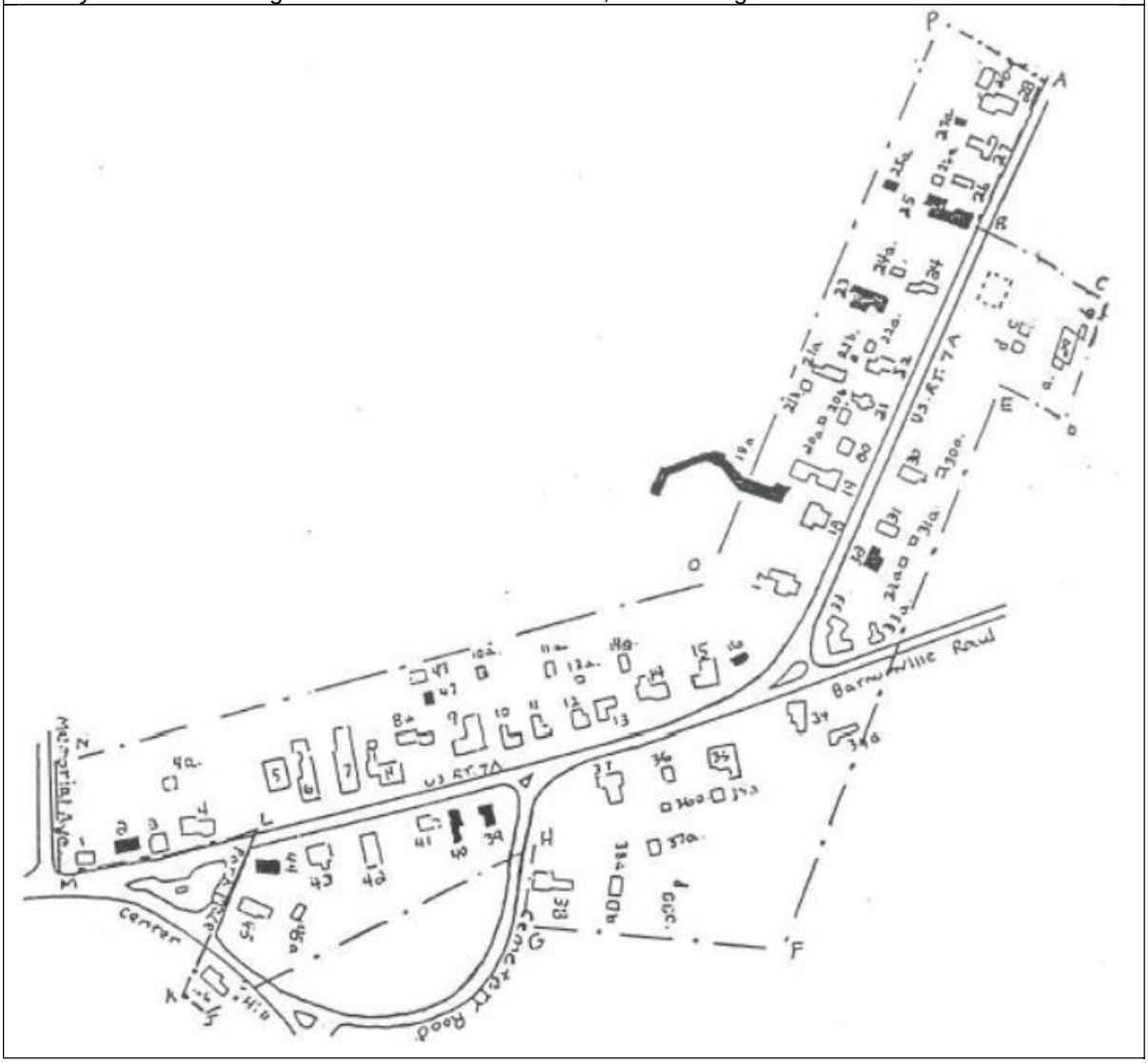
- ***Pursue expansion of the MDH boundary to include the town parking lot and adjacent Elm Street properties.***

- ***Replace the original historic district map with new orthophoto based map.***

North Main Street Historic (NMSH) District

Formerly referred to as the North Manchester Center Historic District, the district was renamed in 2015 to better distinguish it from the Manchester Center Historic district and the Manchester Center Corridor. The district has a linear orientation, flanking Main Street, which was known as Maple Street until the late 1920s. Although the district was historically integrated with the commercial and manufacturing center at Factory Point to the southwest, it is now visually separated from that historic core by the Rite Aid shopping center on the north side of Main Street and a stretch of recent structures on the south side of Main Street, including the Merchants Bank building, the copy center building, and the building housing Cilantros and Image Loft. Adams Park, between Main Street, Park Place, and Center Hill Road, is excluded from the district and should be considered for inclusion in any future boundary changes.

Figure 5.6. North Main Street Historic District. Original district map from the 1986 state historic survey. Noncontributing structures indicated in black, contributing structures outlined.



The NMSH district is comprised primarily of residential structures, although many small early shops and a store bear witness to Manchester's nineteenth-century role as a commercial and industrial center serving an extensive agricultural hinterland. These include a tin shop (number 33, c.1790), two mid-nineteenth century blacksmith shops and a harness shop (numbers 9, 48 and 42), a watchmaker's shop (number 45, c. 1985), and a store (number 3, c. 1860). There are also two early taverns, one still serving its original function (number 8) and one converted to a residence (number 37).

Represented in this district are vernacular interpretations of a variety of styles, ranging from the late eighteenth-century through the early twentieth-century. Several of the earliest buildings (number 8, 33, 37, and 38) retain Federal-style doorways, marked by four delicate pilasters and a narrow cornice. The preponderant style is Greek Revival which stretched from the 1830s to well past the Civil War era. Conspicuously excluded from the district is town owned Adams Park, current home of the Manchester Farmers Market, and former home of the Adams Park Bandstand (See Figure 5.7).

Actions:

- ***Rename the North Main Street Historic District to better reflect the place history of the district.***
- **Plan for expansion of the district boundary to include Adams Park.**
- ***Replace the original historic district map with new orthophoto based map.***

Figure 5.7. Adams Park Bandstand. The Adams Park bandstand was in regular use from its construction at under $900 in the early 1920s until its demolition in the early 1960s to make way for a visitor center.

Source: Manchester Historical Society Collection

Building and Design Goals for the Core & Historic Districts:

As described more fully in *Design Guidelines for Manchester's Commercial and Historic Districts* (adopted in 2001 and officially referenced herein), the Town of Manchester seeks to maintain and enhance those aspects of the built environment that contribute to our unique character and historic heritage. The following goals and policies are intended to lead to desired outcomes as described in this plan.

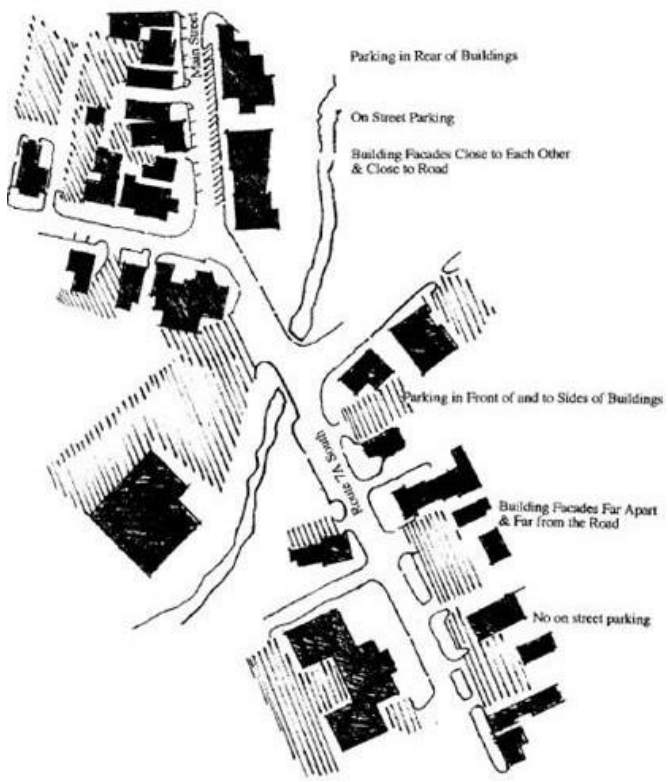
- ***Buildings should be sited sensitively, with respect to site-specific opportunities and constraints, and should be of size and scale appropriate for the site. Size and scale are sensitive issues, and what is appropriate on one site or in one part of town may be different than in other areas. Architecture should reflect and enhance the historic character of Manchester. Without necessarily replicating precise forms or details, new or renovated buildings should, at a minimum, take their cues from existing historic buildings so that they fit harmoniously, and improve and enhance, the rhythm and fabric of the built environment.***

- ***Architectural design should be considered with an eye to the future: will this building be considered worthy of preservation 100 years from now? High quality construction materials and finishes should be used. Energy efficiency is key, and architects should offer creative solutions the dynamic tension between historic character and present and future needs. For example, adding solar panels on a historic building need not be viewed negatively; rather, why not see this as a way to extend the life of a historic building for present and future needs?***

- ***Buildings should be designed to accommodate different types of uses. Structural, architectural, and energy efficient design should be readily adaptable or recyclable for future uses, whether for a single use or for traditional mixed uses.***

- ***Buildings and sites should provide a user-friendly environment, by providing appropriate links with public sidewalks and (where appropriate) adjoining uses, pedestrian amenities such as benches and shade trees, bicycle racks, weather-protected entrances, public restrooms, safe and convenient access (to and from, and within a site), and the like. Covered porches and walkways should be considered (and not counted against a landowner for coverage or density) where they add architectural interest, enhance pedestrian- friendly attributes of the community, and where they are not used for commercial purposes.***

Figure 5.7. Historic Main Street and Route 7A South. The pedestrian-oriented Historic Main Street presents a desirable pattern as compared with the more automobile-oriented corridor south of the junction. *Note: this drawing predates the construction of the roundabouts.*



Preservation of the town's historic heritage is essential in providing important, tangible connections to our past, and thus, to who we are as a community. Historic structures described in the Vermont Historic Sites and Structures Survey should be preserved, and all efforts should be made to ensure the continued use and upkeep of these buildings. Exterior renovations and new construction within the town's designated historic districts should be considered in the design review process as to compatibility with and enhancement of the district.

However, just as the *Vermont Survey of Historic Sites and Structures* distinguishes between historic and non-historic sites, this plan acknowledges that different sites may present different distinguishing characteristics. In many cases, it will be entirely appropriate for the town to require a site to be maintained, renovated, or improved in-place and on-site. There may also be cases where changes to a site or structure are appropriate because it allows a number of other town goals described in this plan to be satisfied. In effect, there are times when a balance must be found that allows for the best possible overall outcome for the town. Indeed, regulating individual elements of site design in a vacuum, without consideration of the effects on other elements of site design, adjoining properties, or the town as a whole, does not always achieve the desired results. This was one of the most important conclusions of a 1993 build-out analysis conducted by the town: while many developments met the requirements of the town plan and bylaws, we were not achieving our stated goals. Buildings met required setbacks, on-site parking was provided, but we were still getting suburban-style development inconsistent with the town's past, as well as its desired future. We didn't see the forest for the trees: we may have had the details right, but we didn't put them together in desirable patterns. We now know that we are more likely to achieve our stated goals if we place greater emphasis on patterns of land use, and make sure that our bylaws allow and require the results we seek.

Further, Manchester recognizes that individual buildings, historic districts, and the core as a whole are not museums. Seeking to preserve history, without also considering present and future needs, may ultimately doom older buildings to neglect or lack of economic viability. Keeping buildings 'alive' through adaptive reuse inevitably requires flexibility in architectural design. As always, being sensitive to the past is essential. It is a dynamic balance, and no single, predefined approach or answer will be right for each individual case that comes before us.

Proposals to alter or remove historic sites and structures will be reviewed very carefully. Yet, as noted above, being careful does not mean being inflexible; nor does it mean that any change is suspect. The burdens of persuasion and proof remain upon the developer to demonstrate the need for, and short- and long-term value to the town of such proposals.

Section 6: Neighborhood Residential & Developed Recreation

Mission for Neighborhood and Recreation Areas: Promote the development of walkable neighborhoods and recreation amenities adjacent to the core.

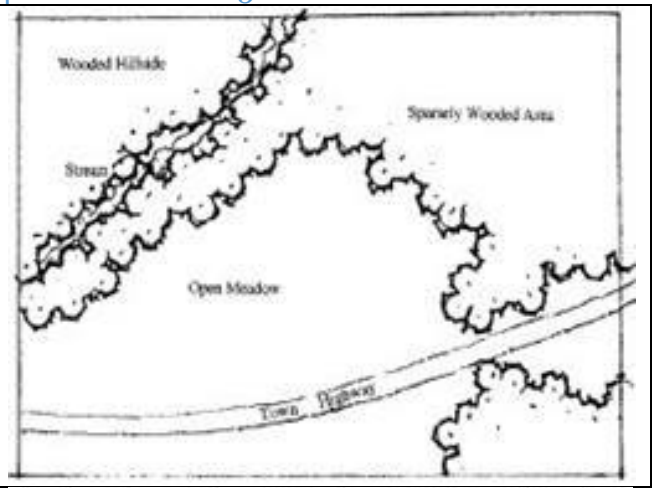
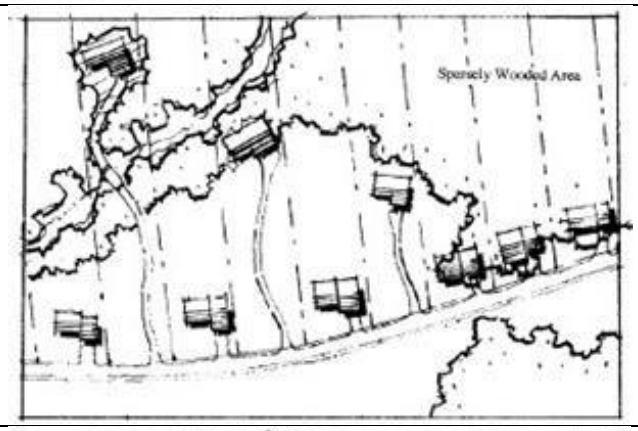
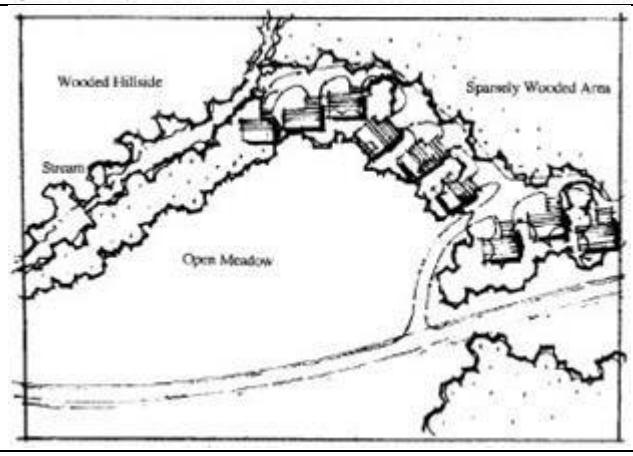
As noted in the economic development section of this plan, the town received a neighborhood area development designation from the state Downtown Board, which offers incentives to housing developers proposing pedestrian oriented neighborhood developments within a given distance of the designated village center. Along with revised zoning bylaws that will allow higher residential density, this designation lowers barriers for those working to meet the long recognized need for housing that would be affordable to people who work in Manchester but currently cannot live here due to lack of workforce housing options. Under Act 181 (2024), the town should pursue an expanded neighborhood designation, which would extend Act 250 exemptions throughout the area the town identifies as Planned Growth Areas in the regional Future Land Use map.

The town has in the past and will continue to work cooperatively with organizations such as Cornerstone Housing Partners (formerly Shires Housing), Bennington Area Habitat for Humanity, Housing Vermont, Vermont Housing Finance Agency, and other entities such as Vermont Housing & Conservation Board and Bennington County Regional Commission, all wishing to promote or construct more affordable housing.

Section 7: Working Lands & Rural Residential

Mission for Working Lands & Rural Areas: Protect open blocks of land for working lands uses and for conservation purposes.

The Rural Agricultural (RA) Zoning District, which covers a large portion of the town's land area, is intended to encourage and preserve agriculture and similar working lands uses, discourage sprawl, preserve open space, and encourage efficient provision of public services.

Existing Conditions	
Conventional Residential Development	
Resource Protecting Residential Development (PRD)	

This plan encourages and requires different patterns of development (commercial or residential) that help to satisfy our stated goals, and help to build a sense of community. These patterns are not new or untested theory. They've been known for years, and their use is now required as part of subdivision review. The intent is to protect the natural resources that make the land attractive in the first place, and to build with the land, not against it. Toward that end, it is important to understand the natural environment, and the physical opportunities and constraints presented, on any parcel of land.

Physical conditions (including but not limited to soils, slopes, elevation, critical habitats, wetlands, drainage channels, and flood hazard and riparian areas) may limit the nature or extent of development that is appropriate for a particular site. Protection of forests, wetlands, agricultural land, wildlife habitat, and other important natural resources should also influence subdivision design. Indeed, general land use plans as well as specific development site plans

should consider natural resource opportunities and constraints first, and then design appropriate plans with these in mind.

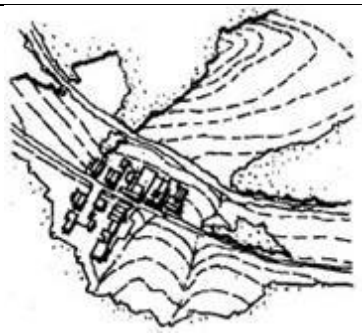
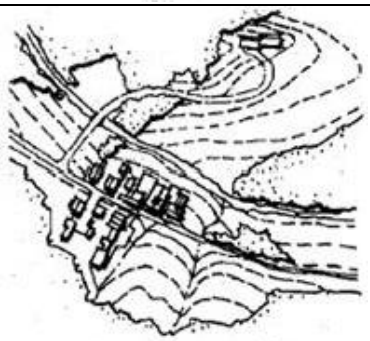
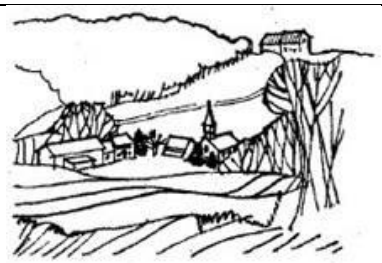
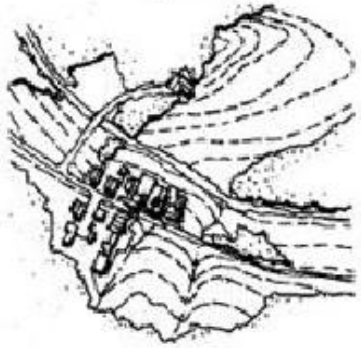
As illustrated on the following pages, plans for subdivisions or residential or commercial developments should consider natural resource opportunities and constraints first, and then design appropriate plans with these opportunities and constraints in mind. The intent is to conserve or protect natural resources, while allowing reasonable land development that is sensitive to the landscape, ecologically appropriate, and which allows efficient provision of services. Consequently, subdivisions within the Town of Manchester, particularly in the more rural areas outside the core should: (1) identify all potential conservation or open space areas first; (2) locate appropriate house sites; (3) design road alignments and trails, respecting and protecting existing trail alignments and corridors; and (4) draw in lot lines.

Plans for subdivisions or commercial or residential developments should demonstrate satisfaction of the goals expressed in this plan and in the *Manchester Land Use & Development Ordinance*. At a minimum, proposed subdivision designs should demonstrate preservation of agricultural resources, preservation of open space, and efficient provision of public services. As specified in the ordinance, a Planned Residential Development (PRD) with clustered house sites will often satisfy these goals better than a traditional subdivision design utilizing larger building lots. The town will support landowners working to reduce the fragmentation of important forest blocks and habitat connectors (e.g., through enrollment in the current use program, conservation efforts, or other efforts a landowner may undertake). Additionally, the Planning Commission will consider incorporating development review standards in zoning bylaws, such as conditional use standards and site plan review standards, to address forest and wildlife resources.

Natural features such as forests, meadows, rivers, streams, and ridgelines should be conserved, and development should generally be clustered in more appropriate areas. Corridors connecting habitat areas for large mammals must be incorporated in plans for management and conservation of forested areas, and fragmentation of significant and necessary wildlife habitat should not be approved. Roads should follow natural contours, and not carve straight lines across the landscape. Buildings should be sited below ridgelines; ideally, below the crest line, so they do not intrude upon the skyline. Shared driveways are encouraged, as they minimize the number of curbcuts along public roads, and are economically and ecologically more efficient. As shown on the accompanying drawings, designing with the land can often result in similar or identical development densities as can more conventional designs that do not respond to natural constraints. Design that respects the land can also create a more pleasant human environment.

Structures built on highly visible slopes should be screened or softened so that they present minimal intrusion into the natural slopes and landscape. This does not mean that all new development must be invisible; rather, that new development should be sited sensitively and carefully, consistent with the values described here. This may require unique ways of siting buildings, maintaining a certain percentage of tree stems or tree canopy, or other creative techniques that place buildings on the land in ways that allow new structures to fit harmoniously into the landscape.

Wherever possible, project designs should maximize the protection of contiguous blocks of land, whether on- or off-site. This will best protect critical resources. Accordingly, development density should be determined on a project basis -- that is, an overall project must meet the minimum density requirements, but individual parcels within a subdivision need not all be of a certain minimum size. Appropriate protection should be created for long-term protection of conserved or reserved land, so that further subdivision of this land does not take place in the future.

Historic Land Use Scenario		
New Development Intrudes on Scenic Ridgeline (undesirable)		
New Development Blends into the landscape Preserving the Scenic Ridgeline		

Section 8: Forest, Conservation & Recreation

Forest Conservation and Recreation Mission: Protect forested mountain lands for sustainable timber production, wildlife habitat and passive recreation purposes.

The Forest Conservation (FC) zoning district - defined by elevation, land cover and GMNF and EPT ownership - comprises about 50% of land area of town. The minimum parcel size is 25 acres, and additional provisions ensure protection of wooded cover by permitted and conditional uses. Off woodlot processing of timber is not allowed.

Part 3: Plan Development, Implementation & Context

This 2025 Town Plan was developed by the planning commission with the assistance of town staff, the BCRC, and input from the Manchester Housing Task Force and Manchester Energy Committee. It is an update to the 2017 plan, with updated data, and discussions of recent town planning initiatives, and new sections on forest block protection, housing targets. The planning commission held several public meetings throughout 2024 and 2025 to work on sections of the plan and seek public input. A draft was presented to the planning commission in February 2025 to propose to the public and forward to the selectboard for adoption in May. The planning commission will continue to refine the format of the plan to more clearly incorporate action items associated with particular adopted policies and goals.

Context

To date, there have been few, if any, conflicts over planning and development issues with adjoining towns. However, the potential certainly exists. Generally, towns have sovereign rights over planning issues within their borders. However, issues related to planning, natural resources, and impacts of development are not limited to neat lines or political boundaries. Thus, it is appropriate to consider these issues, anticipate possible problems, and work proactively toward solutions.

This is especially true for the town and Manchester Village. Although surrounded by the town, the village maintains its own separate planning process and regulatory scheme. Nonetheless, much of the appeal for the village rests in the viewscapes of the Taconic and Green Mountain ranges it enjoys and which are incorporated within the town borders. The town and village should cooperate on planning issues whenever possible for mutual benefit and maximum effectiveness. In fact, the town allows village residents, as de facto residents of the town, to actively participate on its planning commission.

While much of the land on Manchester's eastern boundary is essentially protected from development as part of the Green Mountain National Forest, some adjoining land in Winhall is consists of small lot residential development. A number of these houses can be seen easily from the valley throughout Manchester. Manchester should seek ways to minimize the potential impact of increased development along this boundary by increased communication between the Manchester and Winhall planning commissions.

The potential exists for similar conflict on Manchester's southerly boundary, along RT 7A. While limited development is allowed in Manchester, this area is adjacent to a commercial area in Sunderland. These same concerns apply at the town's northerly boundary, where RT 7A makes the transition from the Bullhead Pond, Manchester Country Club and rural residential parcels into Dorset's Commercial-Industrial zone. In both cases, Manchester should work with adjoining towns to consider ways to lessen the contrast of abrupt transitions in existing or potential land uses.

In addition to the town's coordinated effort with Manchester Village and the Town of Dorset on the *Northshire Economic Development Strategy*, inter-municipal cooperation is also needed for regional issues such as solid waste management, transportation planning, and telecommunications towers. These issues transcend not only town boundaries, but also individual towns' ability to provide or address. Appropriate solutions therefore require a more regional perspective. The Bennington County Regional Commission (BCRC) has helped to coordinate planning efforts in the solid waste management, transportation and economic development arenas, the town will continue to encourage BCRC to take an active role in these

and other regional issues.

Implementation

This plan describes the goals the Manchester community wishes to achieve, and the policies by which the town will manage its affairs, and establishes specific actions to be undertaken to achieve its goals. As with most significant endeavors, implementation will happen through a multi-faceted approach. It can occur through the adoption and application of companion documents and tools. These include, but are not limited to, the *Manchester Land Use & Development Ordinance*, Capital Improvement Program, *Manchester Hazard Mitigation Plan*, *Northshire Economic Development Strategy*, the Downtown Master Planand the Downtown Mixed Use Development Study. It is important that any changes proposed to these associated documents be consistent with this plan, and help to achieve the goals stated herein.

Implementation also occurs through the process of Act 250 review, where larger development projects are reviewed for conformance with this plan (and, by explicit intent and direct reference throughout, applicable sections of other town documents and programs adopted under specific statutory authority, such as town ordinances and the Capital Improvement Program). This is a comprehensive plan which should be considered as a whole when questions of interpretation arise. This plan also includes an energy element which meets the requirements for enhanced energy planning established by Act 174, and should be given substantial deference by the Public Utility Commission during the siting process of renewable energy facilities in Manchester.

Incentives and partnerships can also be appropriate ways to accomplish goals. As in many human endeavors, progress is often best achieved through a balanced approach, combining incentive and encouragement with regulation and restriction; these may also include non-regulatory approaches such as land conservation. Implementation can also occur through direct action taken by citizens and leaders in the community. The Town Green project is a superb example, where an auto dealership was undeveloped into a community greenspace in the heart of town. In the end, this town plan is only as strong as the respect it is accorded, and the value it adds to the community as a foundation policy document and blueprint for action. As Alan Kay (one of the pioneers of personal computing) once said:

The best way to predict the future is to invent it.

In that same light, the plan is the foundation by which the citizens of Manchester may invent their own future. Let us use it well.

Manchester Town Plan Implementation Table

Actions	Plan Section(s)	Responsibility	Partners
Develop a downtown nightlife program.	Economic Development	Economic Development Officer	MBA
Expand the sewer service area to adjacent areas that can support new residential and light industrial development.	Economic Development; Municipal Utilities	Selectboard (Sewer Commission), DPW	
Explore application for a Center: Step 3 designation under the new statewide designation program.	Economic Development	Planning Commission	MBA
Support continued improvement and extension of pedestrian and bicycle infrastructure.	Economic Development; Transportation; Energy	Planning Commission, Selectboard	
Support the efforts of Bike Manchester to make Manchester a biking destination.	Economic Development	Planning Commission, Selectboard, Town Staff	Bike Manchester
Support the efforts of Manchester Riverwalk and its mission to build, beautify and maintain public pathways along the Batten Kill.	Economic Development	Planning Commission, Selectboard, Town Staff	Manchester Riverwalk
Promote Manchester as an athletic tournament venue.	Economic Development	Parks & Rec Staff, Economic Development Officer	Equinox LaCrosse, Manchester Youth Soccer, Area Schools
Provide reduced sewer allocation fees for new development that includes housing in the commercial core for new workforce housing infill development.	Housing	Selectboard (Sewer Commission)	
Require retainment of existing housing stock within the commercial core.	Housing	Planning Commission, Housing Taskforce	

Consider pursuing a Tier 1A designation to exempt developers from Act 250 permitting requirements in the downtown and planned growth areas.	Economic Development, Housing	Planning Commission, Selectboard, Economic Development Officer	MBA
Identify and prioritize sidewalk improvements and expansion at key locations throughout the town.	Transportation	Town Staff, Planning Commission	
Replace deteriorated wayfinding signage throughout town.	Transportation	Planning Commission, Economic Development Officer, DPW	MBA, MHS
Promote existing commuter, and long-distance bus services	Transportation; Energy	Energy Committee	MBA
Pursue enhancements to the Manchester Rail Trail.	Transportation		
Require connection to the municipal sewer system for all new development or redevelopment proposed in the town core within the sewer service area.	Municipal Utilities	Selectboard (Sewer Commission)	
Pursue strategies to expand sewer capacity by minimizing infiltration and maximizing system efficiencies.	Municipal Utilities	Selectboard (Sewer Commission), DPW	
Evaluate, the assimilative capacity of the Batten Kill, to determine the maximum permitted treatment capacity of the plant.	Municipal Utilities	Selectboard (Sewer Commission), DPW	
Extend the sewer service area to serve existing development along Richville Road within the wellhead protection area.	Municipal Utilities	Selectboard (Sewer Commission), Planning Commission, DPW	
As capacity of the current sewer system is approached, evaluate feasibility and cost of converting to tertiary treatment.	Municipal Utilities	Selectboard (Sewer Commission), DPW	
Continue to pursue sewer system upgrades to maximize system efficiency.	Municipal Utilities	DPW	
Protect the municipal aquifer from potential contamination by carefully monitoring and controlling activities within the wellhead protection area.	Municipal Utilities	Water Commission, DPW	

Pursue strategies to promote, encourage, and support the burial of utility lines, particularly in the downtown core to enhance the historic streetscape.	Municipal Utilities	Planning Commission	MBA, MHS
Improve coordination and communication with stakeholders to minimize programming conflicts or duplication and maximize efficient and effective use and service delivery of recreation facilities.	Recreation, Arts & Culture	Parks & Rec Staff	Area Schools, Area Sports Legues and Clubs
Provide outcome-driven recreation programming with an emphasis on community health and wellness. Specifically target cross-generational activities for families, teens, and seniors.	Recreation, Arts & Culture	Parks & Rec Staff	
Ensure that user fees for recreation programs and facilities are reasonable and establish a scholarship fund for low-income citizens.	Recreation, Arts & Culture	Parks & Rec Staff	
Support the establishment of an Arts and Culture Committee as an important bridge between for-profit and non-profit arts and cultural activities and town government.	Recreation, Arts & Culture	Selectboard, Planning Commission	
Collect information on arts, crafts, culture and entertainment activities and events and assist in making the information available online and in print.	Recreation, Arts & Culture	Economic Development Officer	MBA
Measure the economic impact of arts and creative industries in Manchester.	Recreation, Arts & Culture	Economic Development Officer	MBA
Pursue grant funding to conduct a needs assessment for arts and cultural institutions and activities in the Northshire.	Recreation, Arts & Culture	Economic Development Officer, Planning Commission	
Develop a plan for signage with QR codes specific to each historic district.	Land Use	Town Staff, Design Advisory Committee	MHS
Apply to the Vermont Division of Historic Preservation for expansion of historic district boundaries.	Land Use	Town Staff; Planning Commission, Design Advisory Committee	MHS
Rename the North Main Street Historic District to better reflect the place history of the district.	Land Use	Town Staff, Planning Commission	

Develop new historic district maps based on digital imagery.	Land Use	Town Staff; Planning Commission, Design Advisory Committee	MHS
Incorporate forest and wildlife resource protection standards into the Land Use and Development Regulations.	Natural Resources	Town Staff, Planning Commission,	
Partner with public agencies and private organizations to identify and protect wildlife habitat corridors.	Natural Resources	Town Staff,	VFW, GMNF
Identify deer wintering areas not indicated on the ANR atlas. If such areas are found, in partnership with landowners and private conservation organizations, the town will work to encourage their protection by easement or other deeded restrictions.	Natural Resources	Town Staff,	VFW, VLT
Raise awareness and work to eradicate invasive species from Manchester.	Natural Resources	Town Staff,	EPT, GMNF
Administer and enforce flood hazard area, river corridor, and surface water regulations and encourage the implementation of other mitigation measures to realize the goal of being a flood resilient community.	Flood Resilience	Town Staff, Planning Commission	
Pursue further articulation of risks, mitigation measures, and planning toward community resilience, particularly through updates to the Manchester Hazard Mitigation Plan.	Flood Resilience	Town Staff, Planning Commission	
The Land Use and Development Regulations shall include standards requiring new development to take advantage of opportunities for utilization of solar energy.	Energy	Planning Commission	
Investigate alternatives to the propane pool heating system at the town recreation center.	Energy	Town Staff, Energy Committee	
Assess the potential for deploying ground or air source heat pumps for heating and cooling in all municipal buildings.	Energy	Town Staff, Energy Committee	
Purchase more fuel efficient vehicles, including electric vehicles where practical.	Energy	Town Staff, Selectboard	
Promote use of the Energy Star or similar building performance rating system and related building practices that limit energy consumption in new and remodeled homes.	Energy	Energy Committee	

Publicize NeighborWorks of Western Vermont (NWWVT) Heat Squad home energy improvement programs, including low-cost audits and assistance with construction and financing.	Energy	Energy Committee	
Publicize energy education programs sponsored by Efficiency Vermont, and other organizations, that focus on residential energy savings	Energy	Energy Committee	
Support programs that provide funding for weatherization of the homes of lower-income residents, including the Weatherization Assistance Program offered through the Bennington Rutland Opportunity Council (BROC).	Energy	Energy Committee	
Promote the use of heat pumps for space heating and domestic hot water.	Energy	Energy Committee	
Provide demonstrations of new energy efficient technologies for homes and businesses.	Energy	Energy Committee	
Encourage employers to provide facilities to encourage bicycling, walking, and carpooling and promote the Go!Vermont website.	Energy	Energy Committee	
Provide businesses information about electric vehicle charging stations and encourage them to install such facilities to support employees who would like to use electric vehicles for commuting.	Energy	Energy Committee	
Install EV charging stations in town owned public parking lots.	Energy	Town Staff, Selectboard	
Require large new commercial, industrial, and multifamily development to provide EV charging stations at convenient locations.	Energy	Planning Commission	
Require large new commercial, industrial, and multifamily development provide a location for a public transportation stop.	Energy	Planning Commission	
Require bike parking at commercial and civic buildings that generate significant local traffic.	Energy	Planning Commission	
Publicize availability and location of EV infrastructure in the community.	Energy	Energy Committee	
Promote electric vehicle use through cooperation with Drive Electric Vermont and other organizations.	Energy	Energy Committee	

Encourage local auto dealers to supply electric and plug-in hybrid electric vehicles.	Energy	Energy Committee	MBA
MBA=Manchester Business Association			
MHS=Manchester Historical Society			
VFW=Vermont Department of Fish and Wildlife			
GMNF=Green Mountain National Forest			
EPT=Equinox Preservation Trust			
TNC=The Nature Conservancy			
VLT=Vermont Land Trust			

Part 4: History and Population Characteristics

Chartered in 1761 by colonial Governor Benning Wentworth of New Hampshire (after the British defeat of the French and native Abenakis in 1760), together with dozens of other Vermont towns, Manchester was first settled in 1764. Over the course of the next several decades, settlements in Manchester included Factory Point, Manchester Village, Manchester Depot, Richville, Barnumville and Beartown among others. High on the flanks of Mount Equinox, Beartown has been long abandoned and the settlements at Richville and Barnumville long since diminished. Manchester Village developed as a resort and second home residential destination. In 1900 Manchester Village incorporated and became a separate municipality. Although some municipal services are shared, the village has its own municipal plan and zoning ordinance and is governed by an elected Board of Trustees.

Figure 9.1. The Junction. Images of the junction at from the late 19th and early 20th centuries (top left: from the bridge; top right: from Bonnet Street; bottom: from North Main Street). Many of the buildings still stand, including the Colburn House now home for the Northshire Bookstore, Kimball Grist Mill, the Baptist Church, and the Factory Point building, currently being redeveloped for condominium, retail and restaurant uses.

Source: Manchester Historical Society Collection

Manchester Center includes the remaining extant historic settlements. At the riparian junction of Main Street with Bonnet Street and Depot Street, Factory Point (See Figure 9.1) was the early business center of the town with mills powered by the West Branch of the Batten Kill. With the advent of railroad in the mid-1800s, Manchester Depot became a mixed commercial and residential center catering to the marble and lumber industries in particular. As these industries diminished in importance, the residential settlements of Richville and Barnumville likewise contracted and Manchester's image as a vacation destination grew. In the 1980s Manchester Center began to be known as a shopping destination with the development of national brand outlets. Manchester continues to be a retail shopping destination to this day. In addition, the town is home to a number of high end restaurants catering to visitors and residents alike.

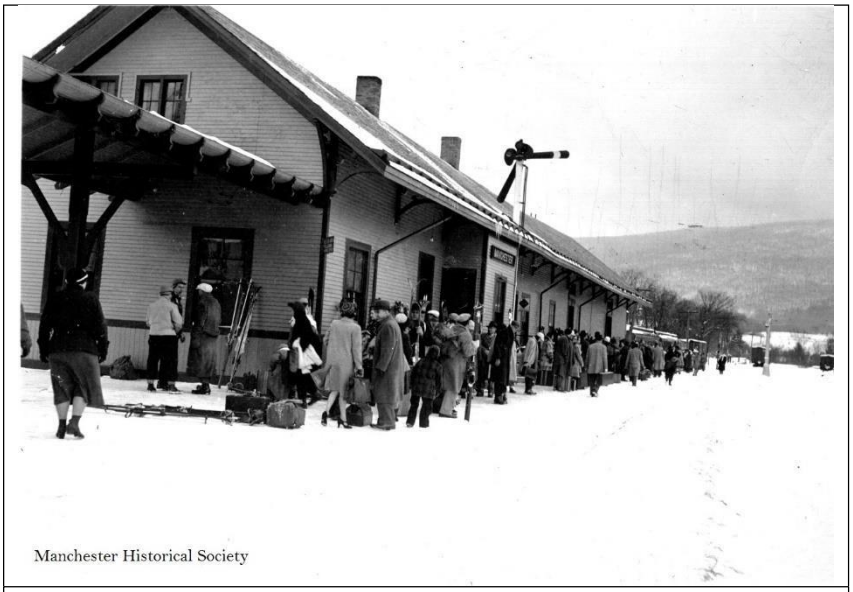


Figure 9.2: The Manchester train station circa 1946. Weekend skiers from New York and New Jersey. The building still stands as part of the r.k. Miles campus on Depot Street.
Source: Manchester Historical Society Collection

Manchester experienced only very moderate growth through the mid-20th Century. The population increased by about a third after 1950 until 2000, when it leveled off. The 2020 census reported 4,484 people in Manchester, with 783 of those residing in Manchester Village. Manchester saw a slight population increase between 2010 and 2020, and estimates project the population to continue modestly increasing. In addition, Manchester's population is older than the Vermont and national averages and is projected to remain so. It remains to be seen whether policies outlined in this plan will lead to bucking of the demographic trends. An age distribution weighted toward the older demographics, rather than workforce age brackets, is problematic for economic development goals, which is why some of those goals aim to attract a younger demographic to town and provide workforce level housing in the core. While Manchester's population is no longer declining, the town's population continues to skew older, which indicates that the Town should do more to attract and retain younger residents.

Appendix A. Inventory of Significant Natural Features in Manchester

Mount Equinox
Location: 2.5 miles (4.0 km) west of Manchester Village
Elevation: 3,816 feet (1164 meters)

The highest mountain in the Taconic Range, Mount Equinox provides a breathtaking backdrop to the Manchester valley, and a panoramic view of the region from its summit. The slopes of the mountain form a significant aquifer recharge area, support unique, rare flora and rare species of bats, and are an important element in the Town's natural beauty. “An excellent exposure of the gradational contact” between marbles and phyllites at the base of the Mount Anthony formation occurs between 1800 and 2100 feet in Cook Hollow. One outcrop displays a series of thin and parallel strata eroded into an intricate, contoured pattern. Solution caves exist in the sides of the mountain. Nearly 1000 acres on the east face of the mountain is now preserved in perpetuity. Equinox Resort Associates has deeded the development rights for 850 acres to the Vermont Land Trust, and for 105 acres to The Nature Conservancy. These lands are under conservation management by the Equinox Preservation Trust, including a trail maintenance program, public trail access, and a wide variety of educational and research activities in partnership with Bennington College, Burr & Burton Seminary, the Vermont Land Trust, and the Vermont Institute for Natural Science.

Skinner’s Hollow Cave
Location: Southeast side of Mount Equinox

A solution cave in white marble, with an entrance located near the junction of two slide paths at the base of a high ledge. “A funnel-shaped passage slopes steeply down to the first chamber, 20 feet below the entrance level, from which a hole goes farther down. At the bottom is a room about 35 feet in height. Snow remains in the entrance until July, and ice is found throughout the cave.” This cave is on private land and requires permission from the landowner to access and enter. It is also a designated bat hibernacula and is closed to human access from mid-September through June 1. State wildlife biologists suggest the importance of seasonal timing considerations for forestland conversion or clearing in the vicinity of the cave; the best time of year for such activity being the hibernating period from October through March.

Downer Glen and Prospect Rock
Location: about 2.5 miles (4.0 km) southeast of the Main Street Depot Street junction.
Elevation: Between 900 and 2100 feet (275-641 meters)

The Prospect Rock outcrop overlooks the valley from the top of a deep cleft in the ridge of the Green Mountain Range. Bourn Brook flows through the glen, cascading into a rock gorge near the bottom.

Dryer Quarry
Location: West of Route 7 about 0.5 miles (0.8 km) north of the Sunderland Town Line
Elevation: About 900 feet (275 meters)

A small quarry exhibiting exposed calcite marble breccia, composed of angular fragments of pinkish, blue-gray, and gray marble along with some rare microcline (mineral of the feldspar

group), cemented by red hematitic marble. The breccia apparently extends from the quarry to an outcrop near the southeastern edge of Equinox Road, but this is the only occurrence in the area.

Bullhead Pond and Bog
Location: About 3 miles (4.8 km) northeast of the Main Street-Depot Street junction
Elevation: About 750 feet (229 meters)
Area: About 5 acres (2 hectares)

A small pond with typical pond and shore vegetation. A small bog lies in a bowl-like depression a short distance to the north of the pond; a small quaking mat has formed at the center of the bog. Crowded in this small area are many species of bog flora. The slope above the bog is wooded with a mixture of deciduous trees; red maple and hophornbeam being the most abundant. Large hemlocks, some with trunks up to 2 feet in diameter, grow in a small woodland on the south slopes of the pond. Due to the presence of these unique features, and the varied ecological habitats in and around the bog, this is an important natural site. Aside from its inherent natural values, it has great merit for nature studies and environmental education. The site is owned by the State of Vermont and managed by the Vermont Department of Fish and Game.

Batten Kill Watershed

Manchester lies fully within the Batten Kill Watershed. Anchored by the Batten Kill, a fast-flowing cold stream with a densely-vegetated protective edge. The river begins at a spring and marsh in Dorset, flowing southerly as two separate streams until their confluence in Manchester Center. From there, it continues south into Sunderland and then into Arlington, where it turns westward into New York State, eventually emptying into the Hudson River. The West Branch flows right through the heart of Manchester. It has historic value as a power source for the old factories which were located on the mill pond at Factory Point (adjacent to the Town Green), and current value as a significant natural resource. Manchester Riverwalk is working to enhance the enjoyment and appreciation of the river by the creation of public greenways along the river's edge. The greenway would provide greater public access to the river, and would provide alternative pedestrian pathways, away from vehicular traffic flow, through the downtown for residents and tourists alike. The Batten Kill is famous throughout Vermont and the nation for providing a top-quality trout fishing experience. Even in the summer, a high-quality trout habitat is maintained by the presence of many subsurface springs which feed cold, highly-oxygenated water into the river. These springs also help to maintain the river's depth during the summer months.

In 1991, the Vermont Water Resources Board gave the Batten Kill further recognition in granting its first ever “Outstanding Resource Water” designation. In its decision, the Board concluded that the river deserved this designation for its exceptional natural, recreational, cultural, and scenic values. For all of these reasons, the Batten Kill should have the highest protection possible. Major tributaries to the Batten Kill in Manchester include Lye Brook, Bourn Brook, Bromley Brook, Tanner Brook, Munson Brook and Stony Brook.

Other Unique Natural Features

- Lye Brook Falls, 1.8 miles south of the trailhead off of Benson Road, at 125 feet tall, one of the tallest falls in Vermont.
- Table Rock, above Equinox Pond, providing panoramic view of the valley to the southeast.

- Punch Bowl, a glacial cirque located between Barnumville Road and Depot Street.
- Pew Forest, a large forested parcel above Three Maple Drive that was donated to the University of Vermont for educational purposes, and is now owned and protected by The Nature Conservancy.
- Isham Forest, a forested parcel above Equinox Pond which was donated to and is managed in a cooperative effort by the Vermont Land Trust and the New England Forestry Foundation.
- Pickerel Pond, on Finbars Forest Road south of Bullhead Pond and surrounded on its other three sides by the Manchester Country Club golf course.

Appendix B. Inventory of Arts & Cultural Resources in Manchester

(Inventory conducted in 2016)

Galleries and Permanent Exhibits
Southern Vermont Arts Center, Manchester Village, www.svac.org
Helmholz Fine Art, Depot Street, http://helmholzfineart.com
Hildene, The Lincoln Family Home, Manchester Village, www.hildene.org
Epoch - 18 Vermont Artisans, Main Street, www.epochvermont.com
Gremlin Fine Arts Gallery, Main Street, www.thegremlin.com
Tilting at Windmills Fine Art Gallery, Highland Avenue, www.tilting.com
John Zaccheo Fine Art Gallery, Main Street, www.johnzaccheofineart.com

Performing Arts and Live Entertainment
Manchester Music Festival, Manchester Village, www.mmfvt.org
Taconic Chamber Players, www.taconic music.org
Northshire Performing Arts, Dorset
Junk Music with The Junkman™, www.junkmusic.online
Tuesday Night Summer Concerts on the Manchester Town Green
Music and Theater at the Riley Center for the Arts, Manchester Village
Music at the Hunter Park Riley Rink, www.rileyrink.com
Music at The Perfect Wife & The Other Woman Tavern, www.perfectwife.com
Jazz at Poncé Bistro, www.poncebistro.com

Annual Arts and Entertainment Events
The Manchester Fall Art and Craft Festival
Annual Manchester Antique and Classic Car Show
Manchester StreetFest – June and July
Annual Manchester Tractor Parade
SolarFest, Manchester Village, www.solarfest.org
Booktopia, www.northshire.com/event

Artisans at Work
Manchester Hot Glass, Elm Street, www.manchesterhotglass.com
Plow & Stone Furniture, Manchester Village, www.plowandstone.com
Ted Schiffman Photography, Manchester Village, www.imageartisan.com
Matthew Lerman, lermanphotography.net
Les Jőrgensen Photography, Manchester Village, www.lesjorgensen.com
Manchester Arts Studio and Gallery, Main Street, www.manchesterartsvt.com
Irene Cole Design, www.irenecole.com
Pat Musick, www.camusart.com
Kate Franklin, wineandpaintingclasses.com
Sara Gay Jewelry, www.saragayart.com
Seal Harbor Rugs, Main Street, www.sealharborrug.com
Johannes Michelson, www.woodhat.com (website under construction)
Deb Fanelli Jeweler, www.debfanelli.com