

# Hinesburg Town Plan

Hinesburg | Vermont | 2021



# Acknowledgements

## Planning Commission

*(responsible for drafting the 2017 plan)*

### 2016 Commissioners:

Joe Iadanza  
Maggie Gordon  
Rolf Kielman  
Dennis Place  
Russell Fox  
James Donegan  
Jeff French  
John Kiedaisch  
Barbara Forauer

### Past Commissioners:

Kyle Bostwick  
Aaron Kimball  
Timothy Clancy  
Neil Leitner

## Selectboard

*(responsible for review & approval of the 2017 plan)*

Merrily Lovell  
Phil Pouech  
Andrea Morgante  
Tom Ayer  
Aaron Kimball

## Staff

Alex Weinhagen, Director of Planning & Zoning



## Municipal Family

Thanks to the many Town committees, Town staff, and community volunteers who helped draft sections and/or provide feedback on this plan!

## Hinesburg Community

Many thanks to all the community members that contributed feedback via survey responses, input at forums, and suggestions via email and conversation at community events, meetings, and hearings.

## Chittenden County Regional Planning Commission

Staff review by (2017 plan): Regina Mahony, Emily Nosse-Leirer, Melanie Needle

# Table of Contents

<b>ACKNOWLEDGEMENTS</b>		<b>2</b>
<b>TOP PRIORITY ACTIONS</b>		<b>7</b>
<b>INTRODUCTION</b>	<b>CHAPTER 1</b>	<b>8</b>
<b>VISION STATEMENT</b>		<b>8</b>
<b>PURPOSE OF THE PLAN</b>		<b>9</b>
<b>USE OF THE PLAN</b>		<b>9</b>
<b>RECENT TOWN PLANS AND ADOPTION PROCESS</b>		<b>9</b>
<b>GENERAL STRATEGIES &amp; OBJECTIVES</b>		<b>13</b>
<b>PLANS FOR ADJACENT TOWNS AND THE REGION</b>		<b>14</b>
<b>DEMOGRAPHICS &amp; HOUSING</b>	<b>CHAPTER 2</b>	<b>16</b>
<b>POPULATION</b>		<b>17</b>
<b>AGE</b>		<b>18</b>
<b>INCOME</b>		<b>19</b>
<b>HOUSING SUPPLY &amp; AFFORDABILITY</b>		<b>23</b>
<b>LAND USE</b>	<b>CHAPTER 3</b>	<b>28</b>
<b>VILLAGE</b>		<b>31</b>
<b>RURAL AREAS</b>		<b>36</b>
<b>RURAL RESIDENTIAL AREA</b>		<b>37</b>
<b>SHORELINE AREA</b>		<b>37</b>
<b>INDUSTRIAL AREAS</b>		<b>38</b>
<b>FLOOD HAZARD AND FLUVIAL EROSION HAZARD AREAS</b>		<b>39</b>

<b>ECONOMIC DEVELOPMENT</b>	<b>CHAPTER 4</b>	<b>40</b>
VILLAGE CENTER		42
RURAL CHARACTER AND NATURAL ASSETS		42
BUSINESS MAKEUP		42
REGIONAL CONTEXT		44
STRENGTHS AND WEAKNESSES		44
<b>NATURAL RESOURCES &amp; ECOLOGICAL SYSTEMS</b>	<b>CHAPTER 5</b>	<b>46</b>
FOREST RESOURCES		48
AGRICULTURE		49
SURFACE WATERS		52
WATER QUALITY & STORMWATER		52
GROUNDWATER		55
WETLANDS		56
FLOODPLAIN AND FLOOD RESILIENCY		58
WILDLIFE HABITAT		61
RIDGELINES AND SCENIC AREAS		64
GREENSPACE PLANNING		65
GEOLOGICAL RESOURCES		65
NIGHT SKY		66
<b>COMMUNITY FACILITIES AND SERVICES</b>	<b>CHAPTER 6</b>	<b>67</b>
GENERAL GOVERNMENT		69
ROADS		69
PUBLIC SAFETY: POLICE, FIRE, RESCUE		71
TOWN CEMETERIES		72
WATER AND WASTEWATER		72
RECREATION		77
SCHOOLS		81
CHILD CARE		82

SERVICES FOR ELDERLY AND THE DISABLED	85
LIBRARY	86
SOLID WASTE	87
UTILITIES	87
<b>TRANSPORTATION</b>	<b>CHAPTER 7</b>
EXISTING NETWORK	91
CURRENT ISSUES & PLANNED NETWORK IMPROVEMENTS	93
<b>ENERGY</b>	<b>CHAPTER 8</b>
ENHANCED ENERGY PLANNING	100
ENHANCED ENERGY PLANNING TARGETS	103
THERMAL ENERGY USE	105
TRANSPORTATION	109
TOTAL ENERGY USE	109
PUBLIC ENERGY EDUCATION	110
RENEWABLE ENERGY GENERATION	111
ENERGY SITING & SCREENING POLICIES	113
<b>CULTURAL RESOURCES</b>	<b>CHAPTER 9</b>
HISTORIC RESOURCES	117
<b>IMPLEMENTATION</b>	<b>CHAPTER 10</b>
LAND USE REGULATIONS	120
OFFICIAL MAP	120
MUNICIPAL ORDINANCES	120
MUNICIPAL DEMONSTRATION PROJECTS	120
LAND ACQUISITION	120

<b>CAPITAL BUDGET &amp; ANNUAL BUDGET</b>	<b>120</b>
<b>IMPACT FEES</b>	<b>121</b>
<b>SPECIAL ASSESSMENT DISTRICTS</b>	<b>121</b>
<b>PUBLIC &amp; PRIVATE COORDINATION</b>	<b>121</b>
<b>ONGOING PLANNING AND STUDIES</b>	<b>121</b>
<b>IMPLEMENTATION TABLE</b>	<b>121</b>

<b>GLOSSARY</b>	<b>141</b>
-----------------	------------

---

**Town Plan Appendices - available separately:**

- Appendix A: Early Town History
- Appendix B: Land Use History
- Appendix C: Zoning Districts
- Appendix D: Economic Development Detailed Goals & Actions

**Town Plan Maps - available separately:**

- |   |  |
|---|--|
| Map 1: Base Map   | Map 13: Trail Network Vision: Existing Routes and Gaps   |
| Map 2: Current Zoning   | Map 14: Wildlife Habitat                                 |
| Map 3: Future Land Use  | Map 15: State Designation Areas                          |
| Map 4: Building Locations   | Map 16: Energy, Existing Renewable & Preferred Sites     |
| Map 5: Agricultural Soils   | Map 17: Energy, Hydro-Electric Energy Resource Locations |
| Map 6: Current Land Cover   | Map 18: Energy, Potential Solar Energy Resource Areas    |
| Map 7: Wetlands and Floodplains                                     | Map 19: Energy, Potential Wind Energy Resource Areas     |
| Map 8: Environmental Features (Water Supply)                        | Map 20: Energy, Known State Constraints                  |
| Map 9: Natural Features   | Map 21: Energy, Known Town Constraints                   |
| Map 10: Sewer and Water   | Map 22: Energy, Possible State Constraints               |
| Map 11: Town Facilities and Conserved Lands                         | Map 23: Energy, Possible Town Constraints                |
| Map 12: Official Map (future community facilities & infrastructure) | Map 24: Energy, Areas Without Constraints                |

# Top Priority Actions

Each chapter of this plan includes topic-specific goals and actions. The following subset are action items with the highest priority because they: 1) address critical issues; 2) require a timely response; 3) are readily achievable given existing/expected resources (personnel, cost, etc.). Note – each action item description is abbreviated. See relevant chapter for complete action item descriptions.

- **Facilitate public/private partnerships for new housing (affordable, senior, reasonably priced) and for rehabilitation of existing housing. Support affordable and reasonably priced housing townwide with emphasis on higher densities in the village area.**

*Action 2.1.2 & 2.1.4; Time Horizon: ongoing  
Lead: Affordable Housing Committee, Selectboard*

- **Refine Hinesburg’s regulations and other municipal tools to implement the Village Growth Area vision with sensitivity to infrastructure limits.**

*Action 3.1.2; Time Horizon: ongoing  
Lead: Planning Commission, Selectboard*

- **Create more specific development design standards (site and building) to more clearly articulate the community’s expectations.**

*Action 3.3.1; Time Horizon: 3-5 years  
Lead: Planning Commission, Village Steering Committee*

- **Guide development to minimize agricultural and forestry impacts.**

*Action 3.4.2; Time Horizon: ongoing  
Lead: Development Review Board*

- **Direct development to minimize impacts on natural systems in Chapter 5, with emphasis on wildlife habitat and connectivity.**

*Action 3.4.5, 3.4.6, 5.11.3, 5.11.4; Time Horizon: ongoing & 3-5 years  
Lead: Development Review Board & Conservation Commission*

- **Provide facilities and services to support commercial and industrial development – e.g., municipal water/sewer, roads, sidewalks, etc. Increase the municipal water supply by locating additional wells.**

*Action 4.2.1 & 6.1.3; Time Horizon: ongoing & 1-2 years  
Lead: Selectboard*

- **Encourage the voluntary protection of existing and potentially productive agricultural and forest land.**

*Action 5.3.3; Time Horizon: ongoing  
Lead: Conservation Commission*

- **Create a stormwater management plan for Town roads.**

*Action 5.6.4; Time Horizon: 1-2 years  
Lead: Selectboard*

- **Construct the Bissonette Recreation Area.**

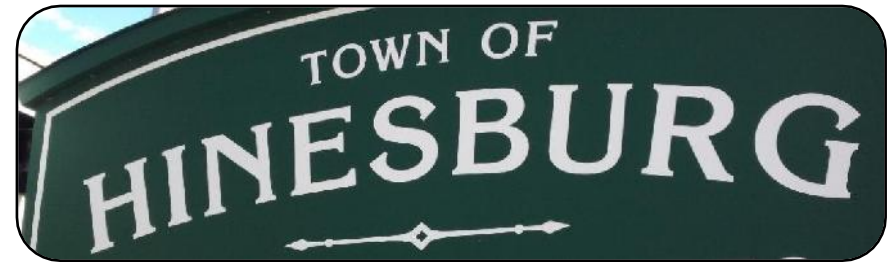
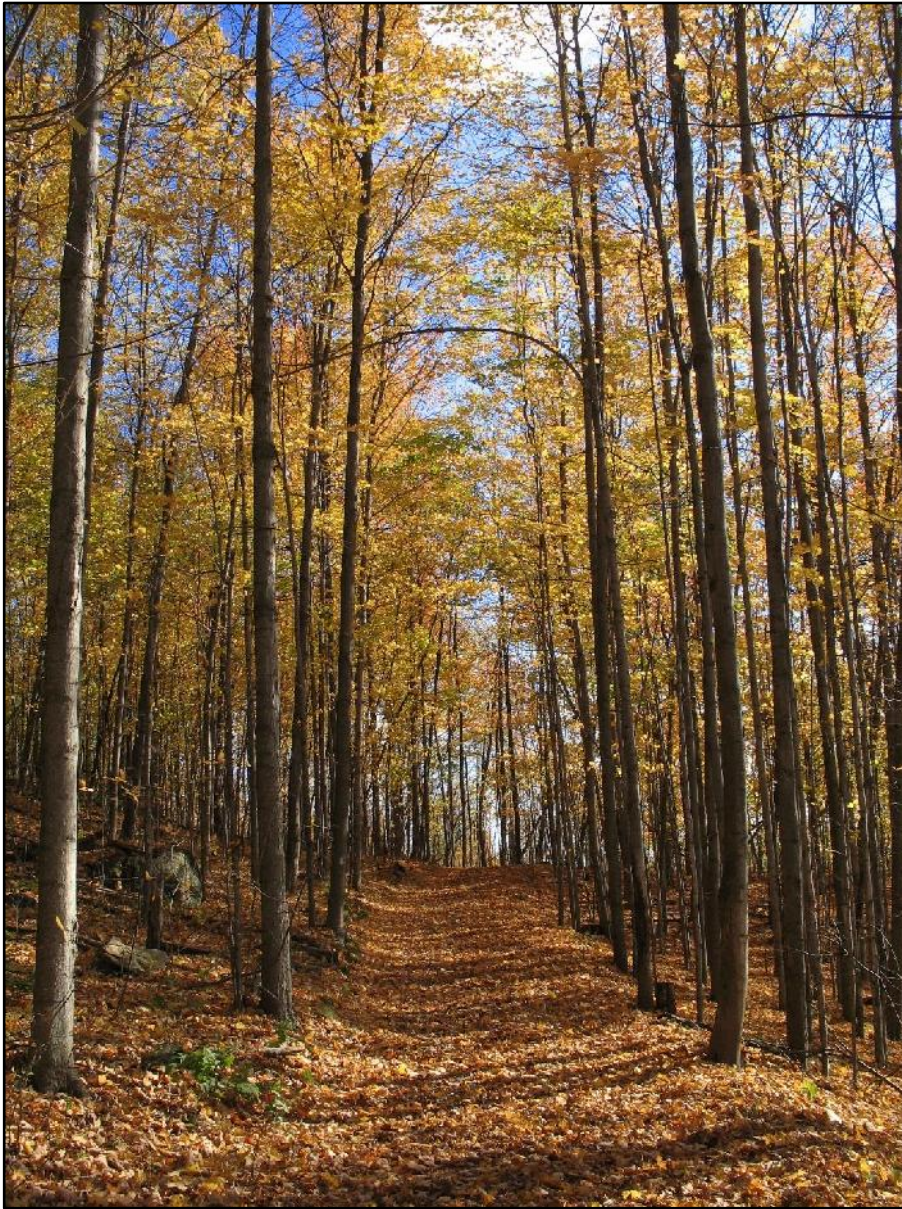
*Action 6.4.1; Time Horizon: 1-2 years  
Lead: Recreation Commission, Selectboard*

- **Prioritize improvements to the Route 116, Charlotte Road intersection. Discourage a new traffic light at the Route 116, Mechanicsville Road intersection.**

*Action 7.1.2; Time Horizon: 1-2 years  
Lead: Selectboard*

- **Identify long-term strategies and shorter-term objectives for the Town to meet efficiency and renewable energy goals. Maximize energy efficiency in Town buildings and vehicles. Encourage homeowners and businesses to seek thermal efficiency upgrades and then invest in renewable energy technologies.**

*Action 8.1.1, 8.4.1, 8.4.2; Time Horizon: ongoing  
Lead: Energy Committee*



## Vision Statement

*Hinesburg will plan its growth and manage its resources so that our town continues to be a desirable place to live and work. It will:*

- *Enhance the village area.*
- *Maintain its rural character.*
- *Provide for environmental sustainability.*
- *Strive to offer the highest quality social, educational, recreational and economic opportunities, and a variety of housing options.*

*These efforts will be guided by community input.*





## Introduction

Hinesburg is located in Chittenden County in northwestern Vermont. It is a rural community of just under 4,500 people located south of the Burlington metro area on the border of Addison County. Hinesburg is defined by the people that live, work, and own property here. It is characterized by a vibrant village center surrounded by a working landscape of agricultural and forest lands with interspersed low density residential development. In addition to a lively mix of industry, commerce, housing, civic & community buildings, and greenspace, the village area hosts a pre-K through 8th grade school and one of the largest union high schools in the state. It is located at the foothills of the Green Mountains with forested hills on the east side of town and a preponderance of farm land on the west side. Hinesburg's history is tied to its waterways (particularly Lake Iroquois, Sunset Lake, Patrick Brook, LaPlatte River, Lewis Creek), which remain important recreational and ecological resources today.

## Purpose of the Plan

The Hinesburg Town Plan serves as the framework for planning the future of the Town throughout the next 5-10 year planning period, especially with regard to the decisions that will guide the Town's growth. It also seeks to achieve a longer-range planning horizon by looking into the future for twenty years or more. It describes the Town's history, the existing physical, social, and economic conditions of the Town, and establishes a vision for the Town's future. This vision is supported by a series of goals and action items that are recommended in each section of this plan.

## Use of the Plan

The Plan is for the use of the Hinesburg Planning Commission, Selectboard, Development Review Board, Conservation Commission, other Town

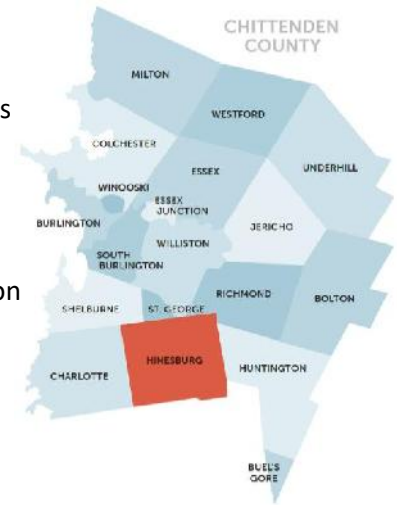
committees/boards, and regional and state agencies. It is also meant as a guide to individuals and other organizations for decisions affecting the Town. This plan is to be used as:

- a plan for the future growth and development of the town;
- the basis for revisions to the zoning and subdivision regulations;
- the basis for planning and adopting a capital budget and plan;
- a source of recommendations for studies or programs to address specific community issues;
- a standard for review under local, regional and state regulatory proceedings (including Act 250 and Section 248 reviews); and
- a source of information about the Town.

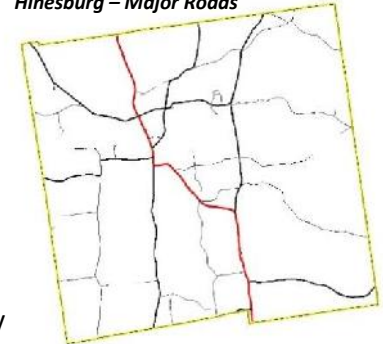
## Recent Town Plans and Adoption Process

While the Selectboard reviews and adopts the Town Plan, the Planning Commission is responsible for its preparation, as outlined in the Vermont Municipal and Regional Planning and Development Act. Hinesburg's first Town Plan was adopted in 1971. Since that time, the plan has been re-adopted and amended as needed or as required by state statute.

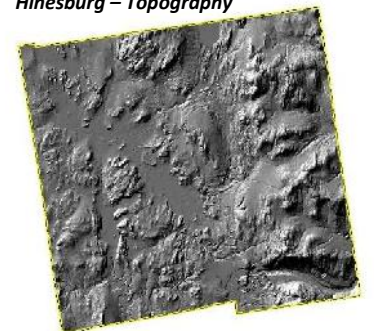
In 1989, in response to a very rapid growth rate in the 1980's, the Planning Commission initiated a State-funded citizen participation project to gain public input on planning issues facing the town. The project had three components: 1) a survey on planning issues; 2) a series of four community forums ("Mud Season Forums") on a wider range of issues; 3) the formation of nine committees to investigate specific issue areas (e.g., village, natural resources, housing, etc.). The culmination of this process was a completely rewritten Town Plan, adopted in 1992.



Hinesburg – Major Roads



Hinesburg – Topography



The Town Plan was updated in 1997. Many of the improvements and services anticipated in the 1992 Town Plan had been implemented or were near completion. They included:

- Renovated Town Hall and municipal offices.
- Establishment of a Town Police department.
- Establishment of a Recreation department.
- Sidewalk extension to the post office.
- Water system upgrade.
- New library.

After a five-year period of moderate growth, a purely statistical update to the Town Plan was completed in 2002. Significant activities between 1997 and 2002 included:

- Creation of a new Industrial zoning district on the north side of the village (I-5 district).
- Construction of a new and enlarged post office.
- Increase in size of the fire station.
- Purchase of property adjoining the fire station for use by the police department.
- Purchase of the Masonic Building for use by Hinesburg's Cooperative Nursery School.
- Zoning update to encourage home-based businesses while protecting adjoining properties from adverse impacts.
- Implementation of a plan for Gegrags Park.
- Involvement in multi-town projects on identification and protection of wildlife habitat, wetlands and other natural resources.
- Establishment of a Development Review Board.

Shortly after adoption of the 2002 Town Plan, the Planning Commission began a significant public input process. This included a community-wide survey and four public forums

in 2003. The result was the adoption of a significantly rewritten and reorganized Town Plan in 2005. This plan prioritized revisions to Hinesburg's land use regulations – to better plan for both the village growth area and the most rural areas of town. In 2011, the Town Plan was updated with minor revisions to some sections and more substantive changes to other sections (e.g., village land use and energy sections) to account for progress made since 2005. Significant activities during the 2002-2011 time period included:

- Approvals for and/or construction of substantial development in the village area, including approximately 134 new dwelling units.
- Creation of Village Steering Committee, Affordable Housing Committee, Trails Committee.
- Multiple Zoning & Subdivision Regulation Revisions, including very comprehensive Village Growth Area regulations and Hinesburg's first Official Map showing locations of future community facilities and infrastructure.
- Major upgrade of the Town wastewater treatment facility (no new capacity added).
- Two new traffic lights with improved pedestrian crossings along Route 116 (at Charlotte Road and Commerce Street) and a major redesign of the Route 116, Silver Street intersection.
- New sidewalk along portions of Route 116 in the village area.
- Closure of the Saputo cheese factory in October 2008. Interim zoning adopted and Saputo Redevelopment Steering Committee formed. Final zoning revisions adopted by the Selectboard in 2011.
- Creation of the new 300+ acre LaPlatte Headwaters Town Forest on Gilman Road as part of a larger



project that conserved approximately 600 acres of the former Bissonette farm.

- Initial drafting of a Town Greenspace (i.e., Open Space) plan by the Conservation Commission.
- Major zoning revision to rewrite flood hazard regulations, including the adoption of fluvial erosion hazard zone areas/protections and updated FEMA maps.

The 2013 Town Plan revision included only minor changes to clarify what constitutes significant wildlife habitat, including the addition of a new map to show wildlife habitat blocks, core wildlife habitat, and wildlife corridors/linkages. Significant activities during the 2011-2015 time period included:

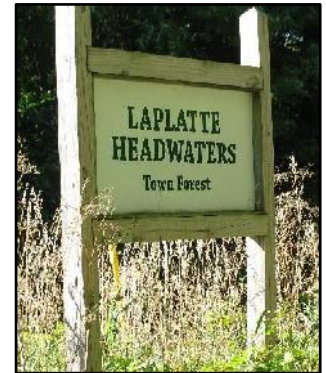
- Successful redevelopment of the Cheese Plant property to regain tax base, jobs, and connection to the agricultural economy with four new businesses, including a new restaurant.
- Launch of new commuter bus service in partnership with Chittenden & Addison County public transit providers.
- Village area stormwater assessment project followed by construction of a large rain garden at the top of Silver Street to treat a runoff hotspot.
- Completion of two large sidewalk projects: 1) 1.3 miles (7,000 feet) connecting the Post Office, CVU, and Library along Mechanicsville Rd, CVU Rd, and Ballards Corner Rd; 2) 1,000 feet along the west side of Route 116 from Charlotte Road to the Hinesburg Community School.
- Rural area zoning and subdivision regulation revisions to establish new development densities for rural subdivisions while expanding allowed uses to bolster retaining a working landscape with a

reasonable amount of rural residential development.

- Planning, permitting, and construction of a new Town Police Station.
- Acquisition (via landowner gift), planning, and permitting of new recreation fields. Fundraising for construction ongoing.
- New and more rigorous stormwater and erosion control regulations for new development.
- Received and began development review process for four village growth area projects that propose approximately 413 new dwelling units and 241,000 square feet of new commercial/industrial building space.

The 2017 Town Plan was a complete update. All sections were reviewed with most Town committees contributing revisions and/or feedback. Substantial community outreach was done. In addition to regular meetings and required hearings, other outreach included two community surveys, tabling and conversation at community events, and several topic-specific public forums that included presentations and discussion with knowledgeable speakers. The 2017 Town Plan included some significant changes in the community's vision for the future.

- Village Growth & Design – address phasing based on infrastructure limits, ensure measured growth over time, better regulations/review to ensure good design.
- Rural Residential 1 & Shoreline Areas – need to overhaul allowed development densities and uses.
- Stormwater – greater emphasis on this issue and the Town's responsibility for solutions (e.g., Town roads).
- Economic Development – be proactive to encourage job creation, new and expanded business, etc.



The 2021 update was a complete re-write of chapter eight of the Town Plan thanks to collaborative work by the Hinesburg Energy Committee and staff from the Chittenden County Regional Planning Commission. In addition to new text, tables, and figures, this plan update also includes nine new maps depicting renewable energy opportunities and constraint areas. Goals of this update included:

- To better understand energy usage in Hinesburg. To set clear goals for decreasing energy usage, increasing energy efficiency, and increasing renewable energy generation.
- To recognize and help implement the State's Comprehensive Energy Plan goals.
- To meet recommended standards for municipal energy plans set forth in Act 174 (passed in 2016), so that the recommendations in our Town Plan are given "substantial deference" when new energy facilities are reviewed by the State Public Utility Commission.

## General Strategies & Objectives

The following general strategies and objectives expand upon the community's vision statement in order to help guide the future growth and development of land, public services and facilities, and to protect the environment. These are broad statements of direction and intention. More specific goals and action items are contained in each section of the plan.

### Strategy 1 Maintain and enhance the rural small town character and environment of Hinesburg.

#### Objectives:

- 1a Guide development into locations that reinforce the rural pattern of compact settlements surrounded by open lands.
- 1b Encourage the economic viability of agriculture and forestry uses.
- 1c Encourage the Town's continued vitality through a diversity of social and economic opportunities.
- 1d Preserve the historic structures and features that are an essential part of Hinesburg's character.
- 1e Promote the participation of a wide range of Hinesburg citizens in all aspects of community life.
- 1f Maintain diversity in Hinesburg's population.

### Strategy 2 Guide the Town in appropriate well managed growth.

#### Objectives:

- 2a Encourage and support the development of a supply of safe and affordable housing in a variety of types and price ranges.
- 2b Foster the preservation and rehabilitation of Hinesburg's existing stock of affordable housing.
- 2c Encourage industry and commerce of types that will be a physical and economic asset to the Town.

- 2d Promote the provision of local services and job opportunities.
- 2e Encourage environmentally conscious commercial, agricultural and industrial development.
- 2f Recognize the significance and importance of private land and seek to balance the community good with private property rights.
- 2g Restrict development in areas where such development would be detrimental to human health, safety and the public good.

### Strategy 3 Provide and plan for efficient and adequate community facilities and services.

#### Objectives:

- 3a Broaden citizen participation in town government.
- 3b Balance growth with the Town's ability to pay for the provision of expanded services and facilities.
- 3c Provide services in locations and of types that reinforce the other goals of this Plan.
- 3d Strive for safe and well-designed transportation systems including an interconnected network of sidewalks, trails, bike paths, and greenways.
- 3e Provide for the most efficient maintenance and use of Town facilities.
- 3f Ensure efficient and effective Town government.
- 3g Foster provision of quality educational opportunities.

### Strategy 4 Preserve and protect the natural resources and special features of Hinesburg.

#### Objectives:

- 4a Enhance and protect the surface and groundwater resources of the Town.
- 4b Preserve and restrict development in significant natural areas such as wetlands, wildlife habitat, streams, and shorelines.



- 4c Promote the ecological sustainable use and conservation of natural resources.
- 4d Conserve agricultural and forestry lands in the rural regions of Hinesburg.
- 4e Encourage a pattern of development that maintains open spaces and scenic resources.
- 4f Encourage recycling, the use of renewable resources and the safe cost effective disposal of wastes.

**Strategy 5 Work towards regional, state and national solutions to meet Hinesburg's goals.**

Objectives:

- 5a Participate in discussions relating to policies that affect the viability of Hinesburg's agricultural and forestry operations.
- 5b Coordinate with other municipalities and agencies in meeting transportation needs.
- 5c Participate in regional and statewide solutions to waste disposal, resource protection and energy conservation, and public safety.
- 5d Coordinate with other agencies and governmental units for provision of the social, recreation, and economic needs of the community.

**Plans for Adjacent Towns and the Region**

This Plan is generally compatible with both the Chittenden County Regional Plan (2013 ECOS plan) as well as Town Plans from the surrounding municipalities.

Chittenden County Regional Plan (2013) – Hinesburg’s Plan embodies the same distinctions between village, rural, and enterprise planning areas that are emphasized in the Regional Plan. The Hinesburg Plan seeks to accommodate residential and commercial growth primarily in the village growth area, while recognizing that the core metro and

transition areas in other parts of the county will continue to be the primary focus for future development. It also recognizes and seeks to conserve the critical natural resources and open spaces that make Hinesburg an important part of the county’s rural landscape. The goals and objectives of the Hinesburg Plan are compatible with the four broad goals and eight high-priority strategies outlined in the Regional Plan. One high priority strategy from the Regional Plan not really addressed in the Hinesburg Plan is the equity and underrepresented populations engagement strategy (3.2.8). The Town could use CCRPC assistance to better tackling this issue – both in plan language and in concrete actions.

Shelburne (portion of northern border) – The Shelburne Plan (2014) emphasizes the rural and agricultural landscape, including conservation areas, near its border with Hinesburg. This part of Shelburne is designated as a rural land use area. Both the land use designation and the overall goals and recommendations are compatible with Hinesburg’s vision for this area.

St. George (portion of northern border) – St. George (2012 plan) identifies four different land use planning areas along the Hinesburg border – from west to east: Rural (Rocky Ridge Golf Course), West Residential, Forested Uplands (Mt. Pritchard), and East Residential (eastern slope of Mt. Pritchard overlooking Lake Iroquois). Even in the aforementioned “residential” planning areas, the St. George plan calls for relatively low density development that respects adjacent forests and natural resource areas, and encourages smaller cluster-style development to preserve larger tracts of working land and greenspace. The Rural and Upland Forest planning areas have an even stronger focus/intention on natural resource preservation and the working agricultural and forested landscape. These uses are largely compatible with Hinesburg’s emphasis on agricultural and forestry as primary uses in



**Strategies:**

1. *Strengthen the economy*
2. *Concentrate new development in planned growth areas*
3. *Improve water quality*
4. *Protect working landscapes and significant habitats*
5. *Increase health and personal safety*
6. *Provide residents with education and skills*
7. *Improve efficiency of financing and governance*
8. *Ensure equity for all segments of the community*

this part of town, with low to medium density residential uses remaining possible where site constraints allow.

Williston (small portion of northern border near Lake Iroquois) – Williston’s goals (2011 plan) for this area are similar to Hinesburg’s. Both communities highly value Lake Iroquois, and both communities provide special protections immediately around the lake, while identifying the surrounding area as rural residential.

Richmond (northeast border) – The Richmond Plan (2012) emphasizes the low density, rural landscape in this area, which is compatible with Hinesburg’s vision for this corner of the town.

Huntington (most of eastern border) – Huntington’s goals (2014 plan) for this border area are very similar to those expressed in this Plan. Both towns classify the area as “rural residential” with special emphasis on the protection of important natural resources and rural character. Both towns encourage the forest conservation and development techniques that maximize open space conservation.

Starksboro (portion of southern border) – Starksboro (2011 plan) places a high value on the agricultural and scenic lands along its portion of the Route 116 corridor. Adjacent forested areas, without easy access, are planned for forest and conservation uses (i.e., upland forest planning area). Starksboro places a large area around Route 116 in their Lewis Creek valley planning area, which is focused on preserving farm land. The Hollow Road vicinity is the only area along the Starksboro-Hinesburg border where residential development is Starksboro’s primary purpose. Along most of the border, the two Plans are compatible; however, this is not the case in the Route 116 vicinity. Rather than emphasizing agricultural and scenic resources, Hinesburg has designated a large area on the east side of Route 116 for industrial uses.

Monkton – (portion of southern border) – Monkton’s plan (2014) for this border area emphasizes low density rural residential uses with provisions to protect important natural resources. This is consistent with Hinesburg’s agricultural land use designation for the area.

Charlotte – (all of western border) – The Charlotte Plan (2016) describes the border area as part of their rural district where protection of natural resources and land conservation is emphasized. These types of values are also embodied in Hinesburg’s vision for this rural agricultural region. Furthermore, our two communities frequently work together on conservation and watershed projects with the help of the Lewis Creek Association, the Hinesburg Land Trust, and the Charlotte Land Trust.

*Hinesburg – Surrounding Towns*

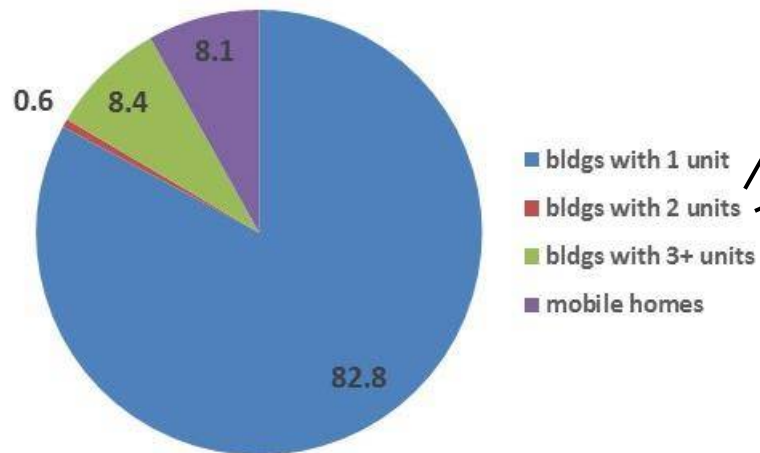


## Introduction

Past and projected demographic trends are a key element in planning for Hinesburg's future. Information about the numbers, ages and income levels of town residents serves as an important gauge for the future demands for housing, town services and facilities, and economic opportunities. Population and income data are also indicators of the diversity and character of town residents. Hinesburg's population diversity has been cited time and again in survey and forum responses as one of the positive features of the Town that contributes to our small town character. The makeup of Hinesburg's housing stock has a direct and highly visible impact on the type of town we are and will become in the future.



**Percent of Hinesburg Housing Units by Structure Type**



Source: Census, VT Housing Data website



## Population

In the early 1800's, Hinesburg had a larger population than most of the towns in Chittenden County. In the year 1800, Hinesburg was even more populated than Burlington. The Town reached a peak of 1,834 residents in 1850, then slowly declined to 965 inhabitants in 1920. Throughout the early and mid-1900's the Town's population remained relatively static. This trend was consistent with much of Vermont due to the large out migration to the West and to more urban areas.

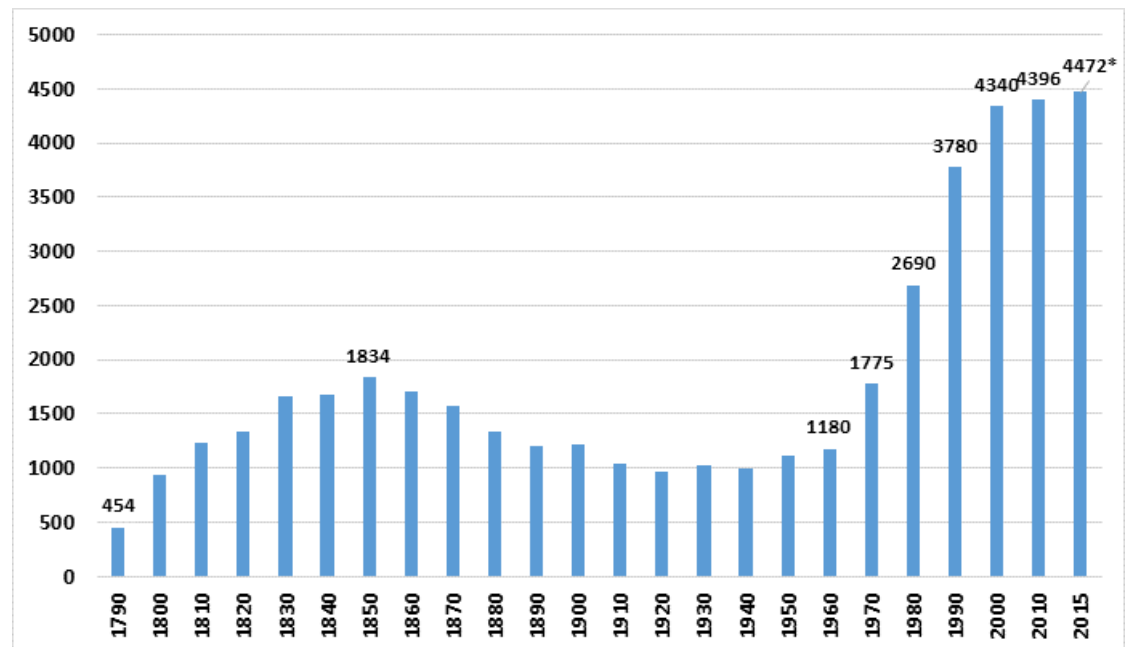
During the second half of the 20th century Hinesburg experienced a change in growth patterns with sharp population increases. Between 1960 and 2000, the Town's population grew by 267%. The Town grew steadily at a rate of 91.5 persons per year through the 1970s, slowed down somewhat during the early 1980s, and then resumed growth of 146 persons per year during the second half of the decade. The 1985 Town Plan projected that Hinesburg's population would increase 23.2% between 1980 and 1990, however the actual growth was more rapid with a 40.5% increase. Hinesburg experienced the largest percentage growth in Chittenden County during the period 1980-1990. By 1995 population growth in Hinesburg had slowed. Between 1990 and 2000, population increased 14.8%. Growth in the neighboring town of Williston, increased 56.5% over the same decade, while overall Chittenden County population grew by 11.2%.

The first decade of the 21st century showed a dramatic slowdown in Hinesburg's population growth trajectory. From 2000 to 2010, Census figures show that Hinesburg's population only grew by 56 people (1.3%). This slowdown was common to most other rural communities across Chittenden County; whereas, communities in the Burlington metro area (i.e., Burlington, Winooski and portions of South Burlington, Colchester, Essex, Williston)

generally continued to see substantial population growth. See accompanying figure to compare Hinesburg's population growth with neighboring towns since 1960.

Future population projections vary depending on the methodology and assumptions used. In the 2013 regional plan, the Chittenden County Regional Planning Commission (CCRPC) projected relatively high growth estimates of over 1% per year from 2010-2035 based on economic forecasting – i.e., anticipated jobs and the population needed to fill those jobs (Woods & Poole projections). In 2017, CCRPC lowered its growth estimates substantially based on forecasts from Economic & Policy Resources

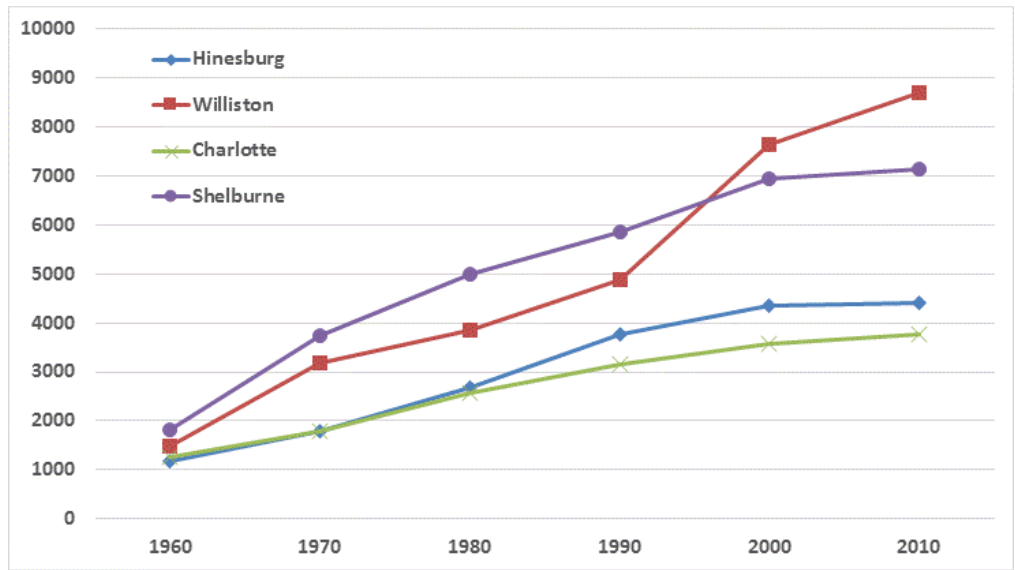
**Hinesburg Population, 1790-2015**



Source: Census Data, Center for Rural Studies, VT Indicators Online  
\*2015 – 5-year ACS estimate

(EPR). The State of Vermont produced a report in August 2013 that projects more modest growth based on pure demographics – i.e., births, deaths, immigration, emigration. This report by the VT Agency of Commerce and Community Development (ACCD, Jones & Schwarz, 2013) projects population in 2020 and 2030 by municipality and county. It provides a low estimate based on the lower immigration rates seen in the 2000’s, and a high estimate based on the higher immigration rates seen in the 1990’s. The accompanying figure shows the CCRPC and ACCD projections in relation to Hinesburg’s population since 1960. It appears that Hinesburg’s population is plateauing with the ACCD projections more in keeping with that trend. Shrinking average household size and an aging population (discussed below) appear to be dampening any substantial increases in Hinesburg’s population that would be expected from development of new dwelling units. These demographic changes coupled with continued development of new dwelling units indicate that more

**Population Growth, 1960 – 2010, Hinesburg vs. Neighboring Towns**



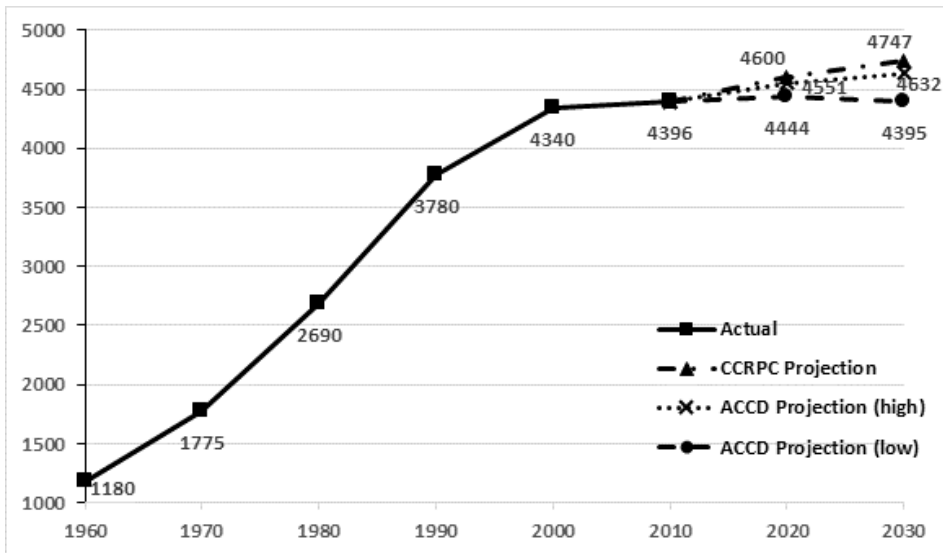
Source: Census Data, Center for Rural Studies, VT Indicators Online

housing is needed, even for a somewhat level town population.

**Age**

Perhaps more significant than changing population numbers is the consistent trend of an aging population – both in Hinesburg and statewide. In 1980, those over 55 years old only constituted 10% of Hinesburg’s population. In 2010, that group accounted for nearly a quarter (23.7%) of Hinesburg’s population. In just 10 years (2000-2010), the percentage of Hinesburg’s population in the 55-74 age group doubled from 10.6% to 20.6%. The trend of an aging population is projected to continue over the next twenty years as shown in accompanying figure. Related trends include a decline in enrollment at the Hinesburg Community School (see Chapter 6), and a reduction in average household size from 2.81

**Hinesburg Population, Actual & Projected**



Source: Census, CCRPC (EPR 3/8/2017 forecast), VT ACCD (Jones & Schwarz, 2013)

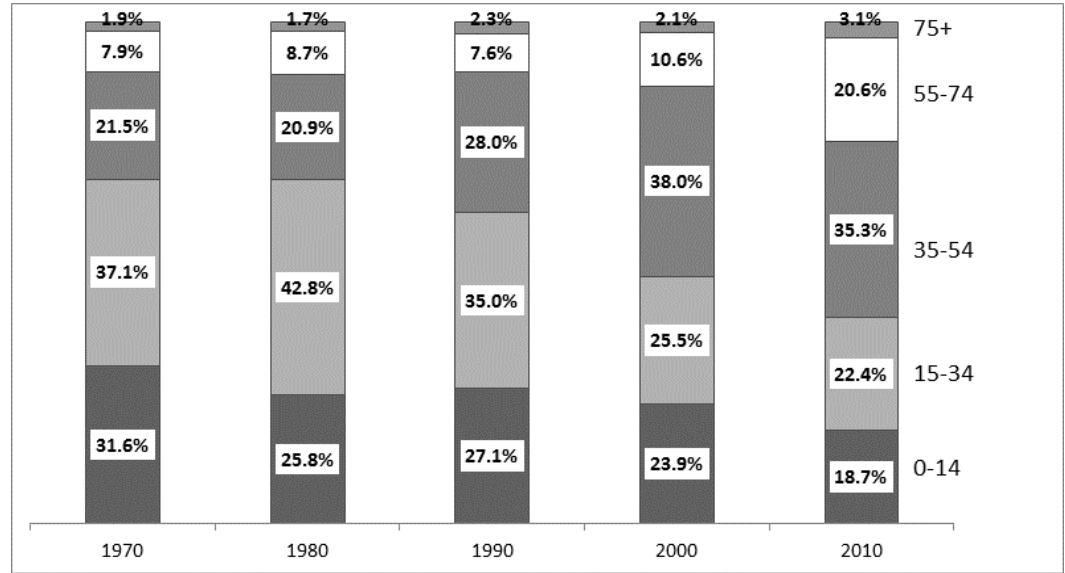
in 1990 to 2.53 in 2010 (US Census, VHFA VT Housing Data, [www.housingdata.org](http://www.housingdata.org)).

Planning for the needs of an aging population is a challenge that the Town has not yet fully embraced. Key areas to address include: affordable and accessible independent living/housing, assisted living, home health assistance, additional pedestrian infrastructure (sidewalks, crosswalks, etc.) for access to services in the village area, improved public/community transit options, public and commercial building accessibility improvements, community services, and age-appropriate recreational programs.

### Income

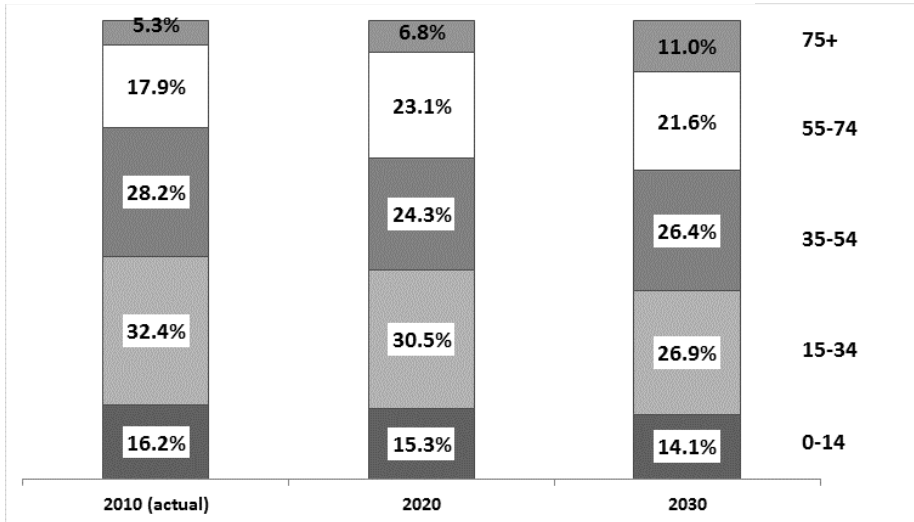
Hinesburg's median household income in 2014 was \$61,489 (US Census, American Community Survey 5-year estimate 2010-2014). As shown in the figure, this is considerably lower than most Chittenden County municipalities (14th of 17, not including Buels Gore) and

**Hinesburg Population by Age, 1970-2010**



Source: VT ACCD (Jones & Schwarz, 2013)

**Chittenden County Population by Age, 2010-2030**



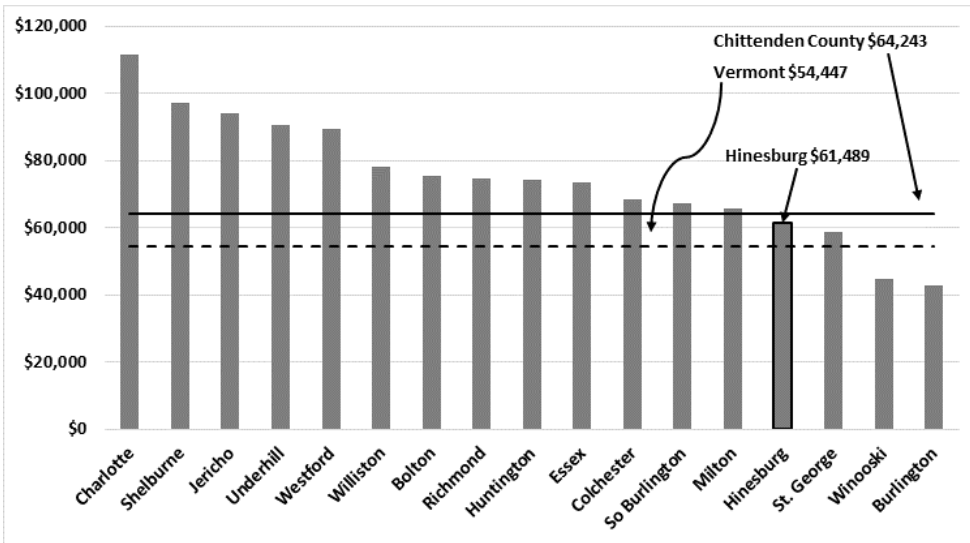
Source: VT ACCD (Jones & Schwarz, 2013)



lower than the county median of \$64,243. With the exception of St. George, Hinesburg’s median household income is well below that of all of the surrounding towns including Monkton (\$76,429, 2014) and Starksboro (\$64,375, 2014) in Addison County. This income gap translates to poverty levels with Hinesburg having the 5th highest percent of households earning below the federal poverty level in Chittenden County. The poverty level is most stark for children and families with children. Overall, the poverty rate was approximately 5% for all Hinesburg households; however, this rate doubles to nearly 10% for Hinesburg families with children under 18. These poverty rates are more than double Hinesburg’s poverty rates reported in the 2000 Census – 2.3% for all families, 4.1% for families with children under 18. The federal definition of poverty considers income and family/household size. The poverty level for a family of four in 2014 was \$23,850 (from ASPE, US Dept of Health & Human Services - <https://aspe.hhs.gov/2014-poverty-guidelines>).

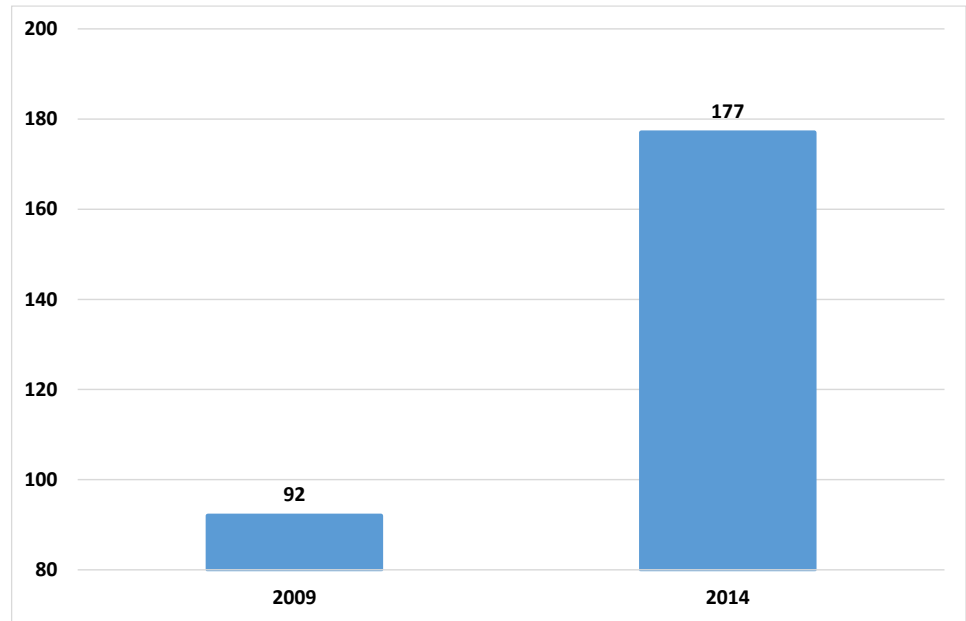
The number of Hinesburg households receiving Supplemental Nutrition Assistance Program (SNAP, 3Squares program in VT, formerly Food Stamps) has risen dramatically since 2009. This trend roughly tracks the statewide increase in households receiving SNAP benefits, especially since the recession in 2008. Regardless of assistance programs, food insecurity (the inability to afford enough healthy food due to financial constraints) is a very real issue. In 2015, Hunger Free Vermont reported that one in seven children in the county are food insecure, and 29% of grade school and high school students are eligible for free or reduced-price meals.

**Median Household Income, 2014**



Source: Census – American Community Survey 2014 5-year estimate

**Hinesburg Households Receiving SNAP – Supplemental Nutrition Assistance Program, 2009 & 2014**



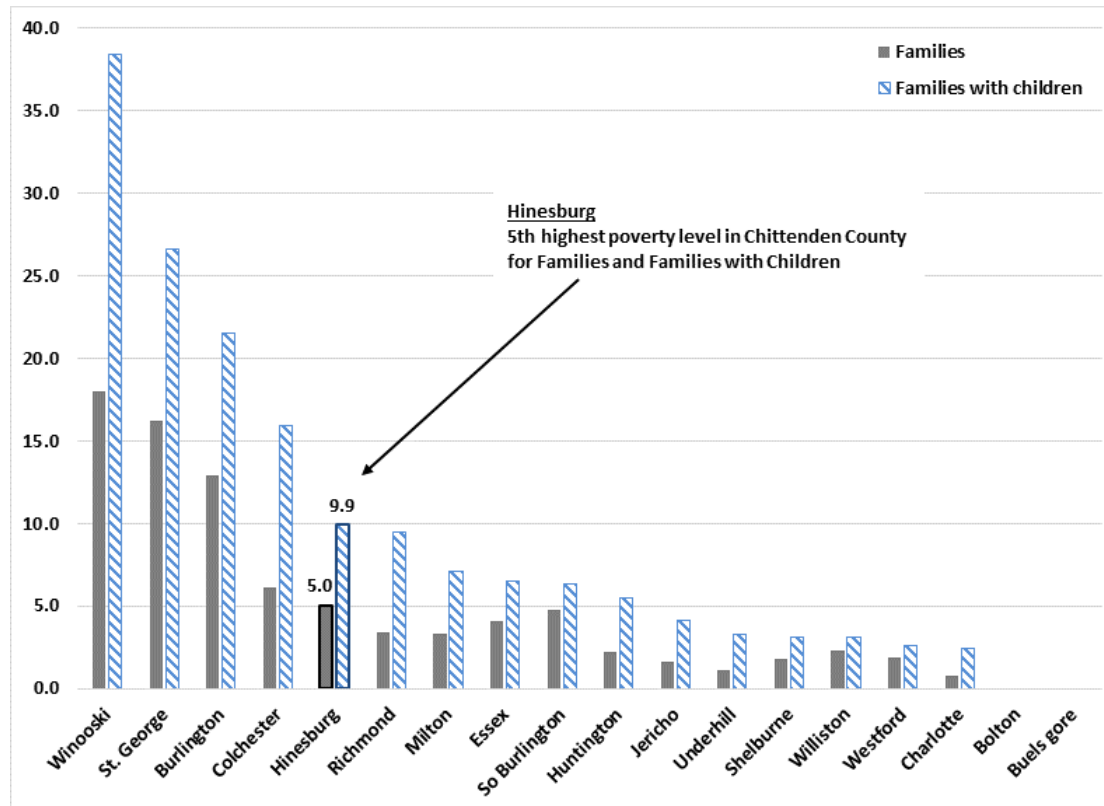
Source: Census – American Community Survey 5-year estimates

# 1 in 8 residents are food insecure

12% of individuals in Chittenden County face food insecurity – i.e., 19,000 of our neighbors struggle to afford the food they need to be healthy.

(Food Insecurity in Chittenden County, 2014, VT Department of Health)

**Percent of Families Below Poverty Level, 2014**



Source: Census – American Community Survey 2014 5-year estimate

## ***Housing Goals***

### ***Goal 2.1 Encourage affordable, senior, and reasonably priced housing including accessible housing for the disabled.***

Actions:

- 2.1.1 Create affordable housing that satisfies demands in the Housing Needs Assessment for Hinesburg.
- Top Priority** 2.1.2 **Support affordable, senior, and reasonably priced housing town-wide within existing density allowances, with emphasis on higher densities of such housing in the Village Growth Area.**
- 2.1.3 Encourage affordable and reasonably priced housing where suitable infrastructure exists or can be provided, while giving due consideration to important natural resources. Housing should not be encouraged in the Shoreline district due to its existing high residential density and environmental sensitivity.
- Top Priority** 2.1.4 **Facilitate public/private partnerships for the creation of affordable, senior, and reasonably priced housing, as well as the upgrading and rehabilitation of existing housing, through State and Federal grants, partnerships with non-profit organizations, or similar means.**
- 2.1.5 Identify properties (including Town-owned properties) that could be developed with affordable housing units, and identify funding that could assist a developer to build affordable units. Note that an affordable housing project could be as small as one Habitat for Humanity home or as large as what would be feasible for a non-profit or for-profit developer to have the project be economically viable with housing that remains permanently affordable.
- 2.1.6 Preserve the affordability of the existing housing stock by encouraging rehabilitation, restoration and weatherization.

### ***Goal 2.2 Use infrastructure to encourage a mixture of housing types and mixed use development within the Village Growth Area.***

Actions:

- 2.2.1 Promote the establishment of affordable rental and owner-occupied housing within the Village Growth Area through the Town sewer allocation policy.
- 2.2.2 Use sewer and water allocations to encourage a mixture of housing types and mixed-use developments within the service area.
- 2.2.3 Consider supporting financial efforts to establish a cooperative mobile home park through either the creation of a new park or the conversion of an existing park.

### ***Goal 2.3 Encourage continued affordability and to improve livability in mobile home parks.***

Actions:

- 2.3.1 Modify zoning regulations for existing mobile home parks by permitting density bonuses in consideration of corrections to long-term deficiencies such as the lack of open space and play areas.
- 2.3.2 Consider whether similar modifications should apply to the creation of new mobile home parks.

**Goal 2.4 Use zoning and development review to support housing goals.**

Actions:

- 2.4.1 Review and implement means of streamlining the development review process as a way of reducing housing costs. Remove unnecessary barriers to well planned housing projects.
  - 2.4.2 Establish guidelines on the type and amount of amenities that must be provided in new housing developments to address quality of life issues.
  - 2.4.3 Encourage the maximum development of projects in the Village Growth Area with sensitivity to phasing and infrastructure limits.
  - 2.4.4 Encourage housing developments that have a mix of market prices to create developments that serve a variety of income classes.
- 

**Housing Supply & Affordability**

Hinesburg has had a diversity of housing opportunities, a fact that is reflected in the wide social and economic range of its population. Housing trends in recent years, however, have begun to narrow the diversity of housing available, not only in Hinesburg but throughout the county. The rapid inflation of property values both in Vermont and throughout the nation during the real estate boom between 2000-2007 exacerbated this, making even more homes (new and existing) unaffordable. Even during the recessionary period we experienced between 2008-2011, housing prices did not drop significantly in Vermont or Hinesburg. This trend can have a substantial impact on the diversity of the Town's population, the continuity of residents from one generation to the next, and the ability of local employees and employers to live and work in Hinesburg.

The dispersal of housing in Hinesburg reflects the Town's historical pattern of both small settlements clustered around the streams and ponds that provided the focus for the Town's early economic development and the scattered dwellings of the numerous farms. During the population expansion and building boom between 1960 and 2000, this pattern was augmented by more suburban character of large lots spread widely through all parts of Town. Since 2000, housing development has slowed a bit with larger projects focused in the village area where municipal water



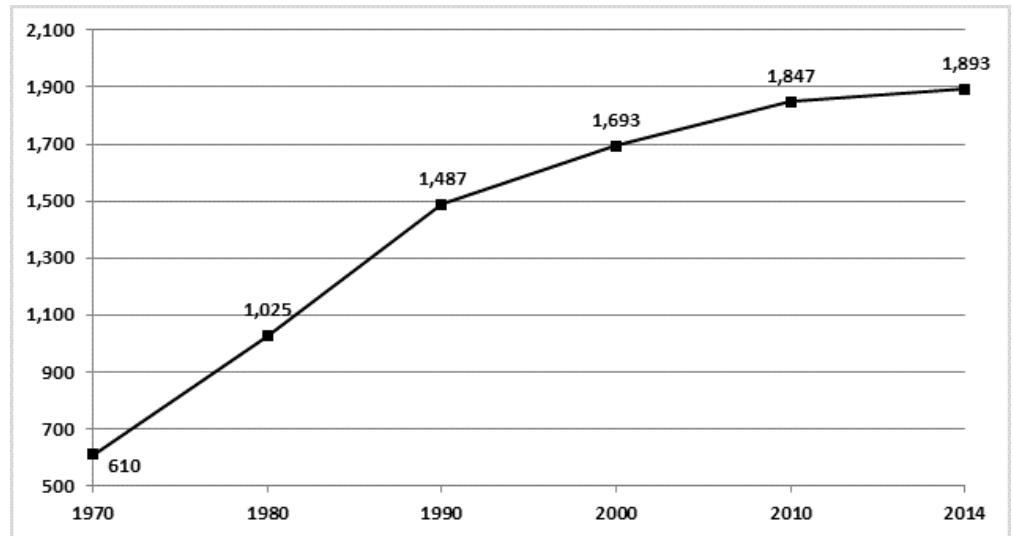
and sewer was available. These patterns are not only changing the Town's historic pattern of development, but also the type and price range of housing available.

According to 2014 Census data (American Community Survey, 5-year estimates), there are 1,893 housing units in Hinesburg. This is an increase of 200 units since 2000. Another metric is the number of building permits issued for new housing units (houses and apartments, including accessory apartments), as tracked by the Planning & Zoning Department. The number of building permits for new housing peaked between 1985 and 1989 with an average of 77 dwelling units per year. The average from 1990-1999 and 2000-2009 were much lower at 19 and 21 dwelling units per year respectively. The most recent six year period (2010-2015) shows a similar average of 19 dwelling units per year.

Housing prices in Hinesburg reflect both the Town's desirability as a bedroom community of the Burlington area and the limitations of various site features. Poor soils for on-site septic disposal, difficulty in finding water in

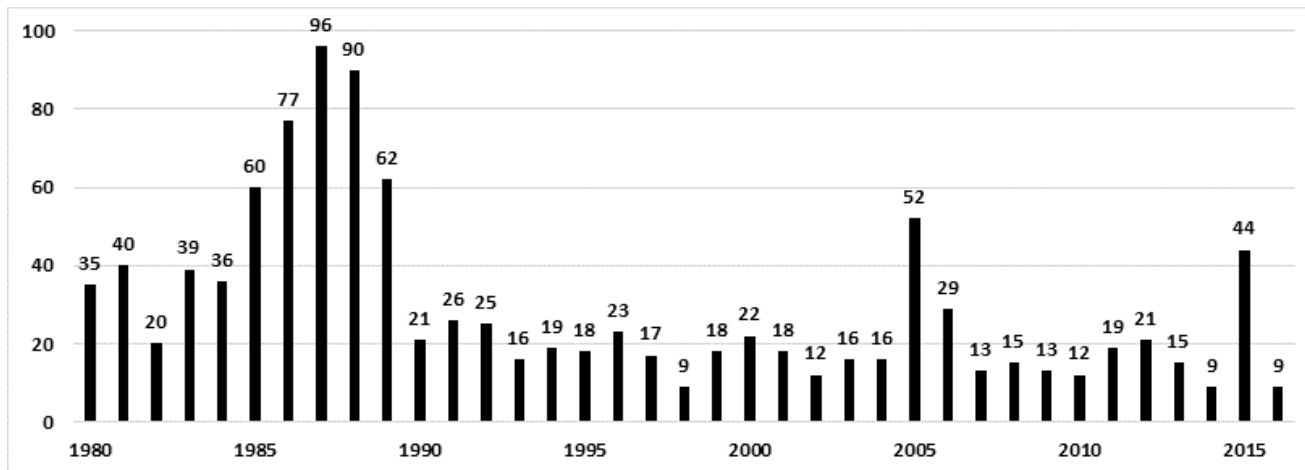
some areas of Town, and large lot patterns of development contribute to the higher costs of housing. According to the VT Housing Finance Agency (VT Housing Data,

**Housing Units, Hinesburg, 1970-2014**



Source: Census – ACS 2014 5-year estimate; VT Housing Data website 1970-2010

**New Dwelling Units, Hinesburg, 1980-2016**

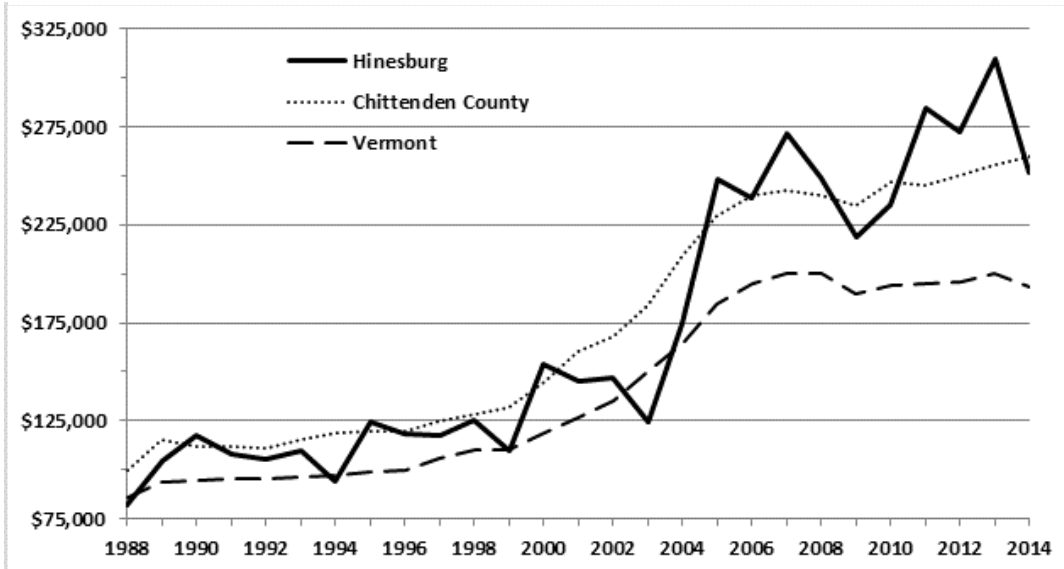


Source: Hinesburg Zoning Administrator, Building Permits Issued



Homeownership Costs, [www.housingdata.org](http://www.housingdata.org)), the median price of primary residences (single-family homes, condominiums, mobile homes with land) sold in Hinesburg was \$252,000 in 2014. This is 3.1% lower than that of Chittenden County and 30.6% higher than the statewide median.

**Primary Residence Median Purchase Price, 1988-2014**



Source: VT Dept. of Taxes – VT Housing Data website (homeownership costs)

Rental units provide an alternative to owned housing for many people. Census data indicates that in 2014, renter occupied housing accounted for about 16.4% of the overall occupied housing units in Hinesburg. This is very close to the average of 16.5% renter occupied housing in Hinesburg over the last 40+ years (1970-2014). The percent of occupied housing in rental is lower in Hinesburg than other communities and the statewide number: Hinesburg (16.4%); Richmond (19.8%); Shelburne (25.3%); Chittenden County (35.2%); Addison County (25.6%); Vermont (29.1%).

US Housing and Urban Development (HUD) rental cost data are at the county rather than municipal level.

There is continuing concern in the State of Vermont about the gap between the amount that families can afford to pay and the actual cost of housing, be it new construction, purchase of an existing home, or rental. According to the State of Vermont definition, housing is affordable when households with incomes at or below the county median pay no more than 30% of their gross income on housing costs (mortgage payments, including principal and interest, insurance and property taxes). For renters, costs include rent and utilities. According to Census data, approximately 33.6% (+/- 10.6%) of Hinesburg homeowners with a mortgage pay 35% or more of their household income toward housing, including taxes, utilities, insurance, etc. (selected monthly owner costs, ACS 5-yr estimate 2011-2015). On the rental side, approximately 42.3% (+/- 26.4%) of Hinesburg renters pay 35% or more of their household income toward housing.



With the 2014 median single-family home sales price of \$288,000 (excluding condos and mobile homes, VT Housing Data, Homeownership Costs, [www.housingdata.org](http://www.housingdata.org)), lower-income families in Hinesburg have few options other than mobile homes, since there are small numbers of suitable rental units and condominiums for families of four or more. The problem is compounded by the scarcity of additional sites for mobile homes within existing parks.



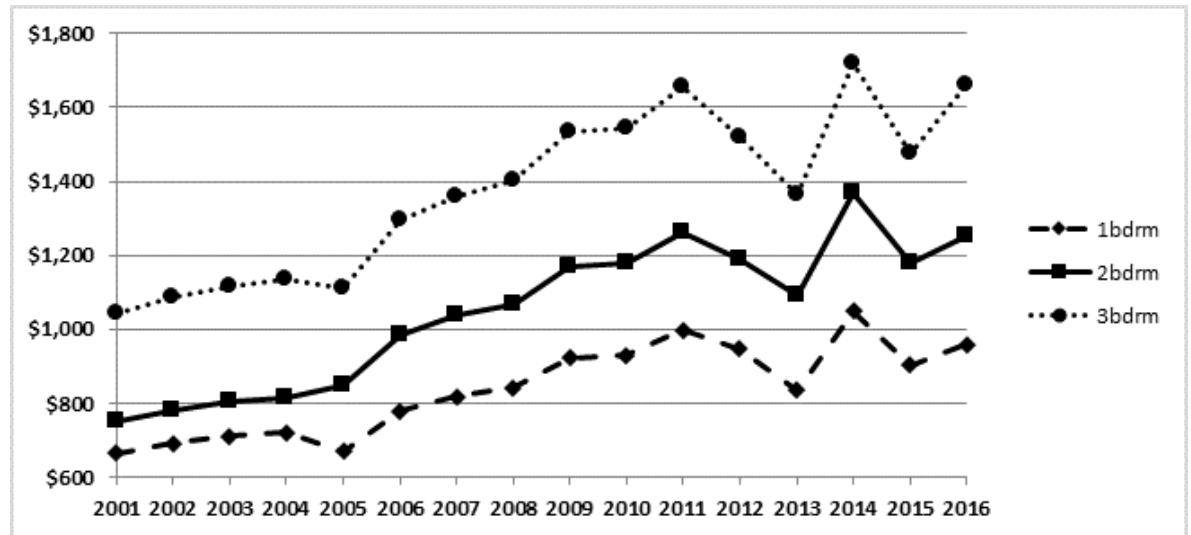
Groups throughout the county and state are involved in seeking solutions to housing shortages and the rising cost

of housing. The Vermont Housing Council annually updates its publication “Between a Rock and a Hard Place: Housing and Wages in Vermont”. Numerous housing statistics are available at the Vermont Housing Data website, [www.housingdata.org](http://www.housingdata.org). In 2010, the Affordable Housing Committee commissioned a Housing Needs Assessment by consultants, John Ryan and Peter Richardson. This study provided data on existing housing and projected future needs. This study needs to be updated given changes in housing stock and the market, as well as the need to incorporate more up to date Census data. With that said, key findings of the study included:

- Hinesburg’s ratio of rental to owner-occupied housing is low relative to other communities and Vermont as a whole.
- At the time of the study, home ownership was almost entirely beyond reach for half of Hinesburg residents, and only about one renter in six could hope to purchase the median priced home.
- Hinesburg’s existing housing stock is a poor match for the physical and social needs of a rapidly growing senior population. Housing is needed that addresses accessibility, maintenance, storage needs, and the financial realities of this part of the community. The initial scale of demand for age-appropriate ownership senior housing is in the range of 25-35 units.
- There is a need to adapt some existing homes to allow for accessibility for residents with mobility impairments.

A range of housing should be available to meet demand at all income levels, including those families earning below the county median income. The Town recognizes that there is a difference between “affordable housing” serving low income families under specific State and Federal criteria, and market rate housing that serves all income levels. In this plan, the term “reasonably priced housing”

**Median Rent, Chittenden County, 2001-2016**



Source: *Housing & Urban Development, VT Housing Data website (rental housing costs)*

means housing with a cost not more than 30 percent of the gross income for a middle income household earning between 80-200 percent of the Burlington metropolitan statistical area (MSA) median income (\$61,763; Census 2013 4-yr ACS). Currently, the Town’s affordable housing definition derives from State and federal definitions of affordable housing (see glossary).

The Town added inclusionary zoning requirements in 2009 to increase housing supply for low or moderate income households. These require a small percentage of perpetually affordable housing in projects seeking to create 10 or more dwelling units in the village growth area. Since 2009, only one perpetually affordable dwelling unit has been constructed pursuant to the inclusionary zoning provision. Three others are included in projects that have received final DRB approval, but have not yet been constructed. More significantly, 21 affordable apartments were recently completed as part of the Green Street project. The Town assisted this project by securing a



\$675,000 Community Development Program grant. Once constructed, the developer (Snyder Homes) sold the project to the Champlain Housing Trust (turn-key project) who will own and manage the property.

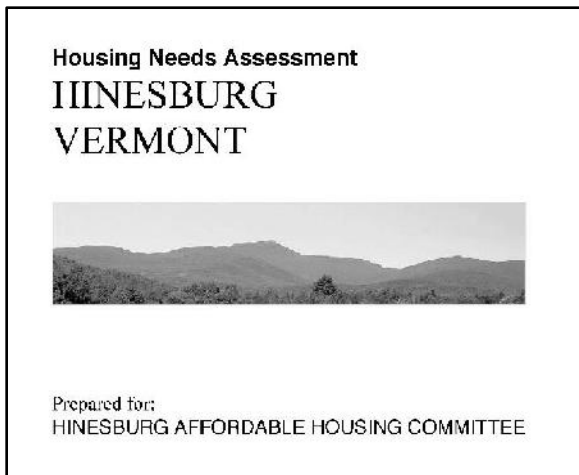
Provision for both reasonably priced and affordable housing is critical given the ongoing housing crunch. The Town intends to examine zoning constraints and other factors that make housing more expensive. In 2006, the Selectboard authorized formation of the Affordable Housing Committee. Its mission, in an advisory capacity to the Selectboard, Planning Commission, Town staff and Development Review Board, is to prioritize plans to increase the availability of affordable housing in Hinesburg. Beyond the provision of new affordable housing, the committee has worked to retain existing affordable housing stock and help make existing housing more affordable – e.g., work with Housing Vermont to support renovations to Kelley’s Field housing; energy audit work and efficiency improvements in Mountain View Mobile Home Park in conjunction with owners and Efficiency Vermont.



*Green Street Ribbon Cutting (9/22/2016)*

## 4,000 owned & 6,000 rental

Chittenden County households paying more than half their incomes for housing expenses.  
(Chittenden County Housing Needs Assessment: An ECOS Analysis Report, 2012, VT Housing Finance Agency)



## Housing Wage: \$26.08

Hourly wage needed for a household to afford a typical two-bedroom apartment  
in Chittenden County in 2016.

(Vermont Housing Data, [www.housingdata.org](http://www.housingdata.org), from Census data)

**Vermont is one of the ten least affordable states for the housing wage in its non-metro area.**

(Vermont’s Housing Profile, 2014, VT Housing Finance Agency)

## Introduction

Hinesburg's existing pattern of land use is defined by diversity, the community's history, and its landforms. Located in the middle of the town, the village area is a clear and distinct center for a wide mix of uses and higher density development. This contrasts with a working landscape of rural areas that make up more than 80% of the town. These rural areas vary greatly from east to west, with forested foothills of the Green Mountains on the east side of town, and Champlain Valley lowlands on the west side typified by a mix of agriculture and smaller blocks of forest. To the northeast of the village is a more rural residential area that stems in large part from development around and near Lake Iroquois and Sunset Lake, as well as Patrick Brook which drains these lakes and served as a power supply for Hinesburg's early industrial history in the 1800's. Added to this mix are two separate industrial areas, one very large area on the south side of town and another smaller area near the outlet of Sunset Lake. Waterways such as Patrick Brook, the LaPlatte River, and Lewis Creek continue to strongly influence Hinesburg's ecology and development patterns.

Map 4 shows the distribution of structures by broad use category – e.g., residential, commercial/industrial, government/community. See Appendix B for a more detailed treatment of Hinesburg's land use history. See Appendix C for information on the current zoning districts (district names, area covered, purpose).



## Village Area

**Goal 3.1** *Guide development so that the Village Growth Area serves as Hinesburg’s primary growth center for a wide array of uses – e.g., residential, commercial, industrial, civic.*

Actions:

- 3.1.1 Investigate existing and optimum development densities as well as the proper balance of commercial, institutional, and residential uses. Consider additional non-retail commercial/industrial uses in the Village Northeast zoning district to compliment currently allowed uses, which still facilitate job creation – e.g., office as a principal use, inn or hotel, etc. Consider a larger size cap for grocery stores in the Village and Village Northwest zoning districts, rather than the existing 20,000 square foot limit applied to all retail uses in these districts.
- 3.1.2 Continue to refine and adjust Hinesburg’s land use regulations, Official Map, capital budget and plan, impact fees, and other municipal tools to implement the Village Growth Area vision while being sensitive to municipal and green infrastructure limitations.**
- 3.1.3 Continue partnering with non-profit and for-profit developers to create affordable and senior housing, especially in higher densities in the Village Growth Area.
- 3.1.4 Encourage the redevelopment of structures that are underutilized. Facilitate landowner access and understanding of State, Federal, and non-governmental incentive programs for structural rehabilitation and historic preservation.
- 3.1.5 Prioritize the Village Growth Area for municipal water and sewer capacity, and ensure suitable reserves for infill and redevelopment projects in the existing village core area.

Top  
Priority

**Goal 3.2** *Reconsider the future land use pattern for the Village Growth Area, and ensure that the pace of growth does not outstrip the capacity of municipal infrastructure. Market forces shall not override the community’s desire for measured, well-planned development.*

Actions:

- 3.2.1 Consider a temporary moratorium on certain types of village area development to allow the community time to assess water and wastewater capacity limitations.
- 3.2.2 Explore a phasing policy and/or annual development limits as part of the land use regulations or water and wastewater ordinances to further the orderly review and build out of larger projects.
- 3.2.3 Consider revisions to the land use regulations to reduce or re-configure zoning districts and/or allowed development densities to reflect municipal and green infrastructure capacities.

**Goal 3.3** *Guide the design of new development to respect Hinesburg’s rural village character and unique sense of place while allowing for up-to-date architectural, engineering, and landscape design.*

Actions:

**Top  
Priority**

- 3.3.1** Create more specific development design standards (site, building, greenspaces) to more clearly articulate the community’s expectations.
- 3.3.2 Consider expanding the role of the Village Steering Committee to provide design review guidance and feedback to developers and the DRB on projects in the Village Growth Area as part of the development review process.
- 3.3.3 Preserve historic streetscape patterns in the existing village core (e.g., “Main Street” section of Route 116). Ensure new development includes vibrant and pedestrian-focused streetscapes.
- 3.3.4 Require new development be designed with public transit access points and supporting pedestrian/bicycle amenities as appropriate, such as bus pull offs along roads, bike racks, benches, etc.
- 3.3.5 Maintain greenspaces within and adjacent to the village area to help provide a distinct village edge. Consider development design standards that include the preservation of greenspace within the village for active use, and at the periphery of the village growth area. Make the conservation of greenspaces (both natural areas and agricultural areas) just outside the village area a priority for conservation.
- 3.3.6 Explore the creation of a new zoning district around the village area with appropriate design standards and/or where clustering of development is encouraged to preserve greenspaces.



## Village

Hinesburg's village area contributes greatly to the essential character of the Town. The village serves as Hinesburg's hub of community activity by providing a rich mix of residential, commercial, municipal, industrial uses. As such, it helps frame the character of the Town by defining a compact built landscape that stands in contrast to the surrounding rural landscape. Pedestrian and bicycle access is fundamental to the sense of the village. Much of the vitality of the village stems from the core of most town services, public institutions and commerce that are within walking distance; thereby making it an appealing place for many, from families with young children to seniors. It is Hinesburg's only growth center, where essential municipal infrastructure (e.g., sewer, water, sidewalks, etc.) are made available to both ensure the public's welfare and to provide for mixed uses at higher densities than the rest of town. Hinesburg's village area is unique in Chittenden County in that it provides not only the typical small-scale commercial uses, but also industrial land use areas (e.g., Cheese Plant businesses, Giroux Body Shop & Metal Fabrication, NRG Systems) that help retain its working character.

The village benefits from many natural areas and the agricultural lands around it. The farmland to the west and north and the conservation lands to the south define the edge of the Village and serve as a visual corridor leading to the Town's center. Other natural features such as Patrick Brook, the LaPlatte River, and the hills to the east serve as important focal points that help define village area. These lands are a source of recreational and work opportunities, and provide contrast and balance to the denser development pattern. Maintaining these greenspaces is important, and should be a conservation priority. Ensuring trail access to these areas is also important (e.g., Russell Family & Thistle Hill trails) to provide village residents with

outdoor recreation and a connection to the rural landscape.

The village is currently comprised of a historic core surrounded by a larger greater village area, which taken together constitute the Village Growth Area. The current village core is centered on the Charlotte Road, VT Route 116 intersection where Lantman's grocery store and the historic Town Hall are located. Essentially it includes the Village Zoning district, the Industrial 3&4 districts, and the Commerce Park portion of the Commercial district (see Map 2, Current Zoning). The greater village area extends primarily northward from the core to include the Village Northwest, Village Northeast, Residential 1, and Ballards Corner Commercial zoning districts. This northern portion of the Village Growth Area includes the Library, a variety of commercial uses at the intersection of Route 116 and Shelburne Falls Road (Ballards Corner), and the historic Mechanicsville Road area. South of the core, the Village Growth Area includes the Residential 2 district that extends just beyond the Route 116, Buck Hill Road West intersection.

With the help of the Village Steering Committee, the Town garnered Village Center Designation from the Vermont Downtown Board in 2006 and renewed in 2011. The designation lapsed in 2016, but will be applied for again in 2017 after the adoption of the new Town Plan (designation area shown on Map 15). This designation area includes the historic and commercial core of the village area. Special benefits available within the designation area include State tax credits for: rehabilitation of historic buildings, building façade improvements, and building code improvements. The State also gives priority consideration to the designation area for various grant programs and when leasing or constructing State facilities. The designation area supports the community's goals by providing a link to



Hinesburg’s history and a principal center for Hinesburg’s continued economic vitality.

### Future Land Use - Village

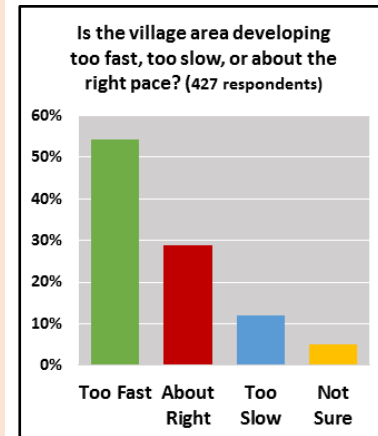
The current zoning configuration of the Village Growth Area was established in 2009 as part of a comprehensive village area zoning revision in keeping with recommendations in the 2005 Town Plan. The size of the overall village area was doubled from 250 to 500 acres, through the creation of expansion areas coincident with the Village Northwest, Village Northeast, Residential 1, and Residential 2 zoning districts. The pace of development for these areas was largely left to market forces with the expectation of master planned projects for several large parcels, and the assumption that development in these expansion areas would likely stretch over 20+ years. After the recession, development interest in Hinesburg’s village area was substantially greater than anticipated. While the pace of new construction has been moderate since 2009, from 2013-2015 four large projects were proposed that represented a nearly complete build out of expansion areas in four zoning districts (VG, VG-NW, VG-NE, R-2). These four projects proposed new development totaling 413 dwelling units, 56 units of congregate senior housing, 137,000 square feet of commercial/office space, and 105,000 square feet of light industrial space. One of these projects (24 dwelling units, R-2 district) was approved, but the future of the three larger projects remains uncertain due to municipal water and wastewater limitations.

This burst of development proposals over a short period time laid bare two important constraints to the growth envisioned in the 2005 Town Plan. First, the community’s discomfort and concern about the speed and design of village area development. In a 2014 community survey, 54% of respondents indicated that the village area was developing too fast versus 41% who responded “too slow”

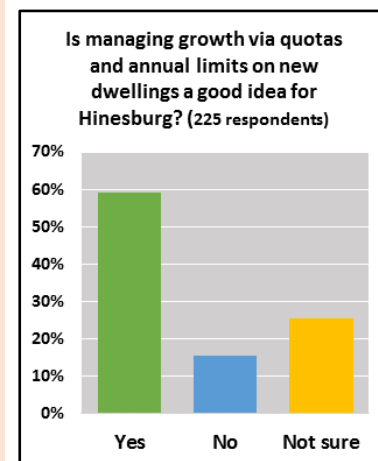
or “about right” (427 total respondents). Another question asked for reaction to several recent and proposed developments. In most cases, respondents reacted positively; however, the reaction to “recent housing developments in the village area” was decidedly negative (46% negative vs. 35% positive; 422 respondents). Community concern about the future was apparent in other more general survey responses – Question #4, Is Hinesburg prepared for the challenges it will face in the next 5-10 years? 48% said no, and only 13% said yes (432 respondents); Question #1, Do you feel Hinesburg is headed in a positive direction? 33% said no, 36% said yes, 31% were not sure. A follow up survey in 2015 confirmed a desire to exert more control over the pace of development. When asked how the Town should manage growth and development, the top three answers were: 1) revise/improve regulations; 2) limit how much development is allowed per year; 3) enact a temporary 2-3 year moratorium on village area development. A majority of respondents also expressed support for quotas and annual limits on the number of new dwellings to manage growth – 59% in support, 16% against, 25% unsure (225 respondents).

The second constraint made plain was the limitation of the municipal water and sewer systems, in particular the future capacity of the wastewater treatment facility. Although the current sewer system has substantial treatment capacity remaining, there isn’t enough to accommodate the combined flows from the three large project proposals. More importantly, recent phosphorous reduction requirements formalized by the State of VT and the US Environmental Protection Agency as part of the Lake Champlain cleanup effort call into question the Town’s ability to increase capacity. When the Town upgraded the wastewater treatment facility in 2010, it projected that capacity could easily be increased in the future by over 20% when needed - from 250,000 gallons per day to

2014 Survey – Question 6



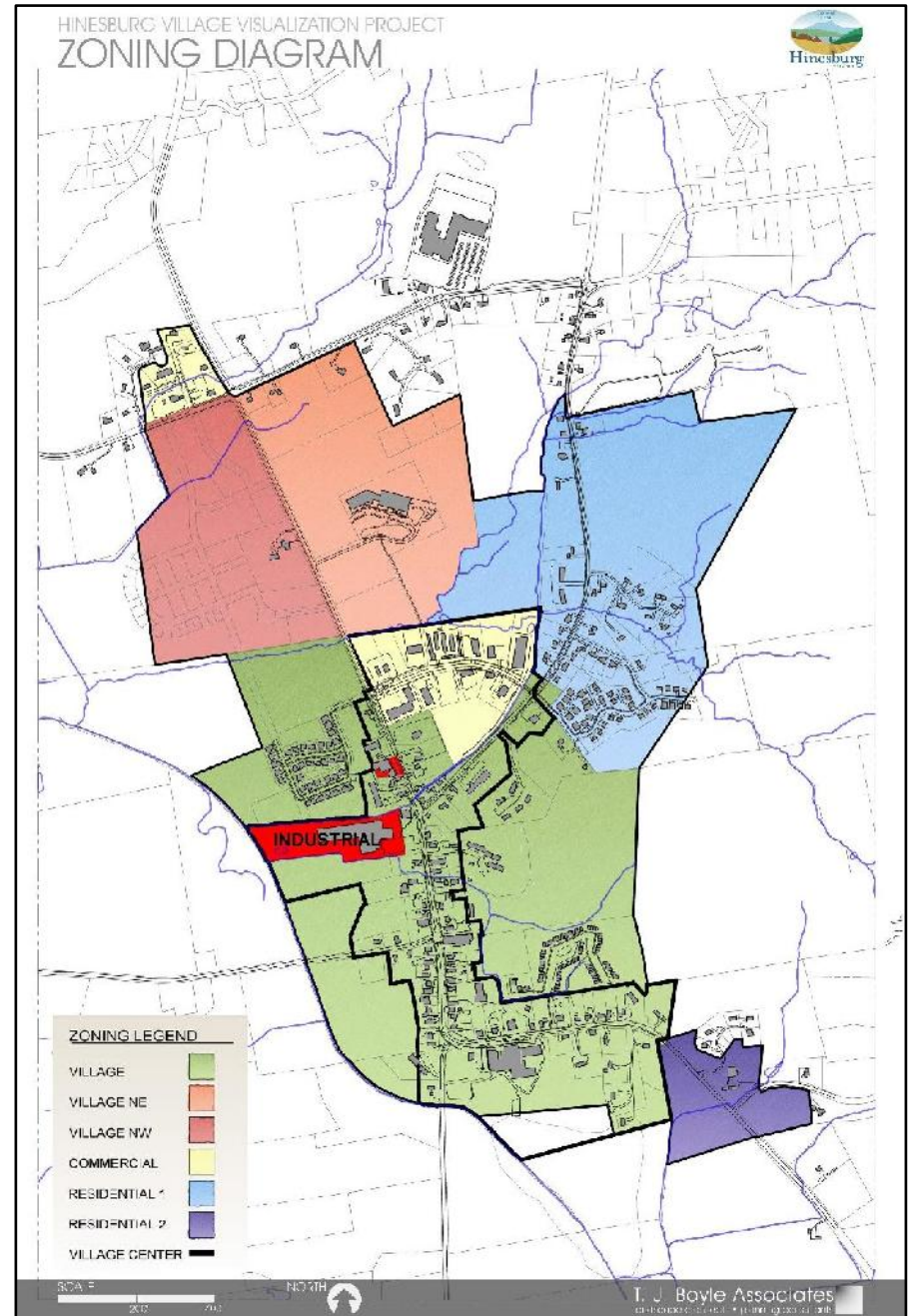
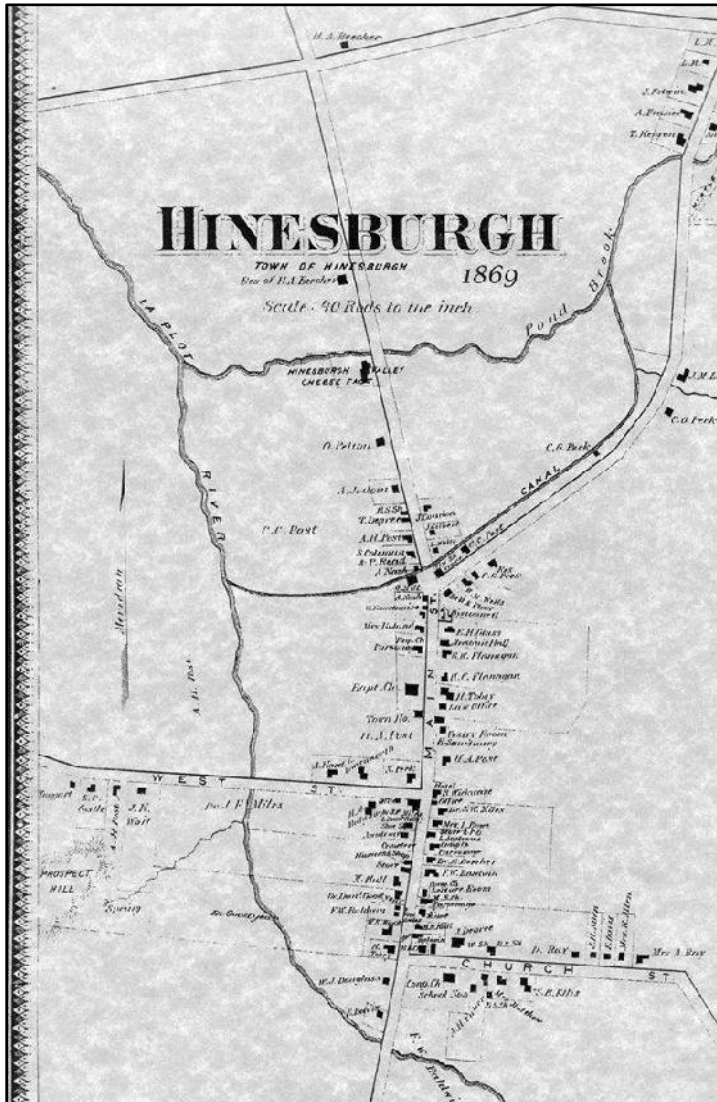
2015 Survey – Question 2







**Hinesburg's Village Area  
then (1869) and now (2013)**



## Rural Areas

### **Goal 3.4** *Preserve the working landscape and the rural character of Hinesburg.*

Actions:

- 3.4.1 Assess and revise the zoning for the rural portions of the Rural Residential 1 zoning district to reinforce the rural character of these areas – particularly the northern and southern portions of the district.
- Top Priority** 3.4.2 **Guide development so as to minimize impacts on agricultural and forestry operations, retain tax abatement program eligibility, and reduce conflicts between agriculture/forestry and other land uses.**
- 3.4.3 Direct development in agricultural and forest areas to land that is less suitable for agricultural or forestry due to poor soils, slopes and other property size, location or access constraints.
- 3.4.4 Ensure the creation and preservation of access and proper rights of way to preserve the long term viability of agricultural and forest lands.
- Top Priority** 3.4.5 **Direct development to avoid primary resource areas including: wetlands; flood hazard areas; steep slopes of 25% or greater; surface waters and setback area; rare, threatened and endangered species locations and significant natural communities. See chapter 5 for discussion of these resources.**
- Top Priority** 3.4.6 **Direct development to minimize impacts on secondary resource areas including: moderately steep slopes between 15-25%; prime and statewide agricultural soils; core wildlife habitat and wildlife corridors; deer wintering areas; important cultural features (e.g., historic structures, stone walls). See chapter 5 for discussion of these resources.**
- 3.4.7 Plan subdivision of lands to minimize the fragmentation of forest land.
- 3.4.8 Explore zoning techniques for the preservation of Hinesburg’s forest resources – e.g., a separate forest district, overlay districts for important forest lands, design standards for forest preservation.

### **Goal 3.5** *Monitor the Town’s progress in implementing the rural area vision outlined in this plan.*

Actions:

- 3.5.1 Conduct natural resource and wildlife habitat inventories for public use, and for use by the DRB in the development review process.
- 3.5.2 Develop and maintain a set of indicators as a measure of rural development patterns (e.g. annual, bi-annual or every five years).
- 3.5.3 Implement a periodic review of Hinesburg’s development activity with the DRB to assess the practical implementation of land use regulations and to address any inadequacies or misinterpretations.

## Rural Areas

A working landscape of agriculture, forestry, and greenspaces with low density residential use typifies over 80% of Hinesburg. The rural areas are comprised of the agricultural lands with interspersed woodlands west of Route 116 (AG district), the forested hillsides east of Richmond Road, North Road, and Route 116 (RR-2 district), as well as the wooded and largely undeveloped northern portion of town near Mt. Pritchard (portion of RR-1 district). The Agricultural and Rural Residential 2 districts have by far the lowest residential development density of any zoning district – AG, approximately one dwelling unit per 30 acres; RR-2, approximately one dwelling unit per 28 acres. Certain small neighborhoods have higher densities of one dwelling per 10-12 acres, but these are few in number and are not the dominant land use.

Hinesburg’s rural character and unique sense of place depend on the separation and lower development densities provided by greenspace and rural vistas of these areas. Private and public farmland and forests are important assets to the Town for their capacity to support a local economy and as natural infrastructure for ensuring water and air quality, wildlife habitat, aesthetics, recreation, and education.

***Preserving rural character and a working farm and forest economy is paramount in this largest portion of Hinesburg.***

What is Hinesburg’s rural character? In the rural areas of town, it is a landscape where forests, farmland, and other greenspaces predominate. These greenspaces and working lands form the context within which limited development is part of the surroundings rather than the dominant land

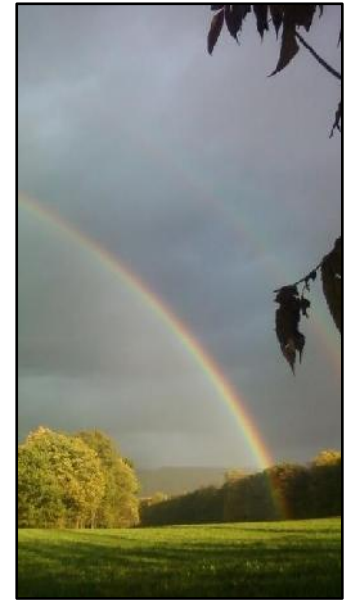
use. This requires careful balancing of growth and development, land conservation, economic vitality, and resource stewardship. This is especially true in Hinesburg given the proximity to the Burlington metropolitan area, and Chittenden County’s continued growth. Some of the pressures include increased land valuation, property tax burden, growth in surrounding towns, and a shift away from land intensive dairy farming that served as the dominant agricultural use for much of the 20th century.

### Future Land Use – Rural

A comprehensive package of rural zoning revisions was adopted by the Selectboard and affirmed by voters in 2013 after five years of concentrated work by the Planning Commission that followed decades of debate and discussion. These changes had three basic objectives:

- Provide rural area landowners with more land use options by expanding the types of uses allowed in the Agricultural and Rural Residential 2 zoning districts.
- Clarify and improve rural area development design standards to make sure important natural resources are better defined by the Town, and considered early in the design process.
- Define how much residential development is allowed via an objective formula, and allow for smaller lot sizes to increase flexibility when creating new subdivisions.

It will likely take five or more years to assess the impact of these changes, even as minor revisions and fine tuning are done on an ongoing basis. One anticipated zoning change is the reassessment and likely splitting of the RR-1 district to better recognize that the northern portion (south of Mt. Pritchard) is really part of the rural areas (similar to the RR-2 district) as opposed to being a rural residential area. The southern portion of the RR-1 district may also be reassigned to a new or existing zoning district (e.g., AG



district) given how different it is from the core of the RR-1 district along Richmond Road.

### Rural Residential Area

North and east of the village is the rural residential area. Residential development dominates much of this area with higher densities along the Richmond Road corridor and lower densities elsewhere. This part of town is home to several larger neighborhoods such as Aube Ridge Road, Partridge Hill, and Birchwood Drive (“Sunny Acres”), as well as two of Hinesburg’s three mobile home parks (Triple L and Mountain View). The Richmond Road and Pond Brook Road sections also serve as gateways to densely settled areas around Lake Iroquois and Sunset Lake (see shoreline area below). Although not part of the Town’s growth area, portions of the rural residential area are served by municipal water and sewer, particularly along the western portion of the Richmond Road corridor. Largely the result of historical development patterns, the existing residential land use and topography clearly distinguish most of this area from the more rural forested hillsides to the east. The land south of Richmond Road to the Route 116, North Road intersection is less developed and lacks access municipal water and sewer. This area has clusters of residential development, but also has larger parcels with substantial undeveloped forest.

Beyond the areas described above, the rural residential area also includes a large portion of the CVU Road corridor (including Champlain Valley Union High School) and land and neighborhoods east of Route 116 near Place Road and Billings Farm Road. Although currently included in the RR-1 zoning district, the rural residential land use area doesn’t include the wooded and largely undeveloped northern portion of town near Mt. Pritchard. This area is more similar to the Rural Residential 2 district, and is in need of rezoning to recognize its development constraints and the

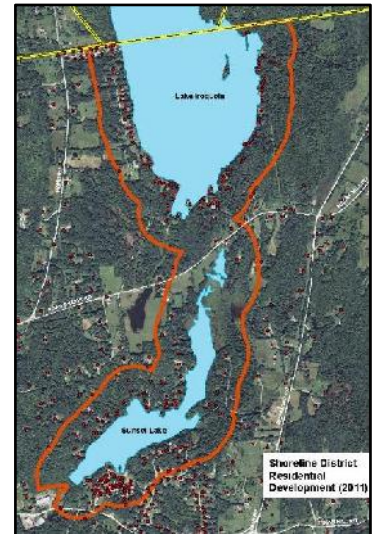
importance of keeping its natural features intact. The Planning Commission has also discussed the southern portion of the RR-1 district, and it may also warrant re-districting.

### Future Land Use – Rural Residential

Continued residential development is anticipated; however, this will likely be limited to smaller projects due to municipal water and sewer capacity issues. Clarifications to allowed uses and development densities are needed, similar to the analysis done for the rural areas. As noted above, zoning for both the northern and southern portions of the RR-1 district also need to be reassessed given how different these areas are from the more densely settled central portion of the district.

### Shoreline Area

The areas around Lake Iroquois and Sunset Lake are densely settled with a mixture of year round homes and seasonal camps. Development density here is second only to the village growth area – Shoreline zoning district, approximately 2.2 acres per dwelling (calculated from E911 and parcel data). Around Lake Iroquois, many year round homes were originally built as camps, and later were improved. Seasonal camps still predominate on east side of Lake Iroquois (e.g., along East Shore Road). With frontage on the lake a premium, and most lots created prior to the advent of zoning regulations and wastewater regulations, parcel sizes tend to be small and development density highest along the waterfront. This is in sharp contrast to the northern portion of Lake Iroquois that lies in Williston, which is far less developed. Lake Iroquois also serves as a public recreation resource with a State fishing access on the northwest side in Williston, and a municipally operated (four town collaborative) public beach and trail system on 150 acres at the northern end, also in Williston.



Sunset Lake is a smaller and shallower lake with less recreational use and no developed public access. Residential uses around Sunset Lake tend to be more year round than Lake Iroquois, including three sizable neighborhoods – Sunset Lane (East and West) on the northwestern shore, Birchwood Drive on the southeast shore, and the Sunset Villa mobile home park (Jourdan Street) on the south shore. There is some agricultural land use along the stream that connects the two lakes. Otherwise, residential uses predominate with no commercial or industrial uses except for the Industrial 2 zoning district (currently home to Iroquois Manufacturing) that sits just downstream of the Sunset Lake water control structure. With the exception of the west and southwest shoreline area of Lake Iroquois, most of the residential lots around both lakes retain substantial tree cover; however, there is little to no conserved land or dedicated greenspaces.

**Future Land Use - Shoreline**

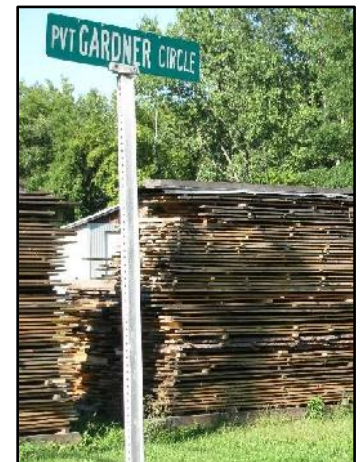
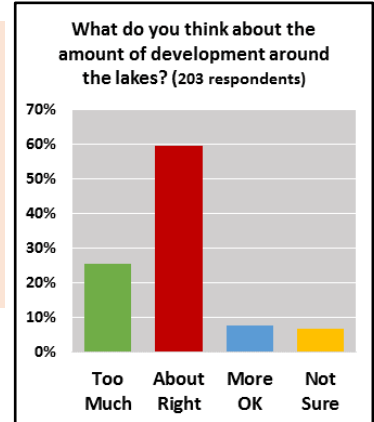
The shoreline area is largely built out. Subdivision and development of new lots is not expected nor encouraged. Future development will primarily be redevelopment of existing properties – e.g., demolition and reconstruction, home expansion and improvement, and camp conversions to year-round homes. Improving the water quality of Lake Iroquois, Sunset Lake, and downstream to Lake Champlain is a significant challenge. In a 2013 community survey, 74% of 202 respondents favored tying expansion of structures close to the shoreline to required improvements to help lake water quality – e.g., vegetation plantings, stormwater treatment, etc. In conjunction with the survey, the Planning Commission has discussed a variety of possible zoning changes to better ensure water quality and the health of the lakes. One idea is the creation of a lake watershed overlay district to extend design standards (e.g., erosion control, driveway specifications, etc.) and

protections beyond the immediate shoreline to all the areas that drain to the lakes. Modifying the boundaries of the Shoreline zoning district has also been discussed. The Shoreland Protection Act enacted in July 2014 created a State permit process to regulate development within 250 feet of lake shorelines. Any revisions to Hinesburg’s shoreline land use area and regulations should be carefully dovetailed with the State’s regulations.

**Industrial Areas**

Beyond the industrial and mixed-use portions of the village growth area, there are two other distinct industrial areas in Hinesburg. As noted above, the first is a small industrial area south of Sunset Lake (Industrial 2 zoning district, 8.8 acres) where Iroquois Manufacturing is currently located. The location of this area is tied to Hinesburg’s early history of industrial uses that relied on water power from the lakes that flowed along Patrick Brook. That history included a whole host of mills from the upper reaches of Patrick Brook south to the Town Cemetery – an area that retains the place name Mechanicsville, with a Town road of the same name. Although the mills of Mechanicsville are long gone, the Industrial 2 zoning district retains some of that history thanks in large part to the success of Iroquois Manufacturing, which has been in operation since 1925. This industrial area is largely built out with large buildings on both the north and south sides of Richmond Road.

By contrast, the other industrial area is extremely large (459 acres), and is located at the southern end of Hinesburg on the east side of Route 116 around the Hollow Road intersection. The Industrial 1 zoning district is currently home to several businesses such as Hinesburg Sand and Gravel, Clifford Lumber, VT Well & Pump, as well as a State of Vermont gravel pit. With a cluster of businesses north of Hollow Road around Clifford Lumber, the bulk of the industrial area is south of Hollow Road and



is dominated by Hinesburg Sand and Gravel's operation. This extraction and processing facility actively utilizes about a third of the zoning district (over 150 acres). With that said, south of the gravel operation, approximately 170 acres of this industrial district remains undeveloped – much of this area previously used by the owner for an elk farm.

Current zoning does not allow residential uses in any of the industrial zoning districts; however, the Industrial 1 district does have approximately 10 residential lots with pre-existing non-conforming single-family homes, most along the Hollow Road.

#### Future Land Use - Industrial

No major changes to the development pattern of the industrial areas are anticipated in the near term. As noted above, a large area in the southern portion of the Industrial 1 zoning district is undeveloped and has excellent development potential. Thanks to well drained soils, septic capacity is likely not an issue even though this area is not served by the municipal sewer system. The lack of 3-phase power is a real constraint, one that has been highlighted in Town Plans going back decades. Creating more industrial activity here will likely depend on Green Mountain Power finally making this 3-phase power connection (2016 GMP cost estimate of \$194,000), along with the landowner's willingness to entertain development south of the Hinesburg Sand and Gravel operation. Zoning changes may be warranted to help facilitate development, once the two factors above play out.

#### Flood Hazard and Fluvial Erosion Hazard Areas

Overlaid on top of the five land use areas described above are flood hazard areas associated with Hinesburg's lakes, rivers, and some streams. Underlying land uses in these areas are more limited because of the potential hazards to

private property, public and private infrastructure, and public safety. Hazards can include both inundation from flooding and catastrophic streambank erosion and realignment. The extent of these hazard areas are delineated by the Federal Emergency Management Agency through the National Flood Insurance Program maps, as well as the VT Agency of Natural Resources. Development in these areas is discouraged, but certain types of development can be allowed when necessary and when specific design standards are met to minimize the potential for loss and to prevent undue adverse impacts to the environment, surrounding properties, and infrastructure. These areas are described in detail in the natural resources chapter of the plan and depicted on Map 7 (Wetlands and Flood Hazard Areas).

#### Future Land Use – Flood Hazard

No major land use changes are anticipated for the flood hazard areas. In general, very little additional development is anticipated in these areas. The exception is likely to be a small area on the northwest side of the existing village core. Build out of the Village zoning district and establishing a road and pedestrian connection to future recreation fields and development to the north (in the Village Northwest zoning district) will have limited impacts on the Patrick Brook flood hazard area.



# Economic Development

# Chapter 4

## Introduction

Availability of local services and job opportunities are important issues for town residents. Historically, Hinesburg's economy was varied and included a sizeable industrial base. Since the decline of the mills and early 20th century industries, Hinesburg's local economy has evolved – retaining a small but important industrial base while expanding retail and service sectors. See Appendix B for more about Hinesburg's commercial/industrial history. Hinesburg is currently home to a diverse business community, with most retail and service establishments located in the village area. In addition to the typically widespread services (e.g., roads, electricity, phone), the following services and infrastructure are available to support economic vitality in Hinesburg:

- Town water and sewer - serving more than 500 business/residences
- Town Police Department and Fire Department
- Public transportation - through the regional providers, Green Mountain Transit (GMT) & Addison County Transit Resources (ACTR).
- Village-area sidewalk system and a network of rural trails
- DSL internet – town-wide coverage by Green Mountain Access
- Cable and high speed cable internet – partial coverage by Comcast
- Extensive cell service coverage from multiple carriers

See Appendix D for a detailed list of goals and action items crafted by the Economic Development Committee. The

goals and actions in this chapter are derived from that longer list by the Planning Commission.





**Goal 4.1** *Maintain and bolster a thriving mixed use, village center, with a balance between residential, commercial, retail and industrial uses.*

Actions:

- 4.1.1 Manage the Town’s revolving loan fund to support both rural and village-based businesses.
- 4.1.2 Inventory existing businesses and vacant commercial spaces.
- 4.1.3 Research the demand for and feasibility of a small business incubator space/co-working space.
- 4.1.4 Share stories about Hinesburg’s successes and assets.
- 4.1.5 Work with existing businesses to bring complementary companies to Hinesburg, especially locally-based businesses in the following three sectors: renewable energy, value-added food and wood products, light manufacturing.

**Goal 4.2** *Provide the essential physical and telecommunications infrastructure as well as community support services required to sustain a vibrant business community.*

Actions:

- Top Priority**
- 4.2.1 Provide necessary facilities and services to support commercial and industrial development – e.g., municipal water and sewer, roads, sidewalks, stormwater infrastructure (especially for redevelopment and in-fill areas), etc.**
  - 4.2.2 Connect small and medium sized local business owners with technical assistance, training and financial assistance.
  - 4.2.3 Improve pedestrian walkways and vehicular traffic flow to help current and future businesses attract and retain customers.
  - 4.2.4 Encourage telecommunication providers (e.g., Champlain Valley Telecom Green Mountain Access, Comcast, etc.) to provide higher speed internet infrastructure that meets the FCC broadband definition – e.g., minimum 25 mbps download speed; 3 mbps upload speed.

**Goal 4.3** *Support economic vitality in non-village industrial districts as well as rural and residential districts to sustain Hinesburg’s rural character and natural assets.*

Actions:

- 4.3.1 Assist with the Current Use program (enrollment, retention, etc.).
- 4.3.2 Encourage development of local food based commercial businesses.
- 4.3.3 Recreation/tourism – target and encourage start-up of recreation related businesses, and promote trail systems.
- 4.3.4 Continue working with Green Mountain Power, landowners, and businesses to encourage the provision of 3-phase power to the Industrial 1 zoning district.

4.3.5 Review zoning regulations for contractor yards with a goal of developing performance standards that would allow the separation distances to be reduced to facilitate the review/approval of new yards that are compatible with the surroundings.

### Village Center

A thriving multi-use village center strengthens Hinesburg’s community and public revenue, while increasing conveniences and quality of life. It provides residents the ability to work, live, and engage in commerce in their community. Route 116 is an asset that brings people to the village center to bolster economic activity. Village development most beneficial to economic vitality is welcoming, compact, walkable, bike friendly, providing for a mix of services, including green spaces for public gathering, access to public transportation, and parking options.

### Rural Character and Natural Assets

Hinesburg’s natural resource -based business sector is well positioned to take advantage of Vermont’s recent agricultural and forest products renaissance. Hinesburg’s emphasis on the working lands is consistent with and builds on several statewide and regional economic development initiatives including: the Vermont Working Lands Enterprise initiative, the Vermont Farm to Plate initiative, the Vermont Comprehensive Economic Development Strategy (2014-2020), the Chittenden County Comprehensive Economic Development Strategy (CEDS), and the Chittenden County ECOS plan.

Hinesburg's natural assets support the overall health, happiness, and economic prosperity of our community. These assets include prime agricultural land, sand and gravel reserves, forests, streams, and wetlands. Hinesburg's natural resources should be preserved for the community, as well as utilized sustainably to grow wealth for current and future generations. Support for local food-

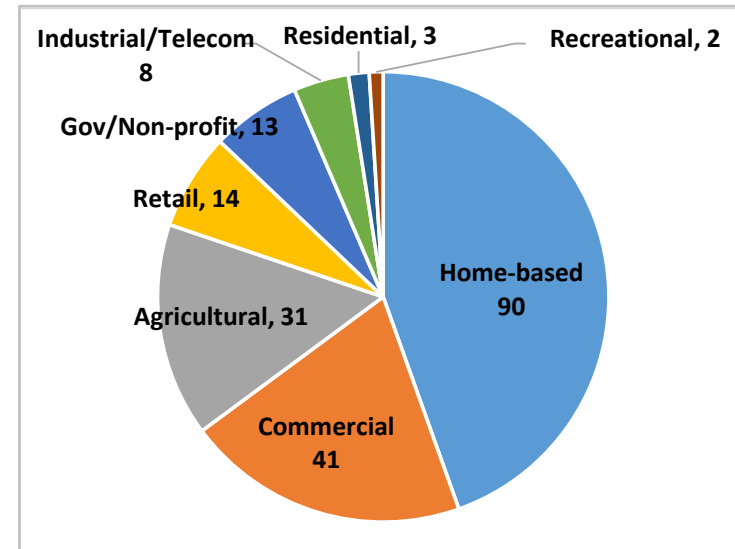
based businesses is critical to maximizing economic vitality while respecting Hinesburg’s long and continuing agricultural heritage.

### Business Makeup

As of the most recent inventory in April 2012, there were 202 business entities. Many of these businesses had been in operation for at least five to 10 years. The vast majority of these businesses employed a sole owner or between two and four people.

Each sector is important in Hinesburg’s economic landscape. Specific businesses mentioned below are merely examples, and are not intended to be a comprehensive list. Champlain Valley Union High School is the largest employer (see sidebar for other large businesses). Beyond the large employers, several key industrial businesses help to retain Hinesburg’s working landscape. Clifford Lumber Company is Hinesburg’s only sawmill, and it provides an important market for a variety of timber products – both dimensional lumber and other value-added products. Giroux Body Shop specializes in metal fabrication and welding, providing a critical service for all manner of businesses and residents from tractor and school bus repair to parts fabrication for high tech

**Hinesburg Businesses by Sector (2012)**



Source: Town data collection



desalination equipment. Green Mountain Organic Creamery (Kimball Brook Farm) came to Hinesburg with the redevelopment of the Cheese Plant property. Along with VT Smoke and Cure, the creamery crafts value-added products that help support the agricultural economy. Hinesburg Sand and Gravel, one of the larger sand and gravel operations in the state, supplies a critical natural resource to many towns and businesses throughout the region.

Non-industrial segments of the business community not only provide employment opportunities but offer goods and services. Some of these include grocery stores, automotive repair services, gasoline sales, auto parts, car sales, well drilling, hardware store, laundromat, restaurants, hair & beauty salons, doctor and dentist offices, other health professionals, veterinary clinic, attorneys, etc. The diversity of local retail and service establishments provide the bulk of the services needed for day to day life. These businesses represent not only local services and jobs for Hinesburg residents, but provide employment opportunities for students from the high school. Local employment also provides key personnel for municipal services, such as the volunteer Fire Department.

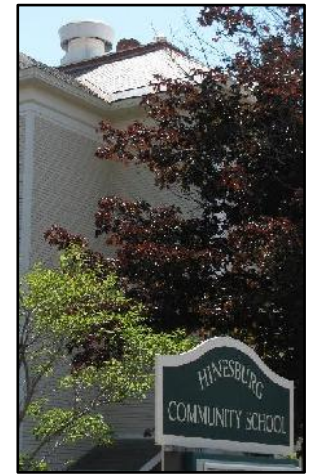
Of those Hinesburg residents who work and are over 16 years old (2,470 per 2013 5-year Census journey to work data and ACS data), approximately 27% commute locally to work here in Hinesburg. Approximately 66% commute to other Chittenden County work destinations. Only 3% commute to Addison County, and 4% to other Vermont locations. The same Census journey to work data estimates 1,500 workers commute to places of work in Hinesburg – 45% from Hinesburg, 27% from elsewhere in Chittenden County, 25% from Addison County, 3% from other locations.

As shown in the 2012 survey, home-based businesses are an important and substantial part of Hinesburg’s economy. These businesses provide a wide variety of services and are a valuable source of primary and part-time employment for many residents. Home-based businesses, while providing a key element in the Town’s economic makeup, must also be reviewed carefully to avoid undue adverse impacts, such as traffic or noise. One traditional component of Hinesburg’s home-based business community has been the operation of construction heavy equipment and landscaping businesses. Recognizing the need for these services to be available locally, the zoning regulations addressed their existence in 1996 by grandfathering those heavy equipment yards in existence at that time. Special review standards were also established for the location of new contractor yards. However, those standards adopted setback distances from surrounding residences and boundaries that may be impossible to achieve in most areas given residential development patterns. Furthermore, landscaping businesses which rely on several smaller trucks and trailers may need greater flexibility than the current home occupation regulations allow. A combination of enforcement and regulation updates is warranted to find the right balance.

As a rural town, Hinesburg’s economy also benefits from a variety of land-based businesses. In addition to agricultural and forestry-based businesses (described in Chapter 5), other private enterprises maintain open land, provide a solid tax base, and create local jobs. Large acreage private recreation areas such as Cedar Knoll Country Club, Sleepy Hollow Inn Ski & Bike Center, Taproot Horse Farm (and other horse/riding facilities throughout town) provide all of these important functions while also creating recreational opportunities.

**Largest Employers – April 2013**

Employer	#
CVU High School	186
Hinesburg Comm. School	100
NRG Systems	78
Iroquois Manufacturing	28
VT Smoke and Cure	25
Lantmans Market	24
Waitsfield Telecom	22
Town of Hinesburg	16
Annette's Preschool	14



## Regional Context

Hinesburg's economic development is informed by the regional comprehensive economic development strategy (CEDS), which is incorporated into the Chittenden County ECOS plan. This plan helps to define and guide what economic development is:

- Economic development is about building a community's capacity for shared and sustainable improvements in the economic well-being of residents.
- Economic development is about access to good jobs that can support an adequate standard of living for all residents of a region or community.
- Economic development is also about continuous and sustainable improvements in the internal functioning of the economy, where its structural underpinnings are made stronger without sacrificing long-term quality of life.
- Economic development provides the means and the continuous process to strengthen the foundation of our communities.

## Strengths and Weaknesses

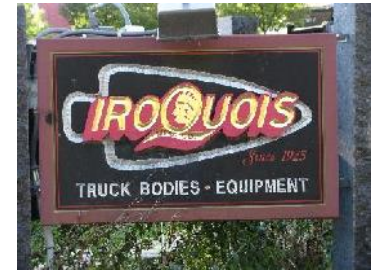
Hinesburg's strengths include:

1. Hinesburg's rural location provides open space and a "country"-like feel. Much of this open space is available for agricultural, forestry, and recreational uses. As a result, Hinesburg maintains a strong natural resource-based economy.
2. The density of the village provides a centrally located and convenient area for most business types with available lands and locations for industrial, retail and commercial business types. The village is home to a complete set of services including water and sewer, public transportation, telecommunication, sidewalks and trails, high speed internet and fire and police services.

3. The community maintains a strong local business segment along with a highly supportive community base, which contributes to a sense of local pride in ownership.
4. Hinesburg hosts the Champlain Valley Union High School (CVU), one of the largest high schools in Vermont, which serves the towns of Hinesburg, Shelburne, Charlotte, Williston, and St. George. In addition to being Hinesburg's largest employer, CVU has a substantial positive economic impact on local businesses, enhances community pride and engagement, and provides adult educational opportunities through its Access program.
5. Route 116 is a major highway within both Chittenden and Addison Counties, and allows convenient transport to the airport and other major transportation routes. Hinesburg also benefits from relatively short commuting distances to major Vermont cities of Burlington and Montpelier.
6. Although Route 116 is the only major highway, Hinesburg's village area sits at a crossroads with several other paved major collector roads that connect to and funnel traffic to/from surrounding communities – e.g. Shelburne Falls Road, Charlotte Road, Richmond Road, Silver Street (to Monkton).

Hinesburg's weaknesses/challenges include:

1. While its location is convenient, it's not central to any major Interstate highways. Other surrounding towns, such as South Burlington and Williston, are closer to major highways and commercial entities.
2. Hinesburg has one central corridor: Route 116. This central corridor creates a drive-thru feel, which diminishes the traditional aesthetic feel of a Vermont town center.
3. In addition, while traffic lights and other calming efforts have been installed or implemented, these have contributed to traffic congestion during peak drive



periods. Some of the congestion is also tied to the volume of traffic traveling from Addison County communities to Chittenden County employers. Residents consistently cite this as a negative to their quality of life.

4. Hinesburg's limited water and wastewater capacities are significant challenges, especially compared with other Chittenden County municipalities. The current municipal water supply can support neither the recent, large development proposals nor a full build-out of the village growth areas under the current zoning allowances. There is municipal wastewater treatment capacity remaining, but it is also insufficient to serve all of the recently proposed development in the village area. Furthermore, increasing wastewater treatment capacity is likely to be both difficult and costly given efforts by the State and the US Environmental Protection Agency to clean up Lake Champlain.
5. Hinesburg's development review process is seen by some as slow and inconsistent. Some contentious project reviews and certain rulings by the Development Review Board have left some developers wary of investment.



## Introduction

Hinesburg's natural resources are varied and abundant. Forested hills, tree-lined roads, rolling farmlands, lakes and streams define the rural character that makes Hinesburg such a special place to its residents. Such greenspace includes all the elements of the town's landscape, both land and water, that are valued for their natural resources, ecosystem services, agricultural or forest production, recreational opportunities, scenic views. Just like other forms of infrastructure (e.g. roads, utilities), Hinesburg's "green infrastructure" provides services and public benefits including:

- Public Health and Safety – flood protection, safe water supplies
- Natural Resource Protection – wildlife habitat, natural communities
- Working Lands – farm and forest enterprise, natural resource products, rural economy
- Outdoor Recreation – passive and active recreation, health and wellbeing
- Community Character – rural character, sense of place, cultural identity



Hinesburg residents have long supported maintaining and protecting the town's rural character. We recognize that planning for and managing greenspace is essential for sustaining the future environmental and economic health of the town and the quality of life it affords. Various resource categories are discussed in this chapter, each with specific goals and recommendations. Overall goals for the entire greenspace system include:

- Maintaining Hinesburg's rural character
- Improving water quality
- Preserving wildlife habitat
- Reducing public costs
- Supporting healthy lifestyles
- Supporting the local economy
- Reducing greenhouse gas emissions



## Forest Resources

### **Goal 5.1** *Keep large forest tracts intact and functional.*

Actions:

- 5.1.1 When properties are subdivided, minimize the impact of new development on interior forest areas, core wildlife habitat, and known wildlife corridors.
- 5.1.2 Work with State and regional partners and road crews to create a plan for dealing with invasive species.
- 5.1.3 Create a mechanism to consistently contribute to the Town's Land Preservation Fund (e.g., as a percent of taxes), and protect agricultural and forest resources by promoting the use of this fund.

## Agriculture

### **Goal 5.2** *Ensure that growth and development don't negatively impact the viability of agricultural uses.*

Actions:

- 5.2.1 Development planning shall preserve the Town's valuable agricultural resources by directing growth to locations that minimize impact on these resources.
- 5.2.2 Adopt policies such as "Right to Farm" to minimize conflicts between residential and agricultural uses.
- 5.2.3 Ensure access and proper rights of way to preserve the viability of productive agricultural land.

### **Goal 5.3** *Enact policies that provide incentives for uses that will keep Hinesburg's rural landscape actively utilized and functionally and economically viable with working agriculture, forestry and secondary or supporting activities (e.g., agritourism, farm stands, farm equipment sales and service, recreation).*

Actions:

- 5.3.1 Promote local agricultural products and marketing of value added products as a means of fostering the economic vitality of local farms and woodlands, and to increase the supply of locally produced food.
- 5.3.2 Create a mechanism to consistently contribute to the Town's Land Preservation Fund (e.g., as a percent of taxes), and preserve priority resource land by promoting the use of this fund.

- 5.3.3 Work with the Hinesburg and Vermont Land Trusts, and other appropriate State and National non-profit organizations, to communicate with landowners and the community, to employ the Town's Land Preservation Fund, and leverage other funding sources (State, Federal,**

**Top  
Priority**

Foundations, etc.) to encourage the voluntary protection of existing and potentially productive agricultural and forest land. Explore all options – e.g., fee purchase, purchase/donation of conservation easements and/or development rights with retained agricultural or timber rights, etc.

5.3.4 Continue to adjust and fine tune allowed uses in the rural areas to keep pace with trends in value-added agriculture and forestry.

5.3.5 Provide staff assistance to landowners with larger parcels to encourage comprehensive planning prior to subdivision.

### **Goal 5.4 Value and encourage farming practices that protect wildlife habitat, water quality, and soil productivity.**

Actions:

- 5.4.1 Require adequate, uncut vegetative buffers at productive crop fields along streams, rivers and ponds to provide filtering of field runoff and minimize bank erosion.
- 5.4.2 Encourage productive field cutting schedules to allow young ground nesting birds (e.g. bobolinks, quail, meadowlarks) to leave their nests.
- 5.4.3 Encourage use of fertilizers and their application types (e.g. soil injection, broadcast incorporated, band application) and application schedules that minimize ground and surface water degradation.
- 5.4.4 Encourage use of the Northeast Region Certified Crop Advisors (NRCCA) Study Resources for nutrient management, pest management, crop management, and soil and water management.
- 5.4.5 Publicly recognize “best farming practice” which protect and improve wildlife habitat, water quality and soil productivity through an annual awards program.

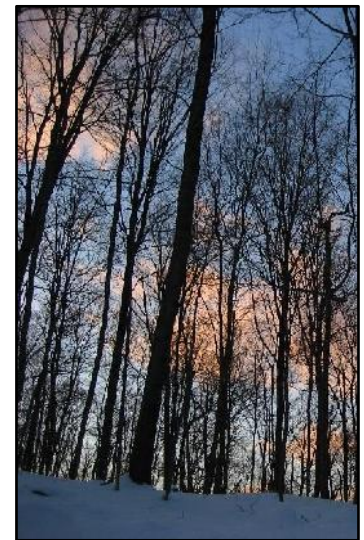
### **Forest Resources**

Hinesburg has a diverse mosaic of native forest types made up of both large and small connected parcels that support sustainable recreational and economic uses, viable wildlife populations, and sources of clean water. Hinesburg’s forests contribute to the town’s natural and cultural identity, and are a key component of what make Hinesburg enjoyable for residents and visitors alike. The forests in Hinesburg consist almost entirely of regrowth on former agricultural lands, or heavily managed remnants of original forests. Hinesburg has no virgin forest (pre-European settlement), although small portions of older growth still exist. Additionally, Hinesburg’s forests face increased

stresses from invasive species, pests and diseases, increased recreational activities, and climate change.

Hinesburg has favorable climate and soil to grow quality hardwoods and the topography makes for easy access to many forested lands. Many productive forest parcels encompass hundreds of acres, a fact that makes them desirable for long-term timber management. Proximity to sawmills also makes for economical logging operations. As of 2014, approximately 5,500 acres of forest land were enrolled in the State’s Current Use program, with forest management plans designed to promote sound silviculture.

Continued management of these forest resources and traditional uses (timber extraction, wildlife habitat,





recreation, scenic resources, etc.) is an important community goal. The viability of our working forests is tied inextricably to adequate access and overall land base. Indiscriminate subdivision and development has the potential to fragment large blocks of forest land into smaller ownerships making long-term forest management more difficult. Such forest fragmentation can also lead to the reduction of interior forest areas that provide core wildlife habitat (see wildlife section later in this chapter and Map 14 for details). Even if large forest parcels are maintained, development along Town roads must be carefully planned to avoid isolating interior forest lands and cutting off suitable access for equipment and management. The Rural Area Zoning regulations passed in 2013 were designed to promote sustainable, forest-based land uses. Innovative land uses, such as integrated forestry and outdoor recreational uses, have been expanded to encourage and promote the working landscape. Development densities and subdivision standards were clarified to help preserve existing core wildlife habitat, to retain access to blocks of undeveloped forestland, and to respect the natural topography of the land.

Most of the Town's forest resources are managed by private landowners. However, a small percentage is in public ownership (both Town and State). These lands include the Town Forests, the Fred Johnson Wildlife Management Area, and other streambank lands owned by the State along Lewis Creek (Map 11, Town Facilities & Conserved Lands). Timber management on these lands is used as a tool to implement the primary goals of providing wildlife habitat (State lands & Town Forests) and recreational opportunities (Town Forests). The continued protection of these parcels is important in that they serve as anchors for the extensive forest land in the eastern portion of Town, and the Lewis Creek corridor.

## Agriculture

Hinesburg's history is rooted in agriculture. By the mid- to late-1800s, most of the town's forests had been cleared and were being actively farmed. Those farms were supplying mills in the village and Mechanicsville with the raw materials to produce flour, cheese, cider, woolen textiles, and other products. The number of farms in Hinesburg and across the state steadily declined over the 20th century due to a combination of factors, including the expansion and later consolidation of the dairy industry, market conditions, federal price support policies, and widely spreading development. Hinesburg, like many towns in northwestern Vermont, has moved toward a service-based economy with substantial numbers of residents commuting to jobs in the greater Burlington metro area.

Despite these changes, farms and farming continue to be an important part of our town's identity, economy, and ecology. In fact, the beginning of the 21st century has seen a farming renaissance across Vermont and in Hinesburg with greater diversification, the creation of smaller and organic operations, and interest from young farmers – both in rejuvenating family farms and in establishing entirely new operations. Farmers work diligently to keep land open and productive, while producing an income to sustain themselves and the land. Development pressures on agricultural land in Chittenden County are substantial. Preserving agricultural land while maintaining the landowner's equity in that land is an ongoing planning challenge facing the community. Farming in Hinesburg continues to produce one of the most visible patterns on the land that helps define the rural character of the community.

Agricultural support businesses are an important component not only to the overall economic sector of Hinesburg but also to the continued vitality of the



agricultural operations. Lack of ready access to equipment, supplies and repair services has hampered farmers in many rural communities. Although many of these problems are a factor for Hinesburg’s farmers as well, the Town does have a variety of services available such as machinery repair, equipment sales, and heavy equipment operators. Zoning for the rural areas also allows for stand-alone commercial support services as part of the working landscape. This allows for small-scale rural businesses that could complement existing services in the village area (e.g., Giroux Body Shop and Metal Fabrication).

**Economic Benefits:**

- Property taxes paid and fewer services demanded.
- Provides jobs and housing for employees.
- Sale of agricultural products.
- Local jobs and services for businesses and industries.
- Helps to slow the development of farmland.
- Ready food supply.
- Direct and indirect contribution to the regional and state economy.

**Social Benefits:**

- Local food supply & community connections to farming
- Space for recreation.
- Educational opportunities.
- Scenic views.
- Makes Hinesburg an attractive place to live and work.
- Cultural Diversity.
- Retention of town heritage and rural character.

One indicator of existing farm and forest use, and commitment to future use of land for agriculture and forestry, is enrollment in the State’s Current Use (use value appraisal) program. In place since 1980, this tax abatement program is one of Vermont’s most successful farm and forest conservation measures with 2,426,129

acres enrolled as of 2015. In return for agreeing to keep the property in agricultural and forest production, landowners pay property taxes based on the lower farm or forest use value rather than the full fair market value. Statewide, the program saved enrolled landowners over \$59 million in property taxes in 2015. In Hinesburg, the program reduced property taxes for farm and forest owners by \$292,935.

The Natural Resource Conservation Service (NRCS) has mapped and ranked soils in Hinesburg. 8,154 acres, or approximately 32% of the Town, are ranked as prime or statewide agricultural soils, compared to only 20% in the state as a whole. Prime and statewide are terms used by the NRCS to designate the two most productive soil types for crops. These two rankings qualify as prime agricultural soils for Act 250 review purposes. Of this, 1,148 acres are prime soils. These are suitable for almost any type of farming operation and are essential for intensive agriculture. Statewide soils, and some of the lesser-ranked soils that have been improved with drainage, are also well suited for the production of food, feed, fiber, forage, and oilseed crops. These soils comprise the bulk of the land that supported Hinesburg’s once extensive dairy operations. The majority of Hinesburg’s good agricultural soils are located west of Route 116, a fact that is evident in the existing pattern of land use in Town and by this area’s designation as an agricultural zoning district. See Map 5.

**Hinesburg Current Use Land**

Tax Year	Acres Enrolled
2015	6164
2014	8903
2013	9082
2012	9030
2011	8797
2010	8149
2001	7960
1990	8181

Enrollment decline in 2015 due to legislative changes to the program, which included an option to remove acreage with reduced or no penalty.



## Surface Waters

### **Goal 5.5** *Protect, enhance, and restore the town's surface water resources.*

Actions:

- 5.5.1 Require adequate vegetative buffers and erosion control along rivers, streams, and lakes to protect water quality, allow natural channel modification, and protect buildings. Consider differentiating buffers based on land use as well as topography, river dynamics, and fluvial erosion hazards. Encourage the preservation of existing vegetative buffers and reforestation of riparian buffers.
- 5.5.2 Consider revising the zoning regulations for the shoreline district and/or the larger Lake Iroquois, Sunset Lake watershed to better protect water quality. Consider requiring stormwater treatment improvements in conjunction with expansions to non-complying structures in these sensitive areas.
- 5.5.3 In coordination with local and regional groups, and the towns of Williston and St. George, monitor water quality in Lake Iroquois and Sunset Lake, report the findings, and take action to reduce pollution from point and nonpoint sources.

### **Goal 5.6** *Control impacts from storm water runoff.*

Actions:

- 5.6.1 Educate landowners about how they can help preserve and improve water quality on their own property – e.g., erosion control during construction, riparian plantings, on-site infiltration, stormwater control from rooftops, driveways, and roads, etc.
  - 5.6.2 Continue to identify and construct municipal stormwater treatment infrastructure, especially in already built out areas where there is little or no existing treatment. Demonstrate and promote innovative, low impact development, and green stormwater infrastructure solutions.
  - 5.6.3 Consider establishing a storm water utility responsible for a town-wide systematic approach to storm water management.
  - 5.6.4 Create a stormwater management plan for Town roads that is aligned with State stormwater permit requirements and prioritized by an erosion risk inventory. The plan shall include proposed remediation, implementation schedules, a capital budget plan and exploration of funding sources.**
  - 5.6.5 Ensure that stormwater runoff from new development on private roads and driveways doesn't have undue adverse impacts on the public road network. Require shared access points to public roads whenever appropriate to reduce impacts. Consider Town ordinances to extend best practices to private roads.
  - 5.6.6 Consider requiring stronger and more innovative stormwater control/treatment practices than those required by State permitting standards if necessary to ensure waterways do not become impaired.
- 

Top  
Priority

## Surface Waters

The topographic changes between the Champlain lowlands and Green Mountains have shaped the drainage patterns in Hinesburg. Lewis Creek drains a large area east and west of Hogback Mountain. Hollow Brook, a tributary of Lewis Creek, drains the deep, steep sided Hollow Valley and is thought to be the pre-glacial drainage of the Huntington River. The LaPlatte River drains the course of a deep pre-glacial valley now filled with glacial sediments, gravel, silts and clay. A tributary, Patrick Brook, drains the Lake Iroquois-Sunset Lake basin. The northeastern foothills area of Hinesburg drains to the Winooski River watershed via the Huntington River and Johnny Brook sub-watersheds. In addition to these named streams there are numerous unnamed streams. Although these are low volume or intermittent in nature, they serve important functions as seasonal drainage ways.

Lake Iroquois and Sunset Lake, also called the Lower Pond, are valuable water resources. Lake Iroquois straddles the boundary of Richmond, Williston and Hinesburg. The lake's surface area covers 244 acres, of which roughly half is located within Hinesburg. Sunset Lake's surface area is 61 acres. The combined watershed of both lakes encompasses several thousand acres, both in Hinesburg and in surrounding towns. Both lakes are impounded by controlled dams. If the control structures did not exist, Lake Iroquois would consist of a small natural lake, while Sunset Lake would likely be a marsh wetland with little standing water. Both lakes contribute to the recreational and scenic resources of the town. The northern shore of Iroquois is the site of the Lake Iroquois Recreation District public beach, and also the site of a State managed boat access. Currently, these are the only public access areas available. Both lakes suffer from the presence of Eurasian water milfoil – a highly invasive, non-native aquatic plant. This plant outcompetes native vegetation, adversely

impacts aquatic habitat, and chokes substantial portions of the water column such that recreational use is severely impaired. Control measures are costly, and no large-scale (i.e., lake-wide) control effort has been undertaken to date.

The rivers, streams and lakes in Hinesburg have great value aesthetically, as wildlife habitat and corridors and for recreation. All of these waterways drain to Lake Champlain, which is an important natural, cultural, and economic resource for Hinesburg residents and the State at large. Lake Champlain also provides drinking water to over 65,000 residents and businesses in Chittenden County via the Champlain Water District's intake located in Shelburne Bay. Access to these waterways is an important part of the enjoyment of the Town's rural setting. The use or misuse of surface waters also have an impact on all communities within a drainage basin. Recognizing the unique opportunity to plan for such regional resources, various non-profit watershed organizations (e.g., Lewis Creek Association, LaPlatte Watershed Partnership, Lake Iroquois Association) seek to plan, protect, restore, and identify important characteristics of these watersheds.

## Water Quality & Stormwater

Surface water pollution is generally divided into point and non-point designations. Point sources are those for which there is a clearly defined source, such as a wastewater treatment plant. Non-point sources are those that accumulate over a larger area, for which there is no single pipe, effluent stream or other focused source. Non-point sources, such as stormwater runoff from roads, parking lots, lawns, agricultural fields, etc. are far more difficult to locate and control although their potential for damage is great. This is an important issue for a town such as Hinesburg where the two main watercourses, Lewis Creek and the LaPlatte River, as well as both lakes, have predominantly agricultural areas within their watersheds.



Surface waters are also subject to damage from erosion of stream banks and siltation. Current Town regulations attempt to mitigate these potential damages by requiring a 75' setback of all principal structures from streams and bodies of water, with more variable setbacks and vegetation buffer requirements in the village growth area. Preserving a buffer of wood vegetation along streams provides multiple benefits – reduce streambank erosion, improve wildlife habitat, reduce stream temperatures and increase dissolved oxygen for aquatic species, treat stormwater before it enters the stream.

By State statute, Vermont's water quality should be maintained and improved according to the policies and actions developed in the basin plans established under 10 V.S.A § 1253. The bulk of Hinesburg is in the LaPlatte River watershed which is included in the Northern Lake Champlain basin plan (August 2015). This plan highlights the following issues with Hinesburg waterways:

- Lake Iroquois – altered status due to an invasive species (Eurasian watermilfoil)
- LaPlatte River – impaired status due to bacteria (E. coli) from agricultural runoff
- LaPlatte River – stressed status due to turbidity, sediment, and thermal & habitat modifications from streambank erosion, channel instability, and land development
- Patrick Brook – stressed status due to physical modification from land development and channelization.

The Lewis Creek watershed (southern Hinesburg) is included in the Otter Creek basin plan (May 2012). No portions of Lewis Creek are impaired within Hinesburg; however, downstream segments in Charlotte and Ferrisburgh have a stressed status due to bacteria (E. coli)

from agricultural runoff. The Winooski watershed (northeastern Hinesburg) is included in the Winooski River basin plan (May 2012). This portion of Hinesburg represents largely forested headwaters of tributaries that feed into Johnnie Brook and the Huntington River – neither of which are impaired in areas adjacent or downstream of flow from Hinesburg.

Each basin plan contains strategies and recommendations for improving water quality generally, and addressing impaired waterways specifically. The Town is an active participant in basin plan implementation through municipal regulations on new development (e.g., stream setbacks & buffers, stormwater treatment standards, etc.), public education/outreach, and municipal stormwater projects (e.g., rain gardens, gravel road erosion inventory and control, etc.).

Water quality issues are currently at the forefront of natural resource discussions in Hinesburg and throughout much of Vermont, in part due to the declining health of Lake Champlain. In 2014, the State Shorelands Protection Act created a new State permitting process to regulate development and vegetation clearing around lakes. Even more significant statewide water quality legislation (Act 64, Vermont's Clean Water Act) was signed into law in 2015. While State agencies are still developing implementation plans, it is clear that compliance with Act 64 will require tighter water quality standards and additional regulations for all municipalities within the Lake Champlain watershed. Act 64 is driven by nutrient loading (primarily in the form of phosphorus) and the resulting water quality degradation within Lake Champlain. The State has identified three main sources of Lake Champlain nutrient loading; 1) discharges from sewage treatment plants, 2) stormwater runoff from development and impervious surfaces, and 3) inputs from agriculture and forestry.



Some of the changes underway include new water quality control practices required for agricultural and forest management operations. Municipal wastewater treatment will have to treat effluent to a higher standard – i.e., more phosphorous removal. Municipal roads will require a new State stormwater general permit that will compel complete road network inventories and action plans to address proper drainage and road-related erosion. The State Agency of Natural Resources is also considering lowering the trigger for new development to compel State Stormwater permits at 0.5 acres of impervious surface instead of the current one acre threshold.

In 2015, the Town also took action to improve water quality by substantially updating erosion and stormwater control provisions in our land use regulations. These regulations largely mirror State stormwater review standards, but lower the threshold further such that projects with new impervious surface of 10,000 square feet or more require an engineered control plan. This is a positive first step to better ensure that new development

adequately addresses its own impacts, but regulation alone is not sufficient. The Town should actively plan for more municipal stormwater control and treatment infrastructure as well as the continued maintenance of the limited infrastructure we already have. The Town needs to manage stormwater treatment like other types of traditional infrastructure – e.g., roads, sidewalks, municipal water lines, recreation fields, etc. Should Hinesburg’s waterways become impaired, responsibility for correcting the issue will fall to the Town. Given the State’s poor track record of protecting waterways, the Town cannot rely exclusively on State permitting to avoid impaired waterways.

The Selectboard should explore municipal funding mechanisms (e.g., special assessment districts, capital budgeting & impact fees, regular budget allocations, etc.) to provide the necessary resources for staffing, project planning & implementation, and maintenance. Education efforts are also needed, so that all Hinesburg residents know what they can do to help clean up our waterways.



***Municipal Rain Garden at the Hinesburg Community School***

## Groundwater

### **Goal 5.7** *Protect the town's groundwater resources.*

#### Actions:

- 5.7.1 Educate residents on groundwater conservation measures and contamination threats and issues.
- 5.7.2 Explore and locate additional municipal wells to support existing needs (e.g., replacement of Lyman Meadows water system) and new development in the village growth area and larger water service area.
- 5.7.3 Consider low well yield areas in the review process for new development. When there are numerous low yield wells in the surrounding area, require that new development demonstrate there will be adequate water supply, either through proven water sources or through the design of adequate water storage systems.

## Wetlands

### **Goal 5.8** *Preserve wetlands within the town.*

#### Actions:

- 5.8.1 Require wetland delineation when new development is proposed near potential wetland areas – either as shown on State or local inventories, or when site conditions indicate a wetland is present (including vernal pools).
- 5.8.2 Conduct and fund field studies and town-wide mapping to delineate and better understand priority wetlands, including vernal pools. Coordinate with the Agency of Natural Resources to improve State wetland maps using better UMASS wetland data/maps for Hinesburg.
- 5.8.3 Educate landowners about the value and fragility of vernal pools, how to identify them, and how to protect them.
- 5.8.4 Avoid impacts to wetland areas whenever possible. When impacts are unavoidable, minimize disturbance and adverse effects on the wetland function and values.
- 5.8.5 Promote the use of the Town's Land Preservation Fund to preserve and protect priority wetlands that are particularly vulnerable.
- 5.8.6 Restore wetlands in public/private partnerships to improve the wetland functions with consideration of the effect on surrounding properties.

---

### Groundwater

Groundwater is any subsurface water found in porous rock strata and soils. As the source of most of our drinking water, it is an essential resource. Groundwater is continually being recharged by precipitation seeping or percolating through the soil to the aquifers beneath the

surface. The aquifers are the geologic formations that store, transmit and yield useful quantities of water to a well. While all land is part of the groundwater recharge system, each well has a specific recharge area that varies based on geologic formations, well depth, and surrounding surficial geology. In general, areas characterized by shallow, sandy or gravelly soils, or rock outcroppings, are

the most porous and conductive of water, and therefore are the most significant within the recharge area of a given well.

VT Agency of Natural Resources (ANR) data from 2011 show approximately 876 wells in Hinesburg (rough approximation based on data source). The vast majority of these are private wells serving single-family dwellings. Public water supplies are considered those that serve 10 or more connections or 25 or more users. There are seven public water supply wells in Hinesburg, five of which are part of the municipal water system (see Chapter 6 for details on the municipal system). Source Water Protection Areas (SWPA) have been mapped around all but one of these public water supplies to indicate the recharge areas – i.e., area in which contamination is most likely to impact the well. VT ANR mapped SWPAs in Hinesburg are shown on Map 8, Environmental Features.

- Hinesburg Water Department #1 & #3 (behind Town Hall) – became inactive in 2016
- Hinesburg Water Department #4 & #5 (off Shelburne Falls Road) – became active in 2016
- Orchard Commons (operated privately)
- Lyman Meadow (operated by the Town)
- Cedar Knoll Country Club (operated privately)
- Additionally, a portion of the SWPA for the Lazy Brook Mobile Home Park in Huntington (Lincoln Hill Road) is located in Hinesburg.

Aquifer recharge areas are particularly sensitive to contamination because they allow toxic substances from the surface to quickly, and in a relatively undiluted form, reach the aquifers, and thus our drinking water. Some contamination occurs naturally, such as the presence of radioactivity (radium & uranium) in certain private wells in northeastern Hinesburg, St. George, and Williston – along

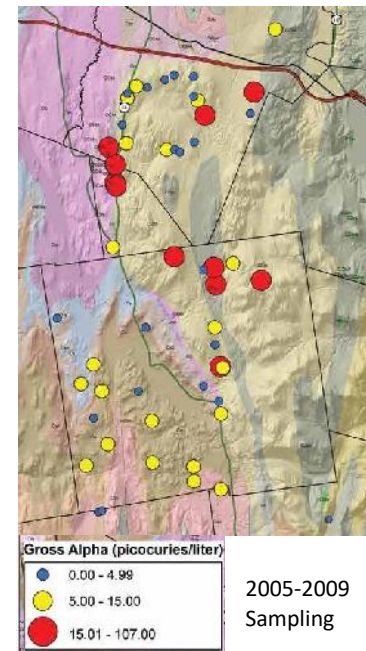
and west of the Hinesburg Thrust geological feature. With that said, the vast majority of well contamination results from human activity. Landfills, poorly functioning septic systems, road salt, underground fuel storage tanks, agricultural and industrial chemicals, waste byproducts of some businesses and household hazardous wastes can all contribute to pollution of groundwater supplies.

Quantity of water is also an important consideration. Well yield reports show an area with many low yield wells (e.g., less than 1 gallon per minute, including many zero yield wells) in the northern portion of town – around Lake Iroquois, Sunset Lake, and south along North Road to Hayden Hill Road, see Map 8, Environmental Features.

### Wetlands

Wetlands are defined as areas inundated by surface or ground water with a frequency sufficient to support plants and animals that depend on saturated or seasonally saturated soil conditions for growth and reproduction. The saturated or seasonally saturated conditions in wetlands create an environment that favors the growth of specifically adapted wetland plants and promotes the development of wetland soils (hydric soils). These three factors (hydrology, vegetation, and soils) are used in wetland identification and in the delineation of wetland boundaries. There are many types of wetlands – e.g., ponds, vernal pools, bogs, fens, marshes, wet meadows, shrub swamps, and wooded swamps. Wetlands often occur in association with lakes, ponds, rivers, and streams, creating transitional areas between dry land and open water. However, wetlands can also be isolated from any obvious connection to water when they occur where the topography collects surface water, or where ground water surfaces.

### Naturally-Occurring Radioactivity (Gross Alpha) Well Results



VT DEC recommends further testing:  
Radium - GA 5 or higher  
Uranium - GA above 15

<http://dec.vermont.gov/geological-survey/health/radionuclides>





Wetlands serve a variety of beneficial functions – both to the ecosystem and directly to public health and welfare. Some of these functions include:

- Flood control – Temporary storage of flood waters during storms reducing damage to property and infrastructure, and avoiding the need to build expensive flood control structures.
- Erosion control – Shoreline wetlands protect against erosion caused by waves, floods, and storms by absorbing surface water energy and binding soil and sediment.
- Water quality protection – Removal of pollutants from surface waters via sediment trapping, nutrient removal (e.g., phosphorous and nitrogen), and chemical detoxification.
- Wildlife habitat – Principal habitat for a wide range of species, and important habitat for a portion of the year for even more species.
- Aquatic habitat – Provide spawning grounds and nursery areas for a variety of fish species. Also provides shelter and food for a wide range of other aquatic species.
- Aesthetics & Recreation – Wetlands, streams, and ponds help define the landscape while providing recreational opportunities (e.g., hunting, fishing, bird watching, etc.).

Wetlands are damaged by filling and draining, and are also adversely affected by runoff and pollution from surrounding land. Wetland impacts are regulated by the US Army Corps of Engineers and the VT Agency of Natural Resources. Wetland areas are also considered in the Town’s development review process, through general standards that apply town-wide, and through rural area design standards that require avoidance of wetlands and associated buffers as a primary resource.

Some prominent wetland areas have been identified through interpretation of aerial photography – see Map 7. The Vermont Significant Wetland Inventory is one such statewide data layer, largely based on National Wetland Inventory (NWI) maps produced by the US Fish and Wildlife Service in the 1980’s. Another specific to Hinesburg was commissioned by the Conservation Commission in 1997. This University of Massachusetts (UMASS) wetland inventory used 1993 color infrared aerial photography (1:40,000 scale). Although by no means a map of all wetland areas, the result was a more comprehensive inventory than the NWI data. These datasets help identify areas where further on-site delineations are necessary. Although these datasets are extremely helpful for broad scale planning, wetland delineations in the field are still critical in the evaluation and planning for specific conservation and development projects.

Vernal pools are often not identified on the aforementioned wetland inventories due to their small size, location under forest canopy, and ephemeral nature. Vernal pools are seasonal wetlands covered by shallow water for variable periods from winter to spring, but may be completely dry for most of the summer and fall. These wetlands range in size from small puddles to shallow lakes and provide habitat for numerous rare plants and animals that are able to survive and thrive in these harsh conditions. Many of these plants and animals spend the dry season as seeds, eggs, or cysts, and then grow and reproduce when the ponds are again filled with water. They serve as required breeding habitat for a number of amphibians, including the spotted salamander, wood frog, and American toad, and others, which would be eaten by predaceous fish and large frogs in permanent ponds. These vernal pool amphibians spend most of the year in the hardwood forests surrounding vernal pools, and it is important to conserve these areas as well.



## Floodplain and Flood Resiliency

**Goal 5.9** *Minimize potential damage from flooding and bolster the community's ability to anticipate, respond to, and recover from flood events.*

Actions:

- 5.9.1 Work with landowners, watershed groups, and the State to implement river corridor plans to address water quality, channel adjustments, riparian habitat, flood hazard avoidance, and to meet the requirements of pre-disaster mitigation.
- 5.9.2 Work with private landowners to assess existing water control structures – condition, repair needs, necessity. Consider taking responsibility for maintenance or removal of critical structures with landowner permission.
- 5.9.3 Review and revise flood hazard regulations as needed to ensure continued enrollment in the National Flood Insurance Program.
- 5.9.4 Update the capital budget and set aside reserve funds in anticipation of pre-disaster mitigation projects – e.g., larger culvert replacements, road construction, etc.
- 5.9.5 Adopt the VT Department of Environmental Conservation River Program guidance outlined in the Vermont Standard River Management Principles and Practices: Guidance for Managing Vermont's Rivers Based on Channel and Floodplain Function.

---

### Floodplain and Flood Resiliency

Floodplains are natural landforms that prevent flood damage by detaining water, debris, ice, and sediment; and reduce flow velocity, and erosion. Floodplains provide many social, economic, and ecological benefits to communities such as reducing water pollution, enhancing soil quality, and protecting natural communities. Floodplains are also places of known and avoidable hazard. Protection and sometimes relocation of existing structures and facilities in floodplain areas is important. Even more important is minimizing additional risk and the need for further private and public resources by avoiding further development in flood hazard areas.

Flooding is inevitable, but human injury, misery, and damage due to flooding can be avoided through good planning. When development encroaches into floodplains, streams can become unstable, flood depths increase,

erosion increases, and flow can be diverted toward and onto other properties and existing buildings. Damage to public and private infrastructure often requires expensive and unsustainable channel alterations. These alterations further destabilize the situation leading to a greater risk to public safety in an unsustainable vicious cycle. Flood hazard areas related to inundation (i.e., rising water) have been mapped by the Federal Emergency Management Program's (FEMA) since the early 1970's. Areas at risk of inundation are referred to as Special Flood Hazard Areas and development there is regulated via Hinesburg's Zoning Regulations. A review by the Zoning Administrator of the Special Flood Hazard Area (version effective 8/4/2005) overlaid on 2004 high resolution orthophotos showed that there are 16 residential structures and 22 non-residential structures (primarily accessory structures) in this hazard area.



Hinesburg received a flood hazard boundary map on 1/31/75 and joined the National Flood Insurance Program on 3/5/76. FEMA significantly updated Hinesburg's flood hazard maps on 8/4/2005. This update included flood studies to improve hazard mapping in the village area, corrected errors on previous maps related to Patrick Brook and the Canal, and transitioned Hinesburg's hazard area mapping to a digital product (DFIRM – digital flood insurance rate map). The current FEMA flood hazard maps became effective on 8/4/2014. Updates made in 2011 and 2014 only made minor changes to better reflect high resolution elevation data available for Chittenden County.

### River Corridors & Fluvial Erosion Hazards

River corridors encompass the area of land surrounding a river that provides for the meandering, floodplain, and the riparian functions necessary to restore and maintain the naturally stable or least erosive form of a river. Inundation is not the only form of damage from flooding. Erosion from flash flooding is the most expensive form of flood damage in the state. Over time, streams meander laterally, and fill or degrade vertically as they adjust to their water levels, sediments, and slope. Stream channels may change suddenly and catastrophically during heavy storms. Giving rivers room to move is critical to protecting public safety, public/private infrastructure, water quality, and overall river ecosystem health. The provision of unencumbered river corridors also helps avoid costs associated with streambank protection and berming measures that often shift streambank erosion to upstream or downstream properties. Thanks to the LaPlatte Watershed Partnership and the Lewis Creek Association, river corridor plans have been created for Hinesburg's two principal rivers and their major tributaries.

The area of active stream channel movement is called the fluvial erosion hazard zone. In 2010, the State provided

Hinesburg with a fluvial erosion hazard zone map for the LaPlatte River, Lewis Creek, and several associated/major tributaries (e.g., Patrick Brook, Hollow Brook, and several un-named tributaries). Fluvial erosion hazard areas have since been incorporated into the Town's flood hazard zoning regulations, and are also used to regulate development under Act 250 proceedings. Both the special flood hazard areas and fluvial erosion hazard areas are depicted on Map 7.

### Flood Resiliency

A resilient community is able to recover from adversity largely using its own resources, and without severe disruptions to its identity or core functions. A resilient community has the capacity to anticipate, prepare for, respond to, and recover from adversity. Consistent with 24 V.S.A §4302 (14), Hinesburg strives for flood resiliency via:

- Regulation of new development – Zoning regulations prohibit new structures within designated stream setback areas, and discourage development in more expansive flood hazard areas. Allowances for limited development in flood hazard areas require rigorous public review, and are contingent on a demonstration that flooding and fluvial erosion will not be exacerbated. No undue adverse impacts are permitted to upstream and downstream properties, infrastructure, or water quality.
- Floodplain protection and restoration – The Town works collaboratively with area watershed groups and the State to conserve and restore riparian areas – e.g., conservation of many small parcels along Lewis Creek in conjunction with VT Fish and Wildlife; LaPlatte Headwaters Town Forest conservation and wetland restoration project.
- Flood emergency preparedness – The Town has adopted an all-hazards mitigation plan (last adopted in



2011, with re-adoption planned in 2017) that addresses mitigation measures. The Town also has a very active emergency manager, Police Department, and volunteer Fire Department that conduct regular trainings on disaster response. The Fire Department also pre-positions Red Cross emergency supplies in the community.

Hinesburg goes beyond the statutory provisions to further flood resiliency. On the regulatory front, in 2015, the Town adopted rigorous erosion and stormwater control zoning provisions that require the consideration of on-site infiltration and compel engineered stormwater control systems at a much lower impervious surface trigger than currently used by State (e.g., 10,000 square feet vs. 43,560 square feet). Such new development projects must also assess and mitigate flooding impacts from larger storm events (e.g., 100-year storm). With the help of watershed partner groups, the Town has also assessed critical infrastructure and stormwater patterns in the village growth area. The Town is proactively using this information to install stormwater control infrastructure (e.g., Silver Street rain garden), and plan for upgrades to critical culverts and conveyances to help avoid or minimize future flooding. There is excellent coordination between first responders, Police Department staff, Fire Department volunteers, and the Town Highway Department staff. This allows for rapid and efficient response to flooding, including temporary road closures which are the most common flood related impact.

One area for improvement is better planning for the maintenance and replacement of water control structures (most privately owned), particularly along the Canal in the village and Patrick Brook. Private owners of these control structures are often unsure how to maintain this infrastructure or replace it when there is a failure. The community has an interest in the future of these control

structures, both in terms of flood hazard mitigation and river/stream health and function. There is also room for improvement in the Town’s capital budgeting for pre-disaster mitigation projects (e.g., culvert replacements, roadside drainage, etc.). Greater coordination with private landowners on specific recommendations in the LaPlatte and Lewis Creek river corridor plans would also help reduce future flood damage and improve resiliency.



***Conserved LaPlatte Headwaters Floodplain***

## Wildlife Habitat

**Goal 5.10** *Protect and maintain wildlife populations, wildlife habitat, ecological systems, and overall biodiversity, with the help of Hinesburg residents.*

Actions:

- 5.10.1 Work with the VT Fish and Wildlife Department, UVM, and other partners to conduct and maintain inventories of natural areas and wildlife habitat, with the help of Hinesburg residents.
- 5.10.2 Protect areas of sufficient size and character to support continued preservation of wildlife habitat and hunting through mechanisms like landowner covenants, conservation easements, the Town's Land Preservation Fund, etc.
- 5.10.3 When reviewing new development, encourage the preservation of the six habitats of special concern discussed in this chapter.
- 5.10.4 Support the eradication of invasive plants that threaten the future of natural areas, surface waters, forests, and farm lands.

**Goal 5.11** *Provide connectivity among natural areas and core wildlife habitat.*

Actions:

- 5.11.1 Identify and preserve connections that would enhance existing wildlife habitat.
- 5.11.2 Prioritize the conservation of large areas of contiguous forest.
- Top Priority** 5.11.3 **Work with VT Fish and Wildlife to establish recommended corridor widths for each key corridor shown on Map 14.**
- Top Priority** 5.11.4 **When reviewing new development, strongly discourage development in key corridor/linkage areas (see Map 14 and wildlife corridor definition), and encourage areas separate from housing sites to provide connectivity between core wildlife habitat, riparian corridors, and wetlands.**
- 5.11.5 Along important riparian areas, install culverts that allow for aquatic organism passage, consistent with VT Fish and Wildlife recommendations – e.g., 2009 “Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms In Vermont.”

---

### Wildlife Habitat

Wildlife habitat contributes to the rural character of Hinesburg and reflects the diversity of the Town's natural landscape. Wildlife species in all forms (both terrestrial and aquatic) are part of the broader ecosystem, and the health and function of both wildlife populations and wildlife habitat are essential to the proper functioning of

the overall system upon which we all depend. All wildlife species require three elements for viable habitat - food, water and cover. Even with these elements, viable habitat for some species is dependent on contiguous tracts of undisturbed land (e.g., core wildlife habitat). Such areas not only accommodate core habitat species (e.g., scarlet tanager, hermit thrush, black-throated blue warbler, black bear, bobcat, spotted salamander), but also serve as



species reservoirs that can serve to supplement populations of more ephemeral wildlife species in smaller and more fragmented patches of habitat. Smaller tracts (especially forest) can serve as habitat if corridors connecting smaller and larger areas are preserved. Fragmenting habitat areas and the connecting corridors limits the availability and diversity of life supporting elements. As areas become isolated, species diversity may diminish, and certain species may be unable to recover when numbers become low. The status of viable and varied wildlife habitat is an important barometer of the Town's ability to maintain a healthy ecosystem, and the town's rural landscape while accommodating growth.

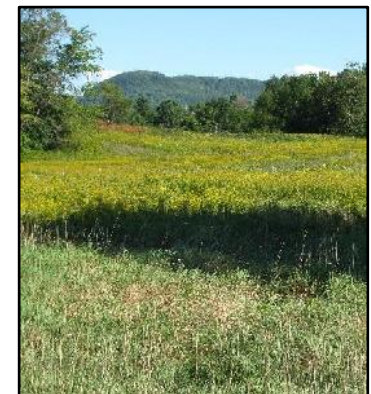
Hinesburg's abundant forests contribute significantly to its wildlife habitat. The hilly eastern portion of Town contains the large tracts of unbroken forests that harbor many species. The Fred Johnson Wildlife Management Area, encompassing 800 acres in Hinesburg and 200 in adjacent Starksboro and the Hinesburg Town Forest of approximately 800 acres, together with private holdings, provide a continuous forest approximately 3,000 acres in size. This significant tract is almost entirely unbroken by roads or house sites. This area of Town has been identified by the State Fish and Wildlife Department as black bear habitat, the site of several deer yards, and is rich with non-game animal & plant species. Minimizing forest fragmentation by road building and development will be important if the rich diversity of this area is to be maintained.

The lowlands of the western portion of Town serve as a different type of habitat. This area is best described as a mosaic of different land uses. Forested areas range from many small woodlots to a few large areas of contiguous forest. The forests on these soils harbor some of the richest assemblages of plant species in all of New England and represent islands of high diversity amid the agricultural

land. The variety of open field, early successional or transition shrub/forest, and forest habitat provides important habitat for certain game species, such as deer, grouse and wild turkey, as well as many nongame species. Although mixed habitat types are beneficial to some species, large tracts of open fields are also critical to a number of declining species. These species (e.g., Bobolinks) are declining regionally as more open field and transition shrub/forest habitat reverts to forest, as field production techniques have changed (earlier and more frequent mowing/harvesting of hay and alfalfa fields), and as lands have changed from agricultural to residential uses. Because this area of Town has also experienced development pressures, providing for the integration of continued growth and open space areas for habitat will be necessary if the area is to maintain its wildlife diversity.

Surface waters, wetlands and floodplains provide some of the richest habitat opportunities in Hinesburg. Some, such as the Carse wetland and the wetland forest along the LaPlatte, have been identified by the Natural Heritage Program as regionally significant natural areas. Wetland and riparian areas throughout Town are important both locally and for adjoining towns as corridors for wildlife movement. These areas also merit protection for other reasons such as open space, water quality protection and recreation.

Natural communities are an integrated way of viewing the landscape that recognizes the connections between plants, animals, and their physical environment. They may be very large, such as the Northern Hardwood Forest in the eastern foothills of Hinesburg, or very small, such as a vernal pool less than an acre in size within the larger forest matrix. Significant natural communities and natural areas are areas of land or water that retain their natural character and contain unusual or significant flora, fauna, geological or similar features. These areas are the best examples of the



various biological communities that presently or historically existed in town. The Vermont Natural Heritage Program identifies natural communities and areas within Hinesburg that are of statewide or regional significance. As of 2015, thirteen areas representing ten different significant natural community types have been identified in Hinesburg (e.g., wet clayplain forest, northern white cedar swamp, etc.).

Given the vast array of wildlife species, from butterflies to salamanders to black bears, nearly every parcel of land in Hinesburg provides habitat to one or more wildlife species. Habitat types of special concern in Hinesburg include:

1. Large tracts of forest and wetlands with few, if any, roads or house sites – i.e., forest interior habitat or core wildlife habitat (see Map 14).
2. Deer wintering areas (see Map 9).
3. Aquatic habitat (i.e., streams, ponds, lakes) and associated riparian (stream bank) areas (see Map 7).
4. Wetlands (see Map 7).
5. Unique habitat related to rare, threatened, or endangered species and significant natural communities (see Map 9).
6. Corridors between the aforementioned areas (see Map 14).

All six of these habitats of special concern deserve attention. New development should address these habitat types and prevent or minimize impacts. Rural area land use regulation revisions passed in 2013 address this with specific development design standards for the most rural parts of town (Agricultural and Rural Residential 2 districts). Similar regulation updates are needed in the Rural Residential 1 zoning district. The extents of these habitats of special concern are generally depicted in the maps that accompany this plan. These maps, supplemented as necessary by on-the-ground information and updates by data providers, shall serve as a reference

for development design standards within Hinesburg’s land use regulations. Definitions of the relevant terminology (e.g., core wildlife habitat, wetlands, wildlife corridors, etc.) are included in the glossary of this plan, and should also be included in the land use regulations – potentially with minor refinements.

Two other habitat types also deserve mention: a) large tracts of open fields and meadows; b) early successional or transition shrub/forest areas. These two habitat types are largely ephemeral and dependent on land management practices. These two habitat types are best addressed through non-regulatory means (education, outreach, etc.).



## Ridgelines and Scenic Areas

### **Goal 5.12 Protect ridgelines and hillsides from improperly planned development.**

#### Actions:

- 5.12.1 Identify scenic view points and work with willing landowners to create public access.
- 5.12.2 Develop strategies, including development review standards in zoning and subdivision regulations, to protect ridgelines and hillsides from inappropriate development. Consider adding this to the list of secondary resources in the rural area design standards.

## Geological Resources

### **Goal 5.13 Ensure that known areas of quality sand, gravel, and stone are protected for current or future use.**

#### Actions:

- 5.13.1 Review zoning regulations to ensure protection of sand, gravel, and stone resources, as well as well-planned extraction in appropriate areas.

---

### Ridgelines and Scenic Areas

A ridgeline is defined as a line marking or following a ridge, top of a hill or ledged area, behind which is open space or horizon. Ridgeline development creates highly visible structures that become prominent features on the landscape, detracting from the natural beauty and nature of Vermont and rural Hinesburg. If the development is visible from a large area, it intrudes upon the rural contours and disrupts the natural environment.

The eastern portion of Town, with its higher elevations, contains the most visible of the Town's ridgelines. Although topography is not as dramatic on the western side of Town the hillsides are visually important because of their contrast to the surrounding lowland. A third area of importance is the land around both Lake Iroquois and Lake Sunset. The slopes rising from the lake shores contribute to the beauty of the settings for both lakes.

The hill areas of Hinesburg are important features for the Town for a variety of reasons covered throughout this plan. Their importance as natural areas and for the scenic values of their ridgelines should be considered as well. Uncontrolled or improperly planned development threatens the environment of hills and ridgelines, and can have adverse impacts on water quality and flooding downslope. Wind energy and telecommunication towers, while supported elsewhere in this plan, require special attention if they are proposed on hillsides and ridgelines.

The scenic resources of Hinesburg are numerous and varied - including wooded hillsides, streams and lakes, meadows and farm land, historic structures, etc. Together these elements form a pattern that we see every day and have come to associate with Hinesburg's character. These areas also form the impression others have of Hinesburg and affect the way the Town is seen as a place to visit, work or live. Generally, changes to the scenic character of the Town happen incrementally. Although each change is





small in itself, the cumulative impact over time is large. Unfortunately, identifying specific areas that are most integral to Hinesburg’s scenic landscape is both difficult and subjective. Varying topography, changing visibility by season and over time as vegetation grows, a diversity of landscape features, variable length of view (foreground, middle, background), and multiple view perspectives all contribute to the complexity of identifying and quantifying scenic resources. Some scenic resource inventory work was done in 2007 by a consultant (LandWorks). Additional inventory and assessment work was done by Planning Commissioners and community members in 2012. A compilation of potentially scenic vantage points along public roads was developed; however, follow up refinement and public input/review was not completed due to higher priority projects and concerns about the subjectivity of the assessment.

### Greenspace Planning

Greenspace, also referred to as open space, is defined as those areas of the Town’s landscape that are valued for their natural resources, ecosystem services, agricultural or forest production, recreational opportunities, scenic views, or other public benefits. Greenspace lands may be actively managed or left in their natural state, but are typically undeveloped and have no building structures, with the notable exception of recreational lands and farmlands, maple sugaring operations, or other similar enterprises within the rural economy.

Hinesburg’s greenspace is also “green infrastructure” that provide services and benefits that are as critical to the town as those provided by transportation, communication, and water and sewer infrastructure. Greenspace protects people and property from natural hazards like flooding, water supply contamination and property loss, provides the habitat needed to sustain plant and animal

communities, supports the rural economy through working agricultural and forest lands, provides places for people to engage in all types of active and passive outdoor recreation, and contributes to our town’s sense of place and rural character.

After a public workshop and survey in 2007-2008, and many years worth of drafting and redrafting, the Conservation Commission finalized the first version of the Greenspace Plan in 2016. The Conservation Commission views this as an evolving and dynamic working document and important town reference that will need to be reviewed and amended over time as additional public input, natural resource data, and updated management tools become available. Public input on the development of priorities for natural resource protection in Hinesburg is critical to the success of the plan as a useful tool. CC will facilitate continued dialogue on how best to protect and enhance the town’s natural resources even as the town continues to grow and develop. It must be emphasized that the goals expressed in this Greenspace Plan can be realized only through the cooperative efforts of Town government, partner agencies and groups, and landowners to responsibly guide and balance land development and conservation activities.

### Geological Resources

Geological resources consist of raw materials like gravel, sand, and stone. These materials are finite commodities that are absolutely essential for our roads, schools, houses, etc. Although extraction can pose challenges due to pollution issues and impact on the surrounding environment, it is important that critical supplies of these resources be available for use.



## Night Sky & Outdoor Lighting

### **Goal 5.14 Protect the night sky resource and reduce light pollution.**

#### Actions:

- 5.14.1 Update the land use regulations to provide much greater clarity and specificity with regard to acceptable outdoor lighting and sign lighting, as well as standards or design specifications for outdoor lighting plans.
  - 5.14.2 Do public outreach and education about light pollution, and what residents can do to minimize impacts from their own properties through simple fixture and light bulb retrofits, as well as what to look for when buying and installing new lighting.
- 

### Night Sky

Not so long ago, nearly everyone could look up at night to see and appreciate a starry sky. The experience of the night sky has changed dramatically with the widespread use of outdoor lighting. Outdoor lighting is necessary for a variety of reasons including safety and commerce.

However, inappropriate or excessive outdoor lighting creates light pollution that can adversely impact not only access to the night sky, but also our environment, safety, energy consumption, and health. Components of light pollution include glare, sky glow, light trespass, and light clutter. Much outdoor lighting is inefficient, overly bright, poorly targeted, and improperly shielded. To minimize the harmful effects of light pollution, lighting should be:

- Only be on when needed
- Only light the area that needs it
- Be no brighter than necessary
- Be pointed downward and fully shielded
- Be of an appropriate color

The Town recognizes the value of the night sky, and feels it is important to ensure light pollution doesn't unnecessarily impact this resource. Furthermore, the Town recognizes the importance of personal privacy with regard to excessive light from adjacent properties. The Town should

explore ways to minimize light pollution that also maintain public and private safety and convenience with regard to outdoor lighting. Public education and outreach materials are available from the International Dark-Sky Association (<http://darksky.org>) and the Dark Sky society (<http://www.darkskysociety.org>).



*US at night from space*



## Introduction

Proper management of community facilities and services is critical to the day-to-day functioning of the Town and its fiscal health. Meeting townspeople's needs at a cost that they can afford is dependent on a thorough inventory of the present facilities and services, a review of future needs and a plan for meeting those needs in a fiscally balanced manner. Existing community facilities and infrastructure are shown in a number of the Plan maps (e.g., base map, sewer & water, town facilities). Future community facilities and infrastructure are described below, and shown on the Official Map (Map 12) – currently focused on the Village Growth Area. Community services also include non-governmental activities.



## General Government

### **Goal 6.1** *Maintain and improve core municipal services in a fiscally responsible and sustainable manner.*

Actions:

- 6.1.1 Keep the capital budget and plan, and public safety impact fees up to date, and implement additional impact fees (e.g., recreation, road, stormwater, etc.) or comparable mechanisms to recoup a reasonable proportion of the cost of capital improvements from new development.
- 6.1.2 Consider creating a volunteer or self-funded (via grant overhead/administration budgets) grant coordinator position to lower the tax burden for existing projects as well as new projects that benefit the community.
- 6.1.3 Explore and locate additional municipal wells to support existing needs (e.g., replacement of Lyman Meadows water system) and new development in the village growth area and larger water service area.**
- 6.1.4 Assess how the Town is impacted by new State water quality standards, and adjust zoning regulations accordingly along with necessary improvements to the municipal water and wastewater system.
- 6.1.5 Revise the Official Map based on on-the-ground changes (e.g., Bissonette Recreation Area), increase the specificity of the desired community facilities shown, and work proactively with landowners to acquire the necessary land for those future community facilities.
- 6.1.6 Strive to generate interest in community service on Town boards and commissions, and to fill vacancies in a timely fashion.
- 6.1.7 Develop a plan for the long term maintenance of municipal buildings and infrastructure. Ensure there is capacity within the organization to plan for those needs, and ensure those needs are adequately funded.
- 6.1.8 Assess the remaining capacity of the Town's gravel pit.

**Top  
Priority**

### **Goal 6.2** *Protect and bolster the health and welfare of the community through hazard mitigation measures, support for children and families, and general public health awareness.*

Actions:

- 6.2.1 Complete river corridor (i.e., fluvial geomorphology) assessment and develop strategies in response to identified risk.
- 6.2.2 Continue to improve highway, culvert and bridge maintenance programs.
- 6.2.3 Improve capabilities of existing and potential public shelters. Review and modify evacuation and sheltering plans based on the results of drills and exercises or procedures implemented in an actual incident.
- 6.2.4 Improve capabilities of existing stormwater management infrastructure.
- 6.2.5 Ensure town and school emergency plans are fully coordinated.
- 6.2.6 Raise public awareness of hazards, hazard mitigation and disaster preparedness.

- 6.2.7 Factor in public health and affordability issues when discussing municipal business – e.g., policy discussions, regulations, budget drafting. Consider adding a public health chapter to the next Town Plan to flesh out these issues, similar to what was done with the 2013 Chittenden County Regional Plan (ECOS plan).

## General Government

General government services include those provided by several departments located at the Town Office – e.g., Town Clerk (two full-time staff), Town Administrator (two full-time staff), Recreation (one part-time staff), Planning and Zoning (two full-time and two part-time staff), and Town Assessor (one part-time staff plus contracted services). These Town staff work closely with the volunteer boards and commissions that set policy and provide oversight – e.g., Selectboard, Planning Commission, Development Review Board, Board of Civil Authority, Recreation Commission, etc. The Town owns 12 buildings on approximately 37 parcels totaling roughly 1380 acres. Town buildings include: town office, old well house, police station, fire station, wastewater pump station & office, old fire station, cemetery pump house, water treatment facility, Geprags Park barn, Piette road water station, highway garage, highway storage building.

As the Town continues to grow and develop, improved public infrastructure and services will be needed to ensure the public's health and welfare, and to ensure a vibrant, active, and connected community. Capital budgeting and planning is one way to delineate future infrastructure and service needs while including cost estimates for these projects. The Town did major rewrites of the Capital Budget and Plan in 2008 and 2016. The plan is updated annually to reflect projected capital budget spending over the next five or more years. In 2009 the Town also adopted an impact fee ordinance (initially for fire and police capital items) which levied fees on new development which are proportional to the development's

expected impact on planned capital improvement investments.

## Roads

*(also see the Transportation chapter)*

After schools, roads are the second largest expenditure funded primarily by property taxes. As of 2016, the Town maintains 21.37 miles of class 2 roads, 32.71 of class 3 roads, and approximately 4.94 miles of class 4 roads. Class 2 roads typically connect with adjacent communities, see more traffic, and in Hinesburg tend to be paved. Class 3 roads are typically local roads, see less traffic, and tend to be gravel. Class 4 roads receive little maintenance from the Town, see little to no traffic, and are sometimes impassable. However, many serve as important trail connections – e.g., class 4 portion of Buck Hill Road West. Some sections of class 4 roads are maintained privately (with Town permission) to allow access to residential properties. The mileage of Town roads has remained relatively stable, though the Town has taken over a few roads in the village area in recent years. As a matter of policy, the Town does not take over roads outside of the village area. Data on the total mileage of private roads is not generally available, but a rough estimate from 2015 E911 GIS data is 30.5 miles. Additionally, the State of Vermont maintains 7.24 miles of State highway (Route 116). As of 2016, the Town Highway Department is comprised of four full-time staff (including the Town Road Foreman). The Highway Department utilizes four dump trucks, a one-ton pickup, a grader, a bucket loader, an excavator, a road-side mowing tractor, and many smaller pieces of equipment.



The Town Garage, built in the early 1970's and expanded in 1985, is located on a 38-acre Town-owned parcel at the intersection of Beecher Hill Road and North Road. This parcel contains the Town's gravel pit, which provides the bulk of the Town's sand and gravel needs for road maintenance. The remaining capacity of this gravel pit is uncertain. It has sufficient capacity for the near term, but a formal assessment is needed to judge how long it will last. The parcel is also the site of a Chittenden Solid Waste District (CSWD) transfer station, a VT Astronomical Society observatory (northeast corner, off Observatory Road) and the former Town landfill. The Town Garage has been inadequate for the needs of the department and in need of replacement for more than a decade. In 2015, the Town began actively planning for construction of a new garage and related site plan improvements. At the 2017 Town Meeting, voters approved a 3.1 million dollar bond for a new highway garage. Construction is anticipated in 2017 or 2018, and coordination efforts are being made with CSWD to retain the transfer station on the site.

Summer and winter road maintenance costs have remained relatively constant at about \$500,000/year for the past several years. Development, particularly on the hill roads, has increased the traffic on gravel roads and, correspondingly, the maintenance needs for those surfaces. The Town's paving program continues in accordance with the goals established by the Selectboard and amended as needed.

The Town needs to discuss whether or not some gravel roads, either in whole or sections of, are at a point where paving is a more effective option from both financial and maintenance perspectives. Generally, when roads begin to serve 40-50 dwellings, paving may become more cost effective than maintaining a gravel road. Several of the hill roads are at, or nearing, this level of dwellings.

Comprehensive cost/benefit analyses need to be done to fully understand the financial, environmental (e.g., stormwater runoff), recreational, and rural character ramifications of paving gravel roads. Community dialogue on these issues is important to ensure that decisions made are inclusive and reflective of the greater good.

Truck traffic contributes to the cost of maintaining Town roads, as does the wear generated by increased residential development both in Hinesburg and in Addison County communities to the south. Because of local industries and the fact that Hinesburg's roads serve as a primary north-south route, the Town experiences a significant volume of truck traffic. The Town continues to improve its setting and enforcement of weight limits. Policy decisions support channeling heavy truck traffic to Route 116, particularly during the spring, when roads are susceptible to even greater damage.

Ditching, shoulder maintenance, and reconstruction of road bases have been identified as areas that can contribute significantly to better long term maintenance of the Town's roads. A road improvement schedule that is part of the capital program is a first step in an effort that will grow more refined as the Town prepares to apply for, receive, and comply with State stormwater permits for roads that will be required in coming years. The new State stormwater permit system for municipal roads is still being instituted (as part of Act 64 passed in 2015), and will require an inventory of erosion issues and a long-term plan to remedy those. Furthermore, the Town continues to review and seek improvements to its road standards to ensure new public and private roads are designed and constructed for the long-term.



## Public Safety: Police, Fire, Rescue

The Hinesburg Community Police Department is responsible for law enforcement in the town, 24 hours a day, seven days a week. This is accomplished by having on-duty officers from 7am to 11pm and providing on call services after 11pm. The department has six full time equivalents with five full time employees and forty hours per week available for part time officers. The Chief is an active duty officer (not simply an administrator) available for calls and working shifts by himself/herself. The department has an administrative assistant that works twenty-five hours per week. The department also has a volunteer that has through statistical reporting been able to make the operation of the department one of the most visible and accountable in the state.

The current staffing level is adequate for the foreseeable future. Expansion of the department would only be necessary with a consistent and considerable increase call volume occurring at the same time requiring two or more officers on duty. The addition of a midnight shift would only be necessary when the call volume rendered the on call program too expensive or ineffective.

An important function of the department is providing medical services to the community. Because department staff has emergency service training, this not only results in a quicker on scene time, it provides support to Hinesburg First Response which may have reduced staffing during the day. This program is very successful and will continue indefinitely.

In February 2014, the department moved into a new 3500 square foot building. The size of the building was able to be reduced by building it next to the fire station making available a kitchen and training room. In addition to the finished areas, on the second floor is 800 square feet of

insulated but unfinished space. This will make any necessary future expansion possible at a considerably reduced cost.

The department maintains four vehicles. The vehicles consist of two all-wheel drive SUV's, one four wheel drive SUV and one sedan. These vehicles are on a six year rotation with two vehicles being leased every three years. This rotation allows for reduced maintenance costs and higher trade in value. In 2017, fleet composition will be reassessed to see if the all-wheel drive vehicles (which are less expensive to operate) can replace the four wheel drive SUV.

The Hinesburg Volunteer Fire Department provides fire protection and emergency medical service for the Town, and has an Insurance Services Inc rating of a 6/9 for its fire protection capabilities. The fire station was built in 1972 and expanded in 2000. As of 2016, the Department operates one Class A attack pumper, one combined pumper/heavy rescue, one tanker, one mini attack pumper (for bad driveways), and one medical response unit. The Fire Department has identified the need for an aerial truck to better protect lives and property in Hinesburg's larger and taller structures (e.g., Cheese Plant, CVU High School, Hinesburg Community School, etc.). The Town's capital budget and program projects acquiring such a truck in fiscal year 2024. The fire station has existing space constraints, making accommodation of an aerial truck difficult. As part of the new police station project in 2014, the Town prepared engineering and architectural plans for an addition to the fire station to address this issue. This fire station expansion project is mentioned in the Town's capital budget and program, but currently has no set timeline for completion.

Medical First Response is provided by both the Hinesburg Police Department and Fire Department. Ambulance



service is provided St. Michael’s Rescue and other area rescue squads. Hinesburg coordinates its overall public safety at the regional level via pre-disaster mitigation planning that deals with natural or man-made disasters and the necessary emergency response. The Hinesburg Fire Department is a member of the Chittenden County Fire Mutual Aid System.

The Town adopted its most recent all hazards mitigation plan in 2011, and is working with the Chittenden County Regional Planning Commission to adopt an updated version in 2017. From the 2011 plan, the most significant risks in Hinesburg are: severe winter storm, power loss, telecommunication failure, water service loss, flooding, epidemic, and economic recession. These will likely remain the most significant risks in the 2017 plan. Mitigation actions are from the 2011 plan are listed in Goal 6.2 above.

### Town Cemeteries

There are 14 cemeteries in Hinesburg, all owned/managed by the Town – see side bar list. The largest by far is the Village cemetery on Mechanicsville Road. Many of the other cemeteries are very small, originating and sometimes still limited to individual families. These cemeteries are overseen by the Town Cemetery Commission. Three cemeteries are currently active – Village, Barker, and Place/Hines/Bissonette.

### Water and Wastewater

The Town of Hinesburg currently owns and operates two water systems, Hinesburg Water System ID# 5070 and Lyman Meadow Water System ID# 20000, and a municipal wastewater system, Discharge Permit # 3-1172. These systems serve the village and some of the surrounding areas, with water lines reaching farther out than wastewater lines (see Map 10, Sewer & Water). The water and wastewater system is managed by three Town staff – a

Superintendent and two system operators. Water and wastewater systems are funded by user fees but both systems benefit the community by providing necessary services for housing, businesses, schools and fire protection. Without these systems, Hinesburg would not have a grocery store, restaurants, car wash, and potentially our community school. These systems are necessary for the Town’s economic vitality, and make

local employment opportunities possible at businesses like CVU high school, NRG Systems, Iroquois Manufacturing, Lantman’s Market, etc. These systems also contribute to the rural character throughout the rest of Hinesburg by making a concentrated village growth center possible. Without these municipal services, development pressure would be even greater in the rural areas where greenspace, agricultural and forestry uses, and natural resource conservation are paramount. Clearly, all residents have a stake in the continuation of these services.

The Hinesburg Water System includes source wells in addition to distribution piping throughout the village area and up Richmond Road to Piette Road. A 500,000 gallon storage tank and booster pump station is located on Piette Road. A major source water and treatment upgrade was completed in the summer of 2016. The upgrade replaced two wells off Stella Road with two new wells and a new building to house an advanced nanofiltration treatment system on the south side of Shelburne Falls Road (just west

### Hinesburg Cemeteries

Name	Location
O’Neil	O’Neil Rd
Hull	Route 116 (south of Place Rd W)
Moses Kenyon	Pond Rd (near Place Rd E)
Barker	Richmond Rd
Village	Mechanicsville Rd
Burritt	Baldwin Rd
Monkton Rd	Silver St
Gilman	Gilman Rd
Tracy	Route 116 (north of Old Rt 116)
Place/Hines/Bissonette	Gilman Rd (near Hines Rd)
Carrol Place	Route 116 (south of Old Rt 116)
McEuen	Route 116 (south of Old Rt 116)
Lincoln Hill	Lincoln Hill
McDonough	Route 116 (north of Tyler Bridge Rd)





of Ballards Corner Road). The new wells were needed to resolve reduced yields and minor MTBE contamination (a gasoline additive used in the past) discovered in 2009 in the two Stella Road wells. Water quality was also improved via the new treatment system, which will remove excessive hardness. The two old wells off Stella Road will no longer be used, but will be kept available in case of emergency or as future supply source should MTBE treatment options be deemed viable. The two new wells have a slightly higher capacity (260 gpm or 187,200 gpd), but not enough to match the remaining wastewater treatment capacity, or to replace the Lyman Meadows water system, or to accommodate the three largest development projects proposed between 2013-2015. As a result, the Town is actively searching for additional water supply by drilling test wells in other nearby locations, evaluating previously drilled test wells (e.g., in Geprags Park, on the Norris property south of the village, etc.), and considering MTBE treatment options for the two older wells. As of April 2016, the Hinesburg Water System supplied water to 466 accounts (residential and non-residential), not including the Lyman Meadow water system users (see below).

In May 2016, the Town updated the water system use ordinance and adopted the first water allocation ordinance. This ordinance delineates a water service area for the first time, along with laying out a procedure for obtaining water allocation prior to use or connection. The ordinance also establishes a connection between municipal water and wastewater allocation to ensure that one is not given without the other. As of July 1, 2016, total remaining water capacity was 53,247 gallons per day (gpd); however, this capacity does not factor in approved but unused allocation (11,195 gpd), loss due to the new nanofiltration system (estimated 21,060 gpd), and a 5% reserve (9,360 gpd). With those adjustments, allocable capacity is 11,632 gpd for the period July 1, 2016 – June 30, 2017. Pursuant

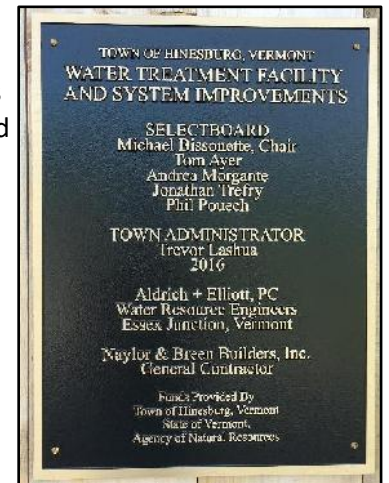
to the new ordinance, 5,000 gpd is for municipal, educational, institutional, and special projects. Another 5,000 gpd is for projects in the village core. This leaves only 1,632 gpd for projects in the rest of the water service area.

The Lyman Meadow Water System consists of a supply well, 40,000 gallon storage tank and control building with distribution piping throughout the condominium complex. This water source does not have MTBE contamination issues, but does suffer from excessive hardness, which negatively impacts users, compelling many to invest in their own water softeners. The Lyman Meadows Water System serves 89 residential units. Decommissioning this well and adding these units to the primary water system is a goal, if another significant water supply can be found and brought on-line.

The Wastewater System consists of collection piping throughout the village and up Richmond Rd, pump station beside the Fire Station and treatment plant located on Lagoon Rd. A sewer service area is defined, within which new connections are possible. The system is permitted by the State for a maximum discharge capacity of 250,000 gallons per day (gpd). The system serves 471 accounts (residential and non-residential) for a total of 600+ equivalent residential units (usage expressed in single-family dwelling units, 210gpd per unit). As of June 2016, the system was at 51.7% of capacity (129,194 gpd) with approximately 17,130 gpd in committed but unused allocation (approved projects not yet built), an estimated 21,060 gpd needed for nanofiltration treatment from the new water system, leaving 33% of capacity (82,616 gpd) available for new development. This is roughly equivalent to 393 new residential dwelling units (assuming 210 gpd/unit). Similar to the water allocation ordinance, 5,000gpd is for municipal, educational, institutional, and special projects. Another 5,000 gpd is reserved for projects



*Piette Rd Water Storage Tank*



in the village core. This leaves 72,616 gpd for projects in the rest of the sewer service area.

Because of the limits on discharge into the LaPlatte River, wastewater capacity is a finite and valuable resource for the Town. Maintaining capacity for use in the Village Growth Area is an important consideration and periodic review of allocation policy is necessary to ensure that the Town's growth objectives are being met. The Town has had a wastewater allocation ordinance since 1989 to help ensure that wastewater capacity is apportioned pursuant to the community's current and future needs. This ordinance also establishes a defined service area that helps conserve capacity and direct it to areas planned for growth. The allocation ordinance and service area were revised in 2010 in light of the Village Growth Area rezoning that was adopted in 2009. It was further revised in 2016 to change set asides for certain areas, to align with the newly adopted water allocation ordinance, and to improve allocation timing with the Development Review Board's project review.

Prior to its closure in 2008, the Cheese Plant utilized fully half of the Town's wastewater capacity (127,500 gpd). After the plant closed, this capacity became available and greatly boosted the system's ability to absorb future development in the Village Growth Area. A significant upgrade of the wastewater treatment plant and pump station was completed in 2010. The project consisted of replacing outdated equipment past its useful life and resulted in better treatment and lower energy costs. The \$1.62 million project received an American Recovery and Reinvestment Act grant (federal economic stimulus money) in the amount of \$822,000 with the balance funded by current and future wastewater system users. At that time, project engineers determined that increasing capacity to 274,000 gpd would be very straight forward without much additional investment – simply a State permit. They also

determined that with additional permitting through the State's Act 250 process, the capacity could increase up to 308,000 gpd without adding any additional treatment processes.

These capacity increases were not pursued, and the prospect for them completely changed in 2015 with the passage of Vermont's "Clean Water Act" and the new Lake Champlain clean up agreement between the State and the US Environmental Protection Agency. The agreement includes a new TMDL (total maximum daily load) for phosphorous discharge into the lake, which requires municipal wastewater treatment facilities to cut phosphorous discharge levels. Hinesburg's facility is currently discharging under the new phosphorous limits, but only because total discharge is only 48.3% of its permitted wastewater flow. Some additional wastewater flow can be accommodated without exceeding the new phosphorous limits, but it's not clear how much given variability in environmental conditions (e.g., rainfall) and management techniques. Additional treatment to remove ammonia (nitrogen) was explored based on permit requirements for similar systems in other municipalities. Ammonia monitoring will be required when the Town renews its State permit in 2017 or 2018, and additional ammonia removal may be required.

A wastewater treatment facility planning study done by Aldrich & Elliott in 2016 provides a detailed analysis of several upgrade options to meet capacity needs while addressing phosphorous and ammonia treatment. A substantial investment (i.e., millions of dollars) in upgrades will be necessary for every option. Renewal of the State permit for the Town's wastewater treatment facility is underway, and will provide greater clarity on necessary upgrades.



Further revisions to the Town's wastewater allocation ordinance are anticipated, and will likely be dovetailed with zoning changes to account for capacity limitations.



## Recreation

### **Goal 6.3 Optimize management and use of existing Town recreational facilities and programs.**

#### Actions:

- 6.3.1 Expand and update the Official Map to include present and desired future recreation areas, fields, facilities, and trails. Make revisions based on decisions already made to relocate facilities (e.g., Bissonette Recreation Area). Create funding mechanisms for needed recreation facilities.
- 6.3.2 Maintain existing facilities including the ice rink, tennis courts, basketball courts, playing fields, sidewalks, and trails.
- 6.3.3 Continue to work with St. George, Williston and Richmond to manage the Lake Iroquois public beach, land and trail system, as well as ongoing efforts to control non-native species (e.g., Eurasian water milfoil).
- 6.3.4 Maintain ownership and control of the Town Forests and the Geprags Park areas. Continue to refine and implement management plans that balance recreational use of the Town Forests and Geprags Park with the protection of natural resources.
- 6.3.5 Continue to offer a range of recreational opportunities through programs, the arts, and sports to serve all ages in the community with special attention to the growing senior population.
- 6.3.6 Make recreational activities in the village area easily accessible to pedestrians and bicyclists by creating additional and more direct connections – e.g., Town Office, Lyman Park, HCS, CVU, Library, future Bissonette Recreation Area.
- 6.3.7 Recognize that class 3&4 dirt roads are used extensively for recreational activities such as walking, biking, and horseback riding. Ensure that these uses are considered when road improvements are made. Consider year-round parking areas to facilitate access. Maintain public access to all town road corridors, active or inactive.
- 6.3.8 Continue to work with the VT Department of Fish and Wildlife to facilitate use of state-owned land for recreation and hunting, including the development of trails.

### **Goal 6.4 Create additional recreational facilities to serve town residents.**

#### Actions:

- Top Priority 6.4.1 Construct the Bissonette Recreation Area.**
- 6.4.2 Pursue opportunities for valuable lake and stream access as they arise.
- 6.4.3 Conduct a study of current and future recreational needs and identify locations for parks, fields and other facilities, paying particular attention to high density residential areas and changing demographics.
- 6.4.4 Budget for and develop sidewalks, paths, and trails in the village area as shown on the Official Map, as well as the high-density residential area along Richmond Road.

- 6.4.5 In keeping with Complete Streets legislation (Act 34, enacted in 2011), consider appropriate accommodations for pedestrians and cyclists (e.g., sidewalks, bike lanes, widened shoulders) when making improvements to paved roads. Identify, evaluate, and prioritize road segments most in need of improvements for pedestrian and bicycle use. Pay particular attention to paved roads that connect the village to the rural parts of town, or serve as likely routes for bicycle commuting, in order to bolster bicycle use and improve safety for non-vehicular users of the road.
- 6.4.6 Seek private landowner permission or permanent easements where needed to develop trails connecting existing portions of the trail network.
- 6.4.7 Keep recreational offerings and facilities at pace with growth in population and the aging demographic.
- 6.4.8 Continue to support recreational and cultural programming that provides entertainment in the performing arts.

## Recreation

A part time recreation director was hired in 1995, establishing the Hinesburg Recreation Department with oversight by the Recreation Commission. The Department offers a wide range of recreational programs for children and adults, making full use of Town facilities. Outdoor field space is especially in demand. Fields for municipal recreational use include the field at Lyman Park (when not being used by HCS programs, which have priority) and a relatively small field behind the Town Office. The availability of other field space at the United Church fields (next to Town Office field), HCS, and Champlain Valley Union High School is extremely limited. For many years, the Recreation Commission has identified the lack of municipal recreation field space as their most pressing issue. Thanks to a generous donation of land adjacent to the Village Growth Area by the Bissonette family in 2014, the Town planned and secured permits for the creation of a new recreation area. Once built, this new facility will provide two full-size, multi-use playing fields, one baseball field, a playground area, a small multi-purpose building (e.g., equipment storage, restrooms, concessions), and a supporting parking lot and access from Shelburne Falls Road. Fundraising for the project is ongoing, and the first phase broke ground in 2016.

## Village Area Parks & Recreation Areas

Existing parks and recreation areas within the village area include Lyman Park, Wainer Park, and Memorial Park. Lyman Park is located behind Lantmans Market, and is comprised of a combination soccer field and baseball diamond. Wainer Park is behind the Hinesburg Community School, and is exclusively for school use during the school day. It provides a playground, a combination soccer field and baseball diamond, a pavilion where summer concerts are held, two tennis courts, a basketball court that doubles as an outdoor ice rink in the winter, and a walking trail. Memorial Park is along the significant curve in Route 116 near the Silver Street intersection. Its purpose is for contemplation rather than outdoor recreation, as it hosts monuments to Hinesburg residents that served in the armed forces during periods of conflict.

## Trails

Outdoor recreation in the village area is also supported by a 4.4-mile network of sidewalks and multi-use paths that help create a walkable community. These concrete and asphalt walkways are supplemented by an extensive public trail system (approximately 3.2 miles) on the east side of the village on the Russell family property and the Thistle Hill property. Outside the village area, unpaved roads and trails provide opportunities for walking, biking, horseback



riding, skiing, and snowshoeing. Town-wide, there are 32 miles of publically accessible trails located on State, Town, and privately owned properties. In addition to these trails, a seasonal network of snowmobile trails (primarily on private property) is maintained by the Iroquois Snow Beavers as part of the VT Association of Snow Travelers (VAST) statewide snowmobile trail system. In addition, there are trails on private land that trail users can access only with express permission of the landowner.

Connectivity between the various trail networks is limited. One goal of the Trails Committee is to stitch together the existing sidewalks, unpaved roads, public trails, and private trails into a safe, well thought out, interconnected system. With public input on priority recreation destinations and connections, the Trail Committee created a vision for a connected trail network, which is reflected on Map 13 (Trail Network Vision). Implementing this vision will rely heavily on: 1) bicycle and pedestrian improvements to paved roads emanating from the village, and 2) the permission and goodwill of many private landowners to interconnect outlying trails.

### Town Forests & Parks

The Town owns three significant areas of land suitable for both trail use and other types of outdoor recreation. These parcels are representative of Hinesburg's rich and unique natural heritage in the Champlain Valley, which includes its geology, ecology, and cultural history. They contain a diverse mix of open and forested land which is home to a wide variety of plant communities and organisms – some of which are rare or endangered within Hinesburg and even North America; include the headwaters of the LaPlatte River; have an established network of trails and history of use by the public for walking, snowshoeing, skiing, hunting and education.

The 800-acre Hinesburg Town Forest on the eastern side of the Town was created in the mid-1900's. While this Forest is largely undeveloped, it does have an extensive trail system with 18 miles of trails that accommodate mountain bikers, hikers, snowshoers, ATVers, and equestrians. This Town Forest serves as an important conservation and recreational resource as outlined in the management plan adopted in 2012. The management plan is implemented by the Town Forest Committee working in cooperation with partners (e.g., Chittenden County Forester, Fellowship of the Wheel, etc.) and other Town committees.

The second parcel is Geprags Park, on Shelburne Falls Road just west of Ballards Corners Road, and consisting of approximately 85 acres. It provides three miles of trails for walking, a sledding hill, areas for picnicking and conservation education opportunities in close proximity to the village and schools. Donated to the Town for conservation, recreation, and education by the Geprags family, the Conservation Commission is responsible for managing the park.

The third parcel is the LaPlatte Headwaters Town Forest (LHTF) in the western part of Town. This 301-acre parcel was donated to the Town by the Hinesburg Land Trust with conservation easements held by the Vermont Land Trust and the Vermont Housing and Conservation Board as part of a larger project in cooperation with other local, state, and federal organizations and agencies to conserve the 600-acre Bissonette Farm. There is a plan to complete a full length path from the Lewis Creek Entrance to the northern edge of the LHTF. A management plan for the LHTF was approved in 2009. That plan provides specific guidelines for the LHTF management including vision and goals, permitted and restricted uses, background and description as well as management objectives, guidelines and action. The management plan is implemented by the Town Forest



Committee working in cooperation with conservation partners and other Town committees.

### Lake Iroquois Recreation District

Hinesburg is also a member of the four-town Lake Iroquois Recreation District (LIRD) along with the towns of Richmond, St. George, and Williston. The LIRD beach area and its 150 acres of open land are located on the northern shoreline of Lake Iroquois in Williston. These lands serve residents of all four communities by providing affordable public access to swimming, picnicking, playground equipment, and walking trails in a beautiful and unique local recreation area, open Memorial Day through Labor Day.

### State Lands & Conserved Lands

As shown on Map 11 (Public Facilities & Conserved Land), State lands and conserved private lands also provide Hinesburg residents and the greater region with a substantial land base for a variety of outdoor recreational opportunities. There are over 1,350 acres of State-owned lands for wildlife conservation, hunting, and outdoor recreation. These include the Fred Johnson Wildlife Management Area (1,150 acres) on Hollow Road and Lincoln Hill Road, the Gillepsie Copp-Welch conservation lands (96 acres) adjacent to and south of the LaPlatte Headwaters Town Forest, and riparian conservation lands (220 acres) along portions of Lewis Creek. The Nature Conservancy owns and manages the Raven Ridge Natural Area, which stretches from Lewis Creek south along a scenic ridge on the boundary of Charlotte and Hinesburg to a large wetland complex in Monkton. Its 360 acres (95 acres in Hinesburg) provide a refuge for a variety of wildlife (e.g., ravens, bobcats, Indiana bat, etc.) and are open to the public. The University of Vermont owns and manages the 225-acre Carse Wetland Natural Area on the east side of Baldwin Road. Donated to UVM by the Carse family with

conservation easements held by the VT Land Trust, this large wetland complex with surrounding fields and forest is utilized for education, research, and outreach activities, including public access with certain use limitations.

Private recreation areas also add value, local jobs, and outdoor recreational opportunity. Although privately owned and operated, most of these areas in Hinesburg are open to the public for a use fee. Areas such as Cedar Knoll Country Club, Sleepy Hollow Inn Ski & Bike Center, Taproot Horse Farm, Livery Horse Farm, Neverland Horse Farm, etc. help maintain large acreages that bolster the rural landscape while providing a solid tax base and creating local jobs.



#### Public & Conserved Land

Ownership	Acres	% of Town
State Conserved	442	1.7%
State Non-Conserved	946	3.8%
Town Conserved	386	1.5%
Town Non-Conserved	1002	4.0%
Private Conserved	1926	7.6%

- Approximate acreages from 2016 tax map parcel data. Private conserved slightly overestimated (farmhouse areas included on conserved farms).
- Conserved lands have deed provisions or easements to prevent development.
- For example, both of Hinesburg’s Town Forests are in public ownership but the 800+ acre property on Hayden Hill Road has no development restrictions, while the 300-acre property on Gilman Road has conservations easements that restrict development.



## **Schools & Child Care**

***Goal 6.5 Encourage cooperation between Town and school officials in the planning and use of school facilities and programs.***

Actions:

- 6.5.1 Encourage the continued use of school facilities as focal points for a wide range of community activities.
- 6.5.2 Work with the schools to monitor growth and its impact on school facilities and services.

***Goal 6.6 Ensure adequate opportunities exist for the creation and maintenance of child care infrastructure.***

Actions:

- 6.6.1 Encourage the continued use of municipal and school facilities for private and public child care opportunities.
- 6.6.2 Work with the schools, the Town Library, the Town Recreation Department to ensure quality after-school programs are available.

***Goal 6.7 Ensure the provision of quality child care via appropriate business assistance and work force development.***

Actions:

- 6.7.1 Assist child care providers by supporting existing regional referral systems and agencies.
- 6.7.2 Include child care referral information, agency links, and training opportunities on the Town's web site.
- 6.7.3 Promote accreditation and child development credentials, particularly for home-based care providers, by providing facilities and logistical support for training opportunities.





## Schools

Hinesburg is served by two public schools. The Hinesburg Community School (HCS) serves PreK through grade 8, and the Champlain Valley Union High School (CVU) serves grades 9-12.

The Hinesburg School District was part of the Chittenden South Supervisory Union (CSSU) since 1962. Other towns in CSSU include Charlotte, Shelburne, St. George, and Williston. The union is probably most visible in the building and operation of the union high school. Until recently, the five town school districts continued to maintain their own school boards. Three school districts each operate one PreK-8 school (Charlotte, Hinesburg, and Shelburne); one district operates two schools for PreK-8 students (Williston); and one union district operates a high school for grades 9-12 (Champlain Valley Union High School). St. George does not operate its own school and is currently under contract with Williston for schooling K-8 students.

This organizational structure changed as a result of a 2016 vote in all five communities to merge school governance for all the CSSU districts. The new Champlain Valley School District (CVSD) became fully operational on July 1, 2017, following a year of transitioning from seven boards to one board. Beginning with Town Meeting Day in March of 2017, one budget is presented to voters each year for a networked system of education to be voted by Australian ballot with votes from each of the towns co-mingled for counting (a model similar to what has been done for years with the CVU budget). Hinesburg residents will see few immediate changes in the operation of schools. Students will still attend their neighborhood school until they advance to high school. What might not be as visible to the average resident are the benefits gained through an ability to better share resources across all schools, with gains of increased efficiencies and flexibility in the merged system.

The newly merged school district is one of the largest in the state with nearly 900 employees and a budget of over \$70 million. Based on fall 2015 counts, the combined average daily membership for all CSSU schools was 4187. See accompanying figures for enrollment history at HCS and CVU. HCS has a capacity of 670 students as of 2015. HCS enrollment was 521 for the 2015-2016 school year, and the forecast is for slightly increased enrollment for the next 5-10 years, reaching a maximum of about 560 students. CVU has a capacity of 1490 students as of 2015. CVU enrollment increased to a high of 1408 in 2010. CVU enrollment gradually declined since that peak to 1260 for the 2016-2017 school year, and is expected to remain relatively steady for the next 5-10 years. Beginning July 1, 2017, facilities improvements are decided by the new 12-member board, with annual budgets and any bond votes decided by all voters in the new district. With recent renovations to HCS and a substantial CVU expansion in 2005, no major facilities improvements/expansions (beyond regular maintenance and upkeep) are anticipated in the near term for either of the Hinesburg schools.

The larger consolidated district has the ability to absorb and respond to fluctuations in student enrollments much more easily than could a smaller district. The CVSD Board has not yet had the opportunity to develop policy related to student placement. However, early discussions point to a future system that might have some flexibility for students. For example, a school with a shrinking enrollment might be able to absorb students from a neighboring town in the CVSD that has an expanding enrollment, thereby allowing for greater predictability for facilities planning. We know, for example, that the Hinesburg Community School's footprint is at capacity for the site. However, the CVSD can look to our neighboring



communities in Charlotte, Shelburne, and Williston for potential options for future student placements should the need for space arise.

On July 1, 2017, all properties of the Hinesburg School District, including facilities, transferred to the Champlain Valley School District.

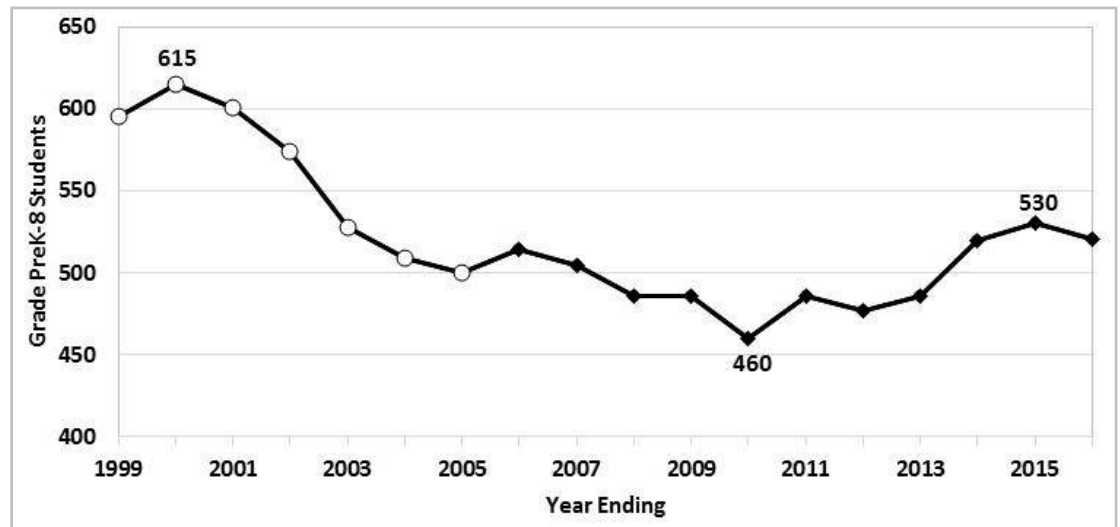
CVU completed expansions in 1994 and 2005, both of which provided classroom space and support facilities for anticipated enrollment growth, coming from the communities of Shelburne and Williston. In addition, the Carpenter-Carse Library continues to provide space for the Life Program. The Life Program is one of the oldest public school alternative programs in Vermont, serving the CVU community since the early 1970's. It provides an alternative route to graduation for students who are at risk of not graduating in the CVU mainstream classroom environment.

### Child Care

In addition to school-aged education, child care and early childhood education are important components of the overall Hinesburg community and its future. Ensuring accessible, affordable, quality child care is integral to the community's success and its economic development. Child care is an issue of statewide and national importance as evidenced by the Vermont Legislature's decision in 2003 to add it as the 13th goal to be addressed by local, regional, and statewide planning efforts.

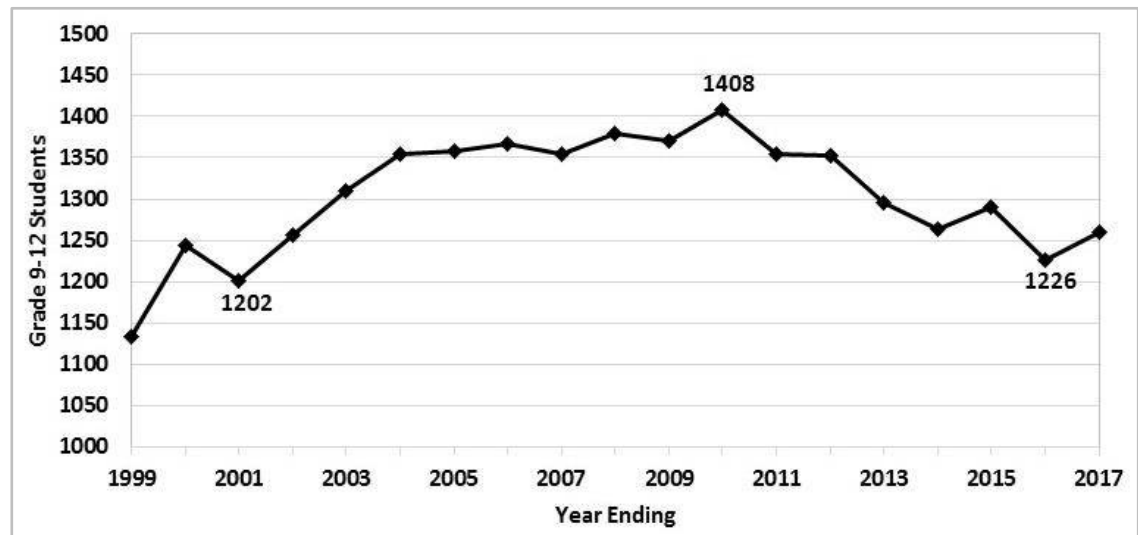
As of the 2010 Census, Hinesburg had 280 children under the age of five (6.4% of the Town's population). The size of this cohort of young children has been declining since 1990 (410, 10.8% of the Town's population), approximately 67% (261) of which had all parents in the labor force. Hinesburg

**Hinesburg Community School Enrollment**



Source: Chittenden South Supervisory Union  
 Note – 1999-2005 data is only K-8 (i.e., no PreK)

**CVU High School Enrollment**



Source: Chittenden South Supervisory Union

had 845 children between 5-19 years old (19.2% of the Town's population). This cohort's percentage of the Town's population has been declining since 1980.

As of 2016, data from the Child Care Resource of Chittenden County (CCRCC) indicated that Hinesburg has four home-based child care providers with a total of 28 slots. Of these 28 slots, eight are for infants (0-2 years old), 16 are for preschoolers (2-5 years old), and four are for school-aged children. This is a significant decline from 2010 (9 providers, 74 slots) and 2004 (10 providers, 83 slots).

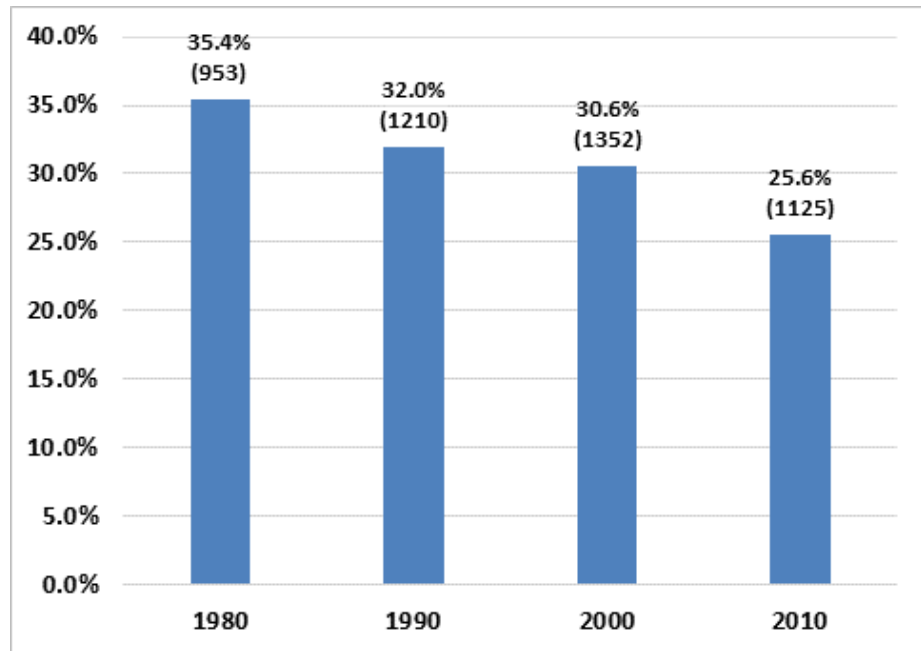
### Full-Day Center-Based Child Care

Annette's Preschool is Hinesburg's only full day early care and education program serving families with children age 6 weeks to 12 years. It is a five STAR, licensed center with a capacity of 116 on over four acres of green space. In spring 2016, the enrollment was in excess of 100, with approximately 61% families resident in Hinesburg. Annette's offers part week, part day and full day programming, including a full time summer camp program for school agers.

### Part-day Preschool

Universal Pre-K became part of Vermont's educational landscape in 2014 with the passage of Act 166. School districts provide publicly funded pre-K education for children ages three, four, and five years old, who are not attending kindergarten. The publicly funded program covers the cost for 10 hours per week for 35 weeks (i.e., during the school year). The educational experiences will be provided by establishing partnerships with community-based early care and education programs, by operating a school-based Pre-K program, or in Hinesburg's case by doing both. There are three preschool programs in Hinesburg: Hinesburg Community School, Hinesburg

**Youth 0-19 Year Old Cohort, Hinesburg, 1980-2010**



Source: Census (decennial)

Nursery School and Annette's Preschool (discussed above). The Hinesburg Nursery School operates from 8:30-12 and has part-week and full-week options. It has a capacity of 15 preschoolers per day, and was full in spring 2016. The Hinesburg Community School program is open to eligible families from Hinesburg.

### After-School Only Program

The Chittenden South Supervisory Union operates the Imagine After School program at the Hinesburg Community School. It has a licensed capacity of 100, but a desired capacity of 75. In spring 2016, enrollment was approximately 85. The Clubhouse at Annette's Preschool provides after school and vacation camp programming for 28 children, ages 5-12.

Child care during the summer months is supplemented by a number of summer camps offering part-day opportunities. Throughout the year, the Town's Recreation Department also provides a wide variety of programs for younger children. Although not child care in the traditional sense, these activities represent part of the Town's investment in the enrichment, care, and education of children.

Overall, Hinesburg appears to lack an adequate supply of child care openings for younger children, especially those under three years old. CCRCC indicated that one of the four home-based providers is planning to retire in 2017, which could further exacerbate this issue. As indicated in Chapter 2, Hinesburg's overall population should continue to grow, but the relative proportion of children is on the decline. Regardless of this decline, having enough child care for children under three will likely remain an issue.



## Services for Elders and the Disabled

**Goal 6.8** *Explore infrastructure needs and additional services to address the growing senior population as well as those with disabilities.*

Actions:

- 6.8.1 Create a task force to study the needs for and then implement ways to deliver services to the Town's senior population. This task force should also explore locations and options for funding a community center to serve a wide range of residents, including seniors and the disabled.
- 6.8.2 Work with the Hinesburg Community Resource Center, Hinesburg's religious institutions and other partner groups (e.g., CVAA, VNA, etc.) to enable additional programs and services for elders and the disadvantaged, and to promote safe and reliable transportation options to ensure that elders and homebound residents have access to those services.

**Goal 6.9** *Promote healthy living and active participation in the community.*

Actions:

- 6.9.1 Provide recreation programs and/or outreach designed for seniors to promote regular exercise and community engagement in order to delay the onset of health complications (e.g., hypertension, diabetes, etc.), and to encourage participation in the community.

---

### Services for Elders and the Disabled

As noted in the demographics section of the plan, Hinesburg's population of adults over the age of 55 is growing rapidly, and the percentage of residents 75 or older is expected to double between 2010 and 2030. There were approximately 136 residents 75 or older in 2010 Census. It is important that the community ensure that older and disabled residents have access to programs and services in Hinesburg in order to remain healthy, independent, and connected. In addition to addressing basic accessibility issues, the Town should be working proactively on other infrastructure (e.g., sidewalks, benches, etc.) and age-appropriate services. Conversation and outreach are the first steps to better understanding of what services would be most appreciated and beneficial.

The town's only dedicated housing for elders and the disabled is the 24 dwelling unit Kelly's Field development located in the center of the village area. Additional senior housing (especially for independent living) is needed. Town-wide food services include Meals on Wheels, a hot lunch program delivered by volunteers, and a weekly senior lunch held at the United Church, both sponsored by the Champlain Valley Agency on Aging. The United Church also hosts free monthly community dinners open to all. St. Jude Parish Catholic Church offers senior lunches twice monthly. The Hinesburg Community Resource Center operates a Food Shelf for those who have a need, as well as the Hinesburg Rides community transportation program that utilizes volunteer drivers (and SSTA) to provide transportation to medical appointments, shopping, etc. The Visiting Nurses Association, and Home Health Care Aids provide services and contact to those who are home bound.



## Library

### **Goal 6.10 Maintain and improve library services.**

#### Actions:

- 6.10.1 Actively encourage access to and training on digital technology - e.g., e-books, video streaming, periodical databases, podcasts, etc.
- 6.10.2 Assess demand and make e-readers available for lending as needed.
- 6.10.3 Continue to offer children's programs (e.g., lego club, crafternoon, story time, etc.), and re-establish a consistent schedule of adult programs.
- 6.10.4 Encourage additional use of the library facility by outside groups.
- 6.10.5 Develop a marketing plan to promote library programs and services.

## Solid Waste

### **Goal 6.11 Minimize and manage solid waste in collaboration with the Chittenden Solid Waste District (CSWD).**

#### Actions:

- 6.11.1 Work collaboratively as a member of CSWD to retain the drop off center at the Hinesburg Town Garage site.
- 6.11.2 Through CSWD, continue to educate community members about solid waste issues, and upcoming requirements for dealing with food scraps.

## Library

The Carpenter-Carse Library is administered by a nine-member elected board, and receives the bulk of its funding from the Town. There are currently 10 library staff that work a total of 158 hours per week (3.95 full-time equivalents). The library is located on Ballard's Corner Road at the north end of the Village Growth Area. It has been in this location since 1997. Prior to that it was in the village core in a small brick building built to house the library in 1947. The current facility provides staff and patrons with 5,000 feet of space, with an additional 1,000 square feet for future expansion.

The library's mission is to offer people of all ages the equal opportunity to read and learn in a bright, welcoming

environment that serves as a community gathering place. The library collects materials of both current interest and lasting value in response to the needs and preferences of patrons. The library provides encouragement and diverse resources to parents and caregivers to help instill a love of reading in all young children. The library supplies the reliable information resources necessary for lifelong learning and is committed to the informed and free exchange of ideas through discussion and speaker programs.

In fiscal year 2014-2015, the library's overall circulation (books and other media) was 44,724 items with 23,280 patron visits with additional use by outside groups. The library offered 151 programs in FY2015 with a total attendance of 2,353.



The library offers reference, reserve and reader advisory services as well as internet instruction. It provides access to the Vermont Online Library, participates in the interlibrary loan network, and belongs to a county-wide lending system that allows eligible patrons to borrow at any member library. Services available on the library website include an online catalog, downloadable audiobooks, and online learning in 36 foreign languages as well as English as a second language.

### Solid Waste

Hinesburg is a member of the Chittenden Solid Waste District (CSWD). CSWD is the regional authority responsible for the oversight and regulation of solid waste generated by its members pursuant to the District's Charter which was enacted by the Vermont legislature on March 3, 1987. Its authority and responsibilities are described in the District's current Solid Waste Management Plan. CSWD's solid waste management system is based on the following hierarchical priorities: 1) reduction of the volume of the waste stream, 2) reduction of the toxicity of the waste stream, 3) reuse, 4) recycling and composting, and 5) disposal. Membership in CSWD satisfies the municipal solid waste planning requirements of 24 V.S.A., 2202a. Consistent with Vermont's universal recycling and compost law (Act 148, passed in 2012), CSWD and area waste haulers implemented a "Pay-As-You-Throw" system to incentive reduction, reuse, and recycling by having pricing more accurately reflect the amount of trash collected from a household. Universal recycling (ban on recyclable materials from landfills) was also required in 2015, but had already been implemented by the CSWD years earlier. In 2020, food scraps will also be banned from landfills in favor of alternative disposal/reuse options such as composting.

CSWD operates a full-service drop off center near the Town Garage (Map 11, Town Facilities & Conserved Lands). Household solid waste, recyclables, food scraps for composting, certain regulated wastes (including tires, appliances, scrap metal, batteries, fluorescent tubes, electronics, yard debris, motor oil, and propane tanks) are collected weekly at this facility and transferred to district facilities for disposal and/or further processing. As an alternative, many residents contract with private haulers for solid waste disposal. In 1992, the Town completed the closure of its long-time landfill, located northwest of the Town Garage off of Observatory Road. As noted in the roads section, the Town is currently planning to build a new highway garage, and adjust the overall site plan for both the garage and the CSWD drop off center.

### Utilities

Electrical service for Hinesburg is provided by Green Mountain Power in the village and generally to the west of Route 116, and by the Vermont Electric Cooperative for the remainder of the town. Distribution of three phase power for more intensive electricity users (e.g., industrial) is more limited. In particular, this service is needed but lacking in the Industrial 1 zoning district on the south side of town. The town is traversed by a major Vermont Electric Power Company (VELCO) transmission line, running west of Route 116 from north to south. Vermont Gas extended its natural gas lines to Hinesburg in 2009, and now provides service within much of the Village Growth Area. It recently built a new gas transmission line through Hinesburg to Middlebury, largely along the aforementioned VELCO transmission line. Waitsfield Champlain Valley Telecom provides telephone and DSL internet service to the entire town. Comcast provides cable television, high speed internet, and phone service to a more limited portion of town.

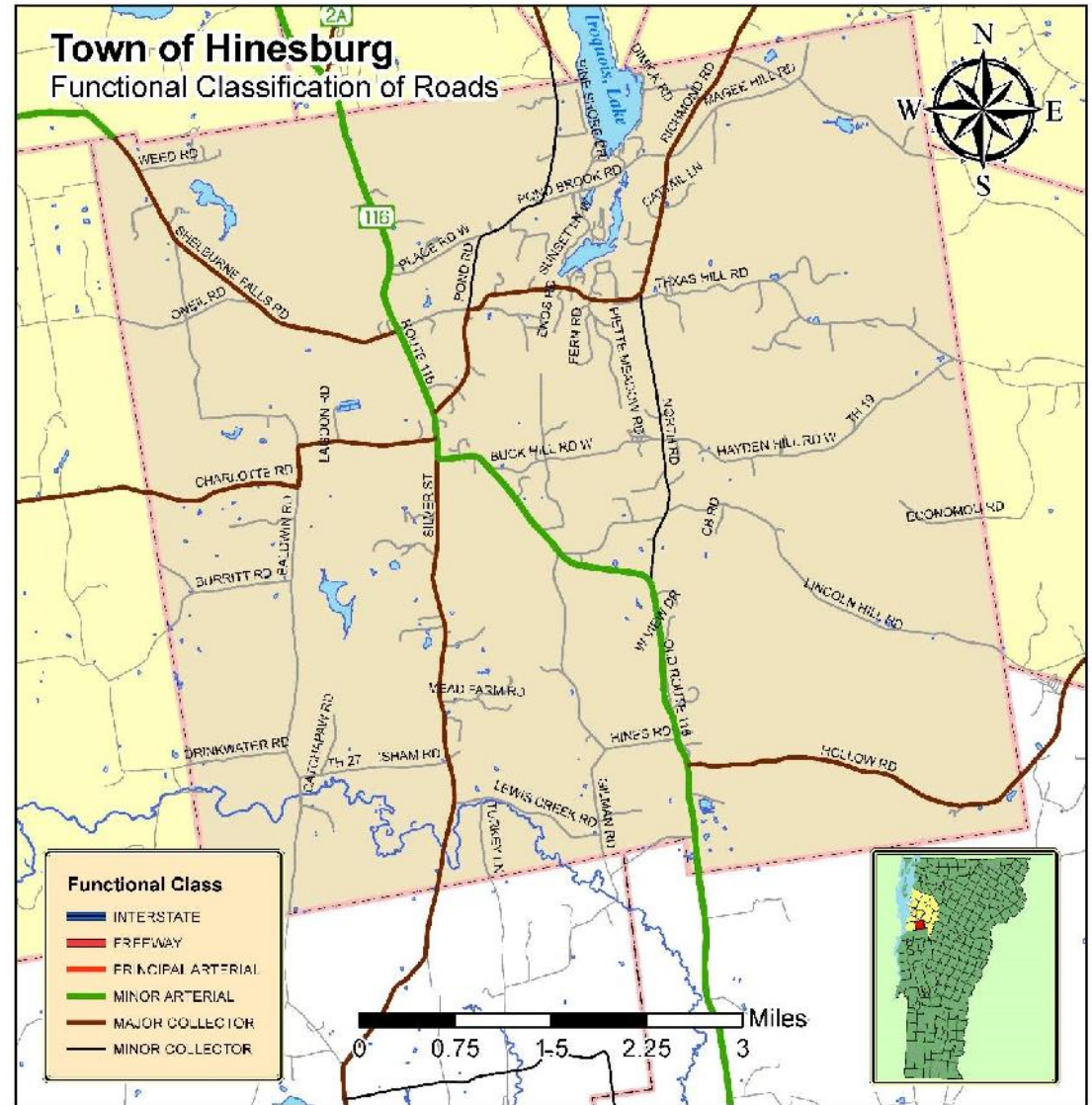


# Transportation

# Chapter 7

## Introduction

Hinesburg's transportation network serves to connect the community and as a gateway for travel into Chittenden County from the south. Dominated by nearly 100 miles of roads, this network also includes sidewalks, multi-use paths, and trails. Although the heaviest traffic volumes are seen on the major north/south state highway (Route 116), the village area sits at a crossroads that collects traffic from several directions and adjacent communities. This creates economic vitality as well as traffic congestion challenges. Planning for complete streets that serve all users (vehicular, pedestrian, cyclists, transit) is critical to meeting those challenges.





**Goal 7.1** *Improve the efficiency of traffic flow through the village area, particularly vehicular congestion and long queues along Route 116 during peak hours, while ensuring vehicular, pedestrian, and bicycle safety.*

Actions:

- 7.1.1 Continue working collaboratively with the State on completion of the planned improvements to the Route 116, CVU Road, Shelburne Falls Road intersection.
- 7.1.2 Prioritize the final design and installation of planned improvements to the Route 116, Charlotte Road intersection. Discourage the installation of a traffic light at the Route 116, Mechanicsville Road intersection unless it can be conclusively demonstrated that such a light will not exacerbate traffic congestion along Route 116.**
- 7.1.3 Study design options and costs to convert Stella Road and the Cheese Plant driveway into a public road. Establish a timetable and a capital budget plan to accomplish this. Continue to ensure that new development furthers the Official Map via interconnected road networks to help facilitate traffic flow in the village area.
- 7.1.4 Work with the owners of the Mobil Short Stop and the Aubuchon Plaza on Commerce Street to relocate their access points farther away from Route 116 to improve safety and traffic flow at this intersection.
- 7.1.5 Determine desired level of service for each of the Route 116 intersections in the village area during peak traffic times.

**Top  
Priority**

**Goal 7.2** *Maintain and improve public roads to ensure they continue to serve the community, and provide access to non-vehicular users in conformance with the goals of Vermont's Complete Streets legislation.*

Actions:

- 7.2.1 Work with the State and the Chittenden County Regional Planning Commission to further evaluate and implement improvements in the village area as discussed in the 2014 Route 116 Corridor Study. Be receptive to roundabouts and other innovative intersection improvements where appropriate. Continue making incremental improvements such as planting and protecting street trees, adding on-street parking, improved lighting for pedestrians, bench and artwork installation, repair of existing sidewalks, etc.
- 7.2.2 Research and coordinate with the State on village gateway traffic calming strategies to promote safe speeds when entering the village area – e.g., lane dividers, special signage, landscaping, rumble strips, etc.
- 7.2.3 Ensure pedestrian, bicycle, and recreational use of roads is viable – e.g., assess and adjust road widths, implement traffic calming as needed (e.g., signage, street tree plantings, addition of stop signs), speed enforcement. Also see action item 6.4.6.
- 7.2.4 When appropriate, coordinate road improvements and bicycle/pedestrian connections with adjoining towns (e.g. Charlotte, Shelburne).

**Goal 7.3** *Support public transit and community infrastructure to help reduce vehicle miles driven, village area traffic congestion, associated energy usage, and environmental impacts.*

Actions:

- 7.3.1 Implement plans for a multi-use, municipal parking area behind the Fire Station that will serve as a centrally located park and ride facility and public transit stop.
- 7.3.2 Ensure park and ride facilities are welcoming through proper maintenance and the use of signage, shelters, lighting, cellular phone and wifi coverage, etc.
- 7.3.4 Maintain Green Mountain Transit (GMT) membership, and continue to support and promote public transit services provided by GMT and Addison County Transit Resources (ACTR). Continue working with all partners to advocate for alternative public transit funding sources to reduce reliance on property taxes.
- 7.3.5 Network and partner with businesses and/or neighboring municipalities to encourage expansion of bus service and schedules to help reduce traffic volumes in Hinesburg.

**Goal 7.4** *Identify and seek to resolve road-related water quality issues with particular attention to the requirements of State’s new stormwater permit for municipal roads (also see Chapter 5, Goal 5.6).*

Actions: See actions 5.6.4 & 5.6.5

**Goal 7.5** *Continue to improve transportation infrastructure to better address pedestrian/bicycle safety and accessibility.*

Actions:

- 7.5.1 Install sidewalks to fill in the gaps within the village growth area as shown on the Official Map. Focus first on sidewalk projects that have completed feasibility studies.
- 7.5.2 Consult with the State on the viability of the crosswalk concepts for the Route 116, Mechanicsville Road intersection contained in the 2014 Route 116 Corridor Study. Find and implement a crosswalk solution.
- 7.5.3 Repair/improve the sidewalk segment along the east side of Route 116, and south of Kelley’s Field Road, in order to stop water (and ice in the winter) from accumulating on the sidewalk.
- 7.5.4 Develop a system of footpaths and trails throughout the town in conjunction with the rural development portions of this plan, and as identified on Map 13 “Trail Network Vision: Existing Routes and Gaps.”
- 7.5.5 Work cooperatively with private land owners (e.g., via easements and license agreements) to allow public non-motorized recreational use of land or roads to facilitate connectivity between existing and planned trail segments.

- 7.5.6 Evaluate improvements to selected class four roads to function better as components of the town-wide trail network.
- 7.5.7 Update the capital budget and plan to include funds to widen road shoulders for improved bicycle/pedestrian accessibility and safety.

**Goal 7.6 Refine and implement transportation policies and plans that further the community’s goals and objectives.**

Actions:

- 7.6.1 Update the Town road standards to improve differentiation between the different types of roads in the town and to allow for different widths, turning radius, etc., in an effort to minimize road impacts (e.g., stormwater runoff, erosion), reduce installation and maintenance costs, and preserve rural character while still providing necessary emergency vehicle access.
- 7.6.2 Continue to consider taking over responsibility for Route 116 through the village area in order to have more control over road design, street tree installation, signal timing adjustments, required improvements for new development, crosswalk installation, signage, etc.
- 7.6.3 Require that new development utilize shared access points on to public roads whenever possible.
- 7.6.4 Discourage lighting on rural roads for both new and existing development.
- 7.6.5 Minimize speeding through speed enforcement and road design, and seek lower speed limits in densely settled areas.

**Existing Network**

As noted in chapter 6, Hinesburg has a total of 59.02 miles of Town roads, 7.24 miles of state highway (Route 116), and approximately 30.5 miles of private roads. Motor vehicles are the dominant use on most of these roads; however, bicycle, pedestrian, and other recreational users (e.g., horseback riders) also share the road network. Hinesburg’s gravel roads are a particularly important for non-vehicular users in the rural parts of Town where there is no sidewalk system. The village area benefits from approximately 4.4 miles of sidewalks and multi-use paths. Beyond roads and sidewalks, there are about 28 miles of publically accessible trails - largely for recreational use and concentrated on Town-owned properties like the Hinesburg Town Forest, Geprags Park, and the LaPlatte Headwaters Town Forest.

**Route 116 – Arterial Highway**

Route 116 serves as an arterial highway funneling traffic from Addison County in and out of the Burlington metro area. At the same time, a one-mile section of Route 116 serves as “Main Street” in the village area. As such, functional conflicts exist between accommodating the efficient movement of through traffic, and the safety of



*Route 116 Traffic Volume (AADT)*

Route 116 Segment	2015
St George & Shelb Falls Rd	8,600
Shelb Falls Rd & Mech Rd	9,000
Mech Rd & Charlotte Rd	11,200
Charlotte Rd & Silver St	9,800
Silver St & Gilman Rd	6,000
Gilman Rd & Hollow Rd	3,800
Hollow Rd & Starksboro	3,300

**AADT** – Annual Average Daily Traffic – total volume of vehicle traffic passing a segment (both directions) for a year divided by the number of days in the year.

From VT Agency of Transportation  
2015 Route Log Data

local traffic (driveways, side streets, businesses) and non-vehicular users (pedestrian crossings, bicyclists, etc.). Route 116 was last resurfaced in 2013. At that time, travel lanes were striped with white side lines (also known as fog lines) that generally provide three feet of pavement on the edge of the road to help facilitate non-vehicular users.

### Paved Town Roads – Major & Minor Collectors

Five of Hinesburg’s paved Town roads also serve as major collectors to the neighboring towns of Charlotte, Huntington, Monkton, Richmond, and Shelburne. With the exception of Hollow Road, all of these collector roads emanate from Hinesburg’s village area – Silver Street, Charlotte Road, Shelburne Falls Road, Richmond Road. Serving as a hub for so many collector and arterial roads helps facilitate the vitality of the village area, but also presenting traffic flow challenges, especially during the peak morning and evening commuting times. For several years, the Town has had a policy of striping paved roads with white side lines to create nine foot travel lanes in order to maximize the width of the paved edge for non-vehicular users, and to help minimize wear and tear at the edge of pavement. Even with these narrow travel lanes, often only 1.5-2 feet of pavement outside the side lines is possible due to width restrictions on many paved Town roads, resulting in dangerous conditions for cyclists and pedestrians.

### Gravel Town Roads – Minor Collectors

Hinesburg’s gravel roads are primarily local roads with lower traffic volumes that serve and connect neighborhoods, especially outside the village area. More so than the paved roads, these gravel roads serve multiple users (vehicular, pedestrian, cycling, etc.) while contributing to the rural character of the Town. Although these roads are similar in function and a lower speed profile (typically 35mph speed limit), they vary widely in

design and geometry. On the western side of town, gravel roads are relatively flat, wide, and have more flexibility for roadside ditching/drainage – e.g., Baldwin Road, O’Neil Road, Gilman Road. On the eastern side of town, the hill roads traverse much more challenging terrain including steep slopes and runoff issues – e.g., Magee Hill Road, Texas Hill Road, Hayden Hill Road, Lincoln Hill Road.

### Private Roads – Neighborhoods

Beyond the public road system, most of the neighborhoods in Hinesburg are served by private roads. This is a function of both development patterns and the Town’s long term practice of not taking over newly established development roads outside of the village area. Typically dead end roads that serve a limited number of homes, these private roads are as variable in design and geometry as the gravel Town roads. They can serve as a barrier to strategic transportation planning at the town level through compartmentalization and lack of connectivity. Some meet Town road construction standards, but many present challenges in terms of width and proper control of erosion and stormwater control. This is particularly true of the roads that provide access to development on and around Lake Iroquois – e.g., Shadow Lane, Southwest Shore Road, East Shore Lane.

### Public Transit & Ridesharing

Hinesburg joined Green Mountain Transit or GMT (formerly the Chittenden County Transportation Authority) as a member municipality in 2010. With the help of local volunteers and financial support from grants, a local business, and the taxpayers, public transit came to Hinesburg in 2012. Morning and evening commuter bus service is jointly offered by the GMT and the Addison County Transit Resources (ACTR). This bus service connects

**Town Road Traffic Volume (AADT)**

Road	2014
Shelburne Falls Rd	2,300
Charlotte Rd	2,100
Silver St	4,100
Hollow Rd	1,600
North Rd	no data
Richmond Rd	3,100
Pond Rd	2,400
CVU Rd	no data
Mechanicsville Rd	3,600

From VT Agency of Trans. 2014 Route Log Data



Hinesburg to GMT’s Burlington-based service area and ACTR’s Middlebury-based service area. Hinesburg Rides, a volunteer program of the Hinesburg Community Resource Center, connects people with State rideshare programs (e.g., Go Vermont – [www.connectingcommuters.org](http://www.connectingcommuters.org)) and also helps organize a volunteer driver program administered with the help of the Special Services Transit Agency (SSTA) that provides rides to elders, the disabled, and others.

### Current Issues & Planned Network Improvements Village Area Route 116 Congestion

Traffic congestion is one consequence of having a vibrant village area that is a nexus for major connector Town roads and an arterial State highway. Thankfully, this congestion is currently limited to the morning and evening peak hours. Although Hinesburg may not be able to control peak hour traffic volumes, both the Town and the State can control how this traffic is managed. The Charlotte Road intersection is the primary bottleneck for both the morning and evening peak hours. Substantial traffic backups extend south from this intersection in the morning, and north in the afternoon. The CVU Road intersection is congested during the afternoon peak hour, as southbound left turning vehicles block the high volume of southbound through traffic. The following Route 116 corridor improvements are planned:

- CVU, Shelburne Falls Road intersection improvement – additional turn lanes and improved signalization; construction anticipated by the VT Agency of Transportation in 2019.
- Charlotte Road intersection improvement – change of signal phasing (from 3-phase to 2-phase), sidewalk relocation to allow for right turn on red

for Lantmans Market exit; construction timing uncertain due to lack of funding.

- Stella Road public road connection – conversion of Stella Road and Cheese Plant driveway into a public road; will allow southbound traffic headed for Charlotte Road to avoid the Route 116, Charlotte Road signal; timing uncertain due to lack of funding and landowner concerns.



A 2014 Route 116 corridor study by Dubois & King identified a variety of options to address current congestion and to better plan for the future with all users in mind (bicyclists, pedestrians, etc.). Interestingly, the study’s modeling projected that simply following through on planned intersection improvements at the CVU, Shelburne Falls Road intersection and the Charlotte Road intersection would reduce travel time during the evening peak hour by about 24%.

Level of Service (LOS) is a qualitative measure describing operating conditions of transportation facilities as perceived by motorists. LOS is defined by the Highway Capacity Manual, published by the Transportation Research Board. LOS is graded from LOS A (free flow conditions with little or no delay) to LOS F (congested conditions with long delays), and for signalized intersections is based on the estimated average vehicle delay at the intersection. In urban areas, village and town centers, LOS E or better is generally considered satisfactory during the peak hours of travel. LOS F could also be considered acceptable, even though it indicates that the intersection is operating at or near peak capacity, where facility upgrades could significantly impact the surrounding built and/or natural environment, or negatively impact other modes of transportation (e.g., increase pedestrian crossing time due

*Level of Service for Signal Intersections*

LOS	Characteristics	Delay (sec)
<b>A</b>	<b>Little/no delay</b>	<b>10.0 or less</b>
<b>B</b>	<b>Short delays</b>	<b>10.1-20.0</b>
<b>C</b>	<b>Average delays</b>	<b>20.1-35.0</b>
<b>D</b>	<b>Long delays</b>	<b>35.1-55.0</b>
<b>E</b>	<b>Very long delays</b>	<b>55.1-80.0</b>
<b>F</b>	<b>Extreme delays</b>	<b>80.0+</b>

2010 Highway Capacity Manual by the Transportation Research Board

to wider roadway). The Chittenden County Regional Planning Commission (CCRPC) uses LOS and other metrics to assess whether the capacity of an intersection is being fully utilized. The CCRPC is working with the VT Agency of Transportation to develop capacity measurement thresholds that allow for higher levels of congestion in growth areas than currently defined in the Agency's LOS policy.

### **Silver Street Safety Issues**

Due to heavy commuter traffic from Monkton, Bristol, and other communities to the south, Silver Street sees as much traffic volume as the southern portion of Route 116 (south of the village). Silver Street is not designed to handle this much traffic volume, nor can it safely accommodate the speeds many motorists travel on it. Many driveways along the road have poor sight distance, and several sections of the road have challenging slopes that exacerbate this issue. A 2007 scoping study by VHB highlighted many of these issues, along with potential improvement alternatives. Unfortunately, the cost of the preferred improvements was prohibitive (over \$15 million), so the Town has continued with regular maintenance. Even with the installation of a permanent speed radar sign, speed enforcement is challenging, and pedestrian and bicycle use of this road remains extremely dangerous.

### **Richmond Road Pedestrian and Bicycle Safety Improvements**

A safe route for pedestrians and cyclists is needed along Richmond Road between CVU Road and North Road. Hinesburg's highest population density lives here, and this corridor is adjacent to CVU High School and the existing village sidewalk network. There are 286 homes on properties directly served by this corridor, including two mobile home parks with 121 homes. Installing bicycle and pedestrian improvements in this area is complicated by a

narrow road with difficult constraints (e.g., ledge, grade, geometry). The Town worked with a transportation consultant and the Chittenden County Regional Planning Commission on a scoping study to assess options for bike and pedestrian improvements and associated costs. The 2016 final report reviewed feasibility and recommended a preferred alternative with a rough cost estimate of \$2.5 million. This study should assist the Town in budgeting and seeking grant funding for the project.

### **Charlotte Road and Shelburne Falls Road Bicycle Accommodation**

Both Charlotte Road and Shelburne Falls Road provide connections to adjacent communities that are in the same school supervisory union and are part of the CVU high school district. Feasibility studies are needed to assess the possibility of providing safer bike/pedestrian accommodations. The Town of Charlotte has expressed interest in a joint feasibility study with Hinesburg through the Chittenden County Regional Planning Commission.

### **Hill Road Maintenance & Runoff**

The hill roads on the eastern side of town have always been a maintenance challenge for the Town Highway Department. The challenge became more pronounced as more development happened along these roads – especially during the building boom of the 1980's. Beyond substantial maintenance cost and time, these roads also pose significant safety issues due to snow and ice, water quality issues due to higher velocity stormwater runoff on steep slopes, and convenience issues due to the lack of school bus service during inclement weather. The Town has assessed some of these roads, but there are no simple solutions. The Highway Department continues to implement water quality and erosion control measures. Large scale improvement projects like paving hill sections



would require further study and could be both costly and controversial.

### State Stormwater General Permit

With the passage of Act 64 in 2015, the VT Agency of Natural Resources is developing a State general stormwater permit for municipal roads requiring best practices to improve water quality. The requirements of the permit should be finalized by VT ANR by the end of 2017. Municipalities will need to assess problem erosion areas, identify priority road segments, and create a stormwater management plan to be implemented incrementally over a period of years (e.g., 20 year schedule). Implementation practices will likely include: stone-lined ditches, drainage ditch turn outs, road crowning, culvert headers and outlet stabilization, etc. *Relevant action items are found in the stormwater section of chapter 5 (goal 5.6; particularly action item 5.6.4).*



**Richmond Road  
Pedestrian and Bicycle Scoping Study  
Hinesburg, Vermont**

---

August 2016

## Introduction

Energy planning has come to the forefront in Vermont in the 21st century. In addition to energy generation, distribution, and use, energy planning and policy are tied to economic development, land use, transportation, community, and Vermont’s landscape. Sound energy policy not only recognizes the challenges posed by climate change, but also seeks to implement mitigation measures and chart a course to adapt to new realities. In 2016 Vermont adopted a Comprehensive Energy Plan (CEP) with specific goals for energy consumption, renewable energy and greenhouse gas emission reductions and, with Act 174, established an “enhanced energy planning process” aimed at helping regions and towns meet their share of the CEP goals. This Energy Chapter, as well as portions of Chapter 3 (Land Use; smart growth vision) and Chapter 7 (Transportation), have been written to be compliant with Vermont’s new municipal energy planning standards. This will benefit our ongoing energy planning efforts and provide Hinesburg with a greater voice in any energy siting proceedings before the Vermont Public Utilities Commission. Specifically, compliance with the State’s enhanced energy planning requirements ensures that Town Plan recommendations will be given “substantial deference” by the Public Utilities Commission in their review of energy projects.

Underlying the new municipal planning standards is an acceptance of the goal of transforming the energy profile of Hinesburg’s residents, businesses and Town government in ways consistent with our State’s Comprehensive Energy Plan, which calls for greater energy efficiency, reduced

reliance on fossil fuels and increased local generation of renewable energy, all leading to a major reduction in greenhouse gas emissions by 2050. This Chapter presents a quantification of one specific pathway to achieve this goal, recognizing that there are many possible pathways and that long-term success will require support from federal and state policies and continued gains in technology. The quantified targets were developed by the Chittenden County Regional Planning Commission using available regional and local data and a state-wide analysis performed by the Vermont Energy Investment Corp. (VEIC) using the Long-Range Energy Alternatives Planning System (LEAP), a widely-used software tool for energy and climate policy analysis. Acceptance of these goals will satisfy the State’s enhanced energy planning requirements and will enable Hinesburg to receive “substantial deference” in energy siting hearings from the Public Utilities Commission. In the future Hinesburg will be free to develop new pathways with a different mix of quantitative objectives and will maintain “substantial deference” as long as the overall State goals are met.





**Goal 8.1** *Adopt the State enhanced energy planning goals for Hinesburg and develop strategies and shorter-term objectives to achieve them.*

Actions:

**Top Priority 8.1.1** **Identify long-term strategies and shorter-term objectives for the Town to meet efficiency and renewable energy goals for:**

- Electrical Energy Use and Efficiency (see Table 2)
- Commercial and Thermal Energy Use, Weatherization, and Conversion to Renewable Technologies (see Table 5)
- Residential Thermal Energy Use, Weatherization, and Conversion to Renewable Technologies (see Table 6)
- Transportation Energy Use and Conversion to Electric Vehicles (See Table 8)
- Reducing per capita energy use by 2050 (see Tables 9 and 10)

8.1.2 Develop programs with specific measurable objectives to make progress toward each efficiency and renewable energy goal.

8.1.3 Use life cycle cost when evaluating energy-related Town capital expenditures, including vehicle acquisition.

8.1.4 Use benchmarking of municipal, institutional and commercial buildings to educate the owners of their buildings' energy performance relative to other buildings or past performance.

8.1.5 Work with the Energy Action Network, State and County agencies and other organizations to improve local data available from the Community Energy Dashboard, the Architecture 2030 Challenge for Planning and other sources and tools to better monitor and educate the community on Town progress.

**Goal 8.2** *Support the development of alternative renewable energy sources and business opportunities and site an additional 13,517 to 23,594 MWh of annual generation in Hinesburg to contribute to Vermont's goal of obtaining 90% of energy from renewable sources by 2050.*

Actions:

8.2.1 Identify strategies to increase renewable energy generation within Hinesburg and meet electricity generation targets consistent with Town land use policies and values (see Table 12).

8.2.2 Encourage the use of renewable energy systems for onsite electricity generation and thermal energy. Analyze and realize the potential for renewable energy generation (particularly solar and wind) on municipal property for municipal and/or community use.

8.2.3 Encourage farmers to use renewable energy in the production of their goods.

8.2.4 Promote smart grid and micro grid systems.

8.2.5 Consistent with the Public Utilities Commission process, designate additional preferred sites for renewable energy generation on a case-by-case basis via the joint letter process with the CCRPC.

- 8.2.6 Periodically update Energy Maps including Existing Renewable and Preferred Sites, Known Constraints, Area Without Constraints, Potential Solar Resource Areas, Potential Wind Resource Areas, and Hydro-Electric Resource Locations to facilitate development of renewable energy by land owners and energy developers consistent with constraints and Town preferences.
- 8.2.7 Encourage owners to install rooftop solar and trackers on existing buildings and land.
- 8.2.8 Work with electric utilities to modernize the grid to facilitate development of renewable energy in Hinesburg.
- 8.2.9 Encourage energy storage facilities as a component of new renewable energy developments when appropriate.
- 8.2.10 Analyze the potential for community solar projects based on current State and Federal policy and financing options.

**Goal 8.3 *Preserve any existing or potential renewable energy resource.***

Actions:

- 8.3.1 Strengthen zoning and subdivision regulations to require that all buildings be designed to maximize passive and active solar gain. Ensure that larger buildings with expansive roofs are adequately designed such that their roofs can support future solar installations. Consider changing existing language from advisory (e.g., “should”) to required (e.g., “shall”) in section 5.26.2(5) of the Zoning Regulations and sections 5.1.12 and 6.12.4(6) of the Subdivision Regulations. Consider a town-wide requirement (ordinance or zoning regulation) for solar ready roofs on all new construction. Explore amending zoning and subdivision regulations to include design standards to preserve the southern exposure of buildings for passive and active solar gain. Balance this with other siting and design factors, especially in the Village Growth Area where compact development is more common and street trees are necessary.
- 8.3.2 Encourage plantings that maximize solar heating in the winter and provide shade in the summer.
- 8.3.3 Encourage ongoing sustainable forest management to maintain a local source of fuel wood (biomass).
- 8.3.4 Preserve open areas suitable for solar energy generation (e.g., southern aspect) that are situated close to the Village Growth Area. Such areas could be useful in the future for providing renewable energy to concentrated portions of Hinesburg Village.

**Goal 8.4 *Improve energy efficiency, reduce building energy demand, and work towards 100% of businesses and homes being weatherized by 2050.***

Actions:

- 8.4.1 Maximize the energy efficiency in Town-owned buildings and vehicles.**
- 8.4.2 Encourage homeowners and businesses to seek thermal efficiency upgrades and then invest in efficient renewable energy technologies.**
- 8.4.3 Promote the use of energy efficient lighting, appliances, automatic setback thermostats and motion detecting light controls to save energy.

Top  
Priority  
Top  
Priority

- 8.4.4 Promote the energy efficiency and weatherization services of Efficiency Vermont, Vermont Gas Systems, NeighborWorks, and the energy transformation programs of Vermont Electric Cooperative and Green Mountain Power (“Tier III”) and other efficiency programs. Keep track of how many homes are weatherized, with a goal of 60 homes per year in order to reach the 100% goal by 2050.
- 8.4.5 Promote cost-effective energy efficiency in future residential and commercial buildings by adopting Vermont’s stretch code for all development and major renovations in Hinesburg.
- 8.4.6 Work with Efficiency Vermont and other partners to develop a manual to educate homeowners on how to choose and complete the next step towards a net zero energy home. Highlight local success stories, including examples of net zero energy homes – both via new construction and via renovation of existing housing stock.
- 8.4.7 Consider future adoption of net zero energy ready requirements for new buildings to meet the State’s comprehensive energy plan goal of all new buildings being net zero energy by 2030. Assess how such requirements could impact initial purchase price of new homes, and whether this adversely impacts housing affordability, particularly for low to moderate income households.
- 8.4.8 Leverage and promote State and utility programs (e.g., energy audits, rebates, incentives) that make energy efficiency measures more attractive and affordable. Consider creating a related Town fund to provide assistance to low and moderate income home buyers and existing homeowners, possibly utilizing the Town’s existing revolving loan fund for housing and economic development.

***Goal 8.5 Reduce transportation related energy demand and switch transportation fuels to renewable electricity and renewable biofuel.***

**Actions:**

- 8.5.1 Promote cost-effective energy efficiency in future transportation planning.
- 8.5.2 Consider regulation or ordinance changes to require that new developments incorporate electric charging stations, and if possible, power these by solar photovoltaic systems.
- 8.5.3 Encourage the Town and the Champlain Valley School District to install electric charging stations, and to seek higher fuel efficiency and vehicles with alternative fuel types (e.g., biofuels, electric) when purchasing or leasing new vehicles.
- 8.5.4 Consider bicycle paths and lanes, pedestrian walkways, and mass transportation access in the review of all development proposals in the Village Growth Area. Support and promote bicycle and pedestrian use along existing roadways, including on-road bicycle lanes, and encourage these forms of transportation to neighboring town infrastructure.
- 8.5.5 Support efforts to increase public transit ridership (e.g., GMT, ACTR).
- 8.5.6 Promote more awareness of the State’s GoVermont connecting commuters carpool/rideshare program. Go Vermont is a free resource for travelers who want to reduce the cost and environmental impact of driving. Encourage residents to register at [www.ConnectingCommuters.org](http://www.ConnectingCommuters.org).
- 8.5.7 Investigate why more school children don’t ride the school bus. Explore ways to increase student ridership, and consider expanding ridership to the general public to improve local public transportation options.

## **Goal 8.6 Encourage a balanced approach between the placement of utility services and the character of the rural and village areas.**

### Actions:

- 8.6.1 Continue to require new utility lines serving end users be underground, barring site limitations that make underground lines impossible. Seek to relocate existing above ground lines underground within the village core, especially along the “main street” portion of Route 116 from Mechanicsville Road to Friendship Lane.
- 8.6.2 Encourage cooperation between the town and Green Mountain Power to find a suitable site for a substation or other improvements that would increase power supply and reliability so that adequate electric power is available for both new development and three phase service for the Industrial 1 zone in South Hinesburg.

## **Goal 8.7 Continue to define the role of the Hinesburg Energy Committee.**

### Actions:

- 8.7.1 The Energy Committee should take the lead in the execution of Town Plan energy goals and recommendations.
- 8.7.2 Help property owners understand State energy efficiency building codes (Residential Building Energy Standards, RBES; Commercial Building Energy Standards, CBES) for new development and renovations – e.g., outreach when building permits are issued.
- 8.7.3 Identify utility, federal and state incentives to support energy conservation efforts and efficiency improvements. Educate the public about potential incentives for energy conservation and efficiency improvements (e.g., workshops, published information, etc.).
- 8.7.4 Participate in the public review processes of new utility facilities and municipal facilities and major residential and commercial developments. Review these projects for conformance with the Town Plan. Create an objective set of criteria to enable consistency in such reviews. Seek to preserve the Town’s rural character while recognizing the important function these projects serve.

---

### **Enhanced Energy Planning**

The foundation of enhanced energy planning is the goals established in the 2016 Vermont Comprehensive Energy Plan (CEP) – available on the VT Public Service Department [website](#):

- Reduce total energy consumption per capita by 15% by 2025, and by more than one third by 2050.

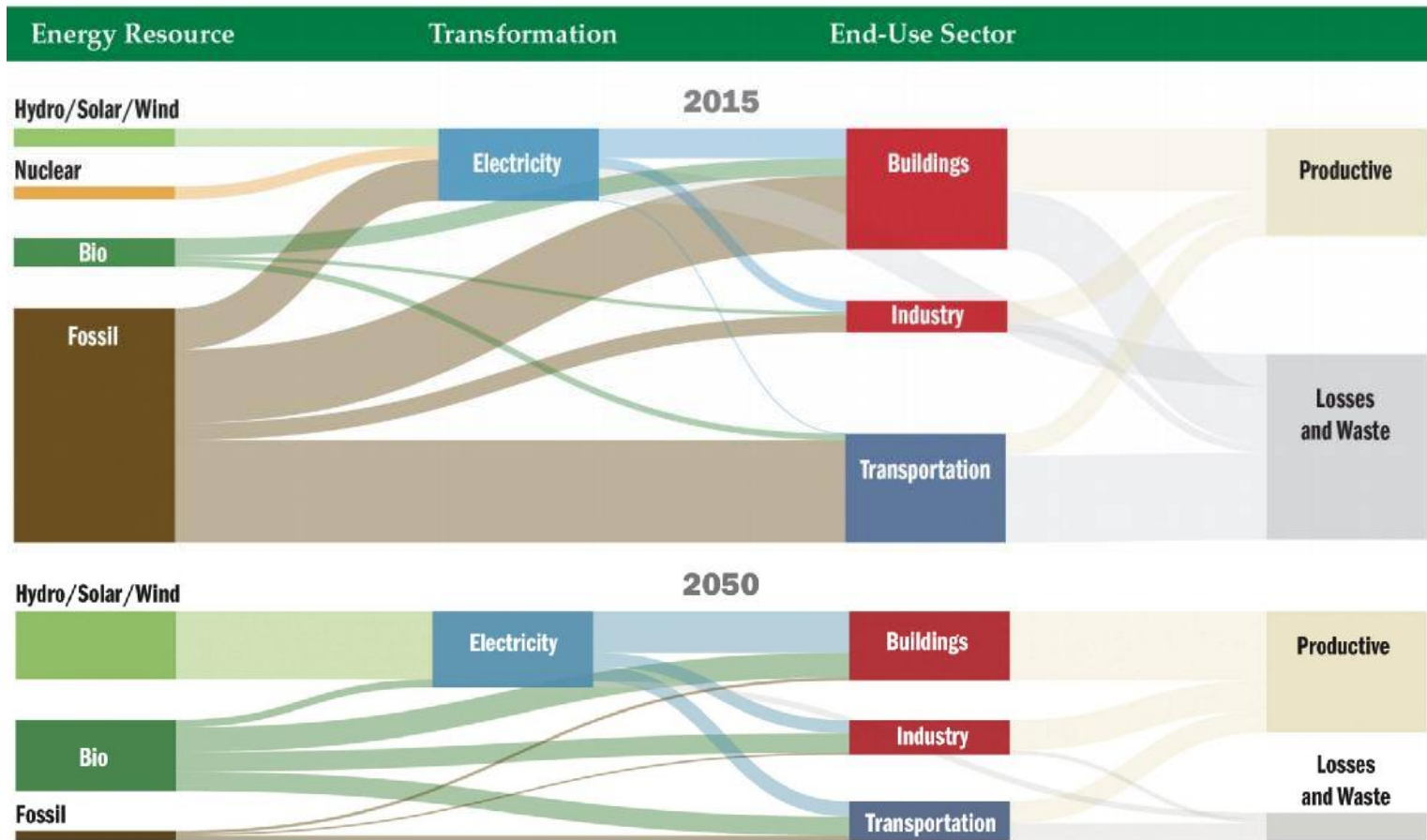
- Meet 25% of remaining energy needs from renewable source by 2025, 40% by 2035, and 90% by 2050.
- Three end-use sector goals by 2025: 10% renewable transportation, 30% renewable buildings, and 67% renewable electric power.
- Reduce greenhouse gas emissions from energy use by 40% below 1990 levels by 2030 and 80% to 95% by 2050.



- All new buildings to be net zero energy by 2030.

The effects of achieving these goals on the energy system in Vermont is illustrated by the following two exhibits from the 2016 CEP for the years 2015 and 2050. These show graphically how a mix of primary energy resources, including fossil fuels and renewables, provide heat, light and power to end-users, as well as how much energy is transformed into electricity in the process and how much energy is ultimately productive or lost and wasted. From 2015 to 2050 the heavy reliance on fossil fuels (plus

Vermont Yankee nuclear power) is replaced by renewable hydro/solar/wind power and bio-fuels. More energy resources are transformed into electricity and end-use of fossil fuels in buildings, industry and transportation is reduced to very low levels. Total energy use is also reduced by improved thermal efficiency in buildings and industry and greater efficiency of building equipment and lighting, industrial processes and vehicles. By 2050 light-duty vehicles are primarily EV's and heavy-duty vehicles and trucks are heavily reliant on bio-fuels.



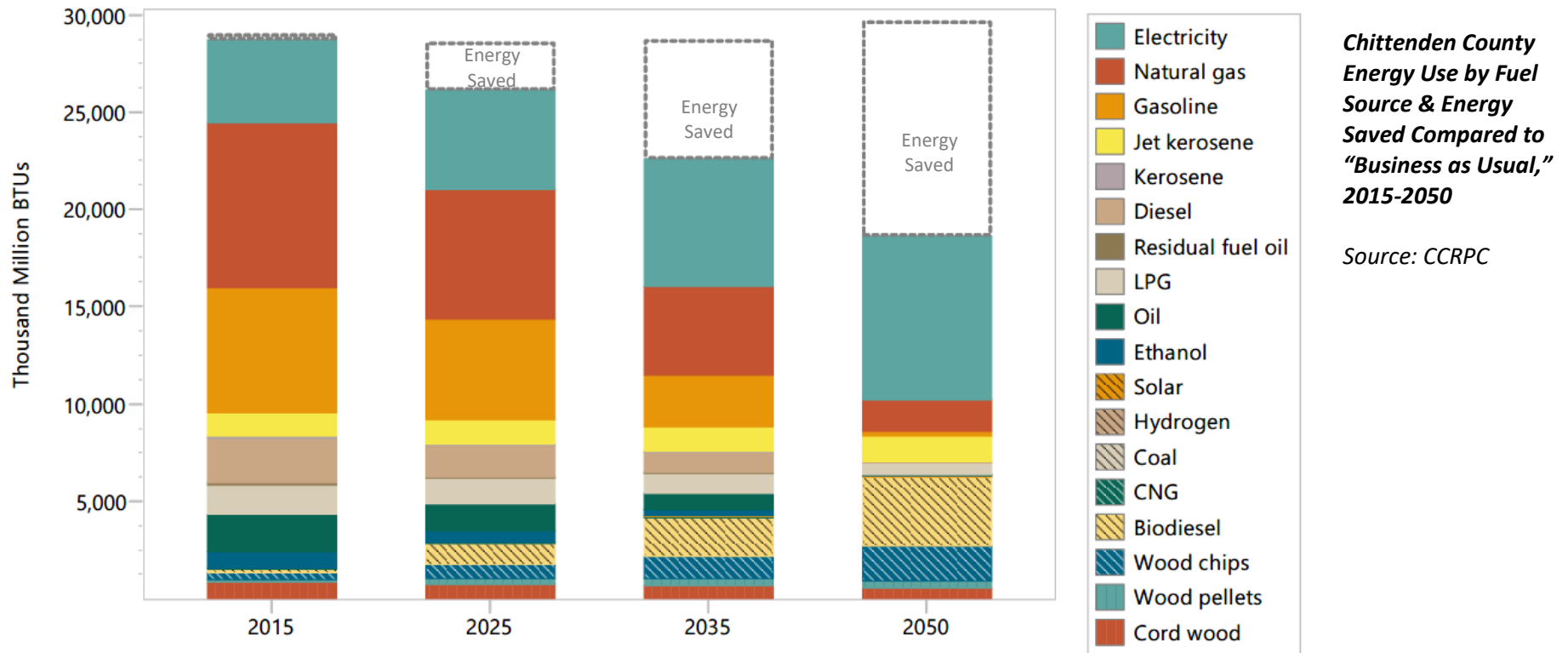
**Vermont Energy Flows (2015 & 2050)**

Source: Vermont Comprehensive Energy Plan 2016

How the transformation described above would affect the profile of energy use in Chittenden County is illustrated in the graphic below prepared by the CCRPC. This shows the LEAP model's estimated change in energy use by fuel type for Chittenden County as well as energy saved across all sectors between 2015 and 2050. While the current mix of fuels for Hinesburg differs from that of the County as a whole, particularly in County's heavier reliance on natural gas, the overall pattern of increased Energy Saved and Electricity end use and the substitution of renewables for fossil fuels for Hinesburg would be similar.

Act 174 aims to facilitate this energy transformation through an enhanced energy planning process integrated with land use planning that establishes a new set of municipal and regional energy planning standards and

goals, which if met would be consistent with the state-wide CEP goals. Enhanced energy planning is voluntary, but if the Hinesburg Town Plan is certified by the Chittenden County Regional Planning Commission as being in compliance our preferences on issues such as land use planning and siting of energy projects will receive "substantial deference" rather than "due consideration" in actions before the Vermont Public Utilities Commission. "Substantial deference" as defined in Act 174 means that "a land conservation measure or specific policy shall be applied in accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy." This gives considerably more weight to Hinesburg's preferences in PUC proceedings than is provided by simple "due consideration."



In order to be certified as in compliance with enhanced energy standards, this Town Plan must first be approved by the Chittenden County Regional Planning Commission (CCRPC) as consistent with the standards laid out in 24 VSA §4352. These standards include consistency with the state climate and energy goals and compatibility with the approved Regional Plan. The CCRPC has provided Hinesburg with planning standards and quantitative pathways for future action, that if adopted would meet these standards, enabling Hinesburg to receive the formal “determination of energy compliance” that provides “substantial deference.” This Energy Chapter adopts the CCRPC suggested pathway but recognizes that there are many ways to meet energy and climate goals and that Hinesburg may adopt other pathways in the future as our plans and circumstances progress.

The standards and data provided by the CCRPC are the most current and detailed available. Unfortunately, data on energy consumption and end-use energy equipment at the town level is currently limited. For example, data on electrical consumption for Hinesburg is available but data on home or vehicle fuel consumption is not. Where actual town data is not available, allocations of State or regional data or estimates based on surveys are used. Efforts are being made to improve the data available for regional and town planning and as better information becomes available, Hinesburg may revise its energy planning accordingly.

State statute (24 V.S.A. section 4382) requires that municipal plans include an energy plan including, “an analysis of energy resources, needs, scarcities, costs and problems within the municipality, a statement of policy on the conservation of energy...” This chapter addresses these issues and includes policy on the development of renewable energy, which has seen tremendous growth in Vermont. Related land use policies to help conserve

energy (e.g., smart growth) are discussed more fully in Chapter 3. Related transportation policies are discussed in Chapter 7.

### Enhanced Energy Planning Targets

The targets provided in the tables below are provided by the CCRPC and, taken as a whole, satisfy the requirements necessary for Hinesburg to receive a “determination of energy compliance” and receive “substantial deference” in hearings before the PUC.

They are developed with data from the Long-Range Energy Alternatives Planning (LEAP) model to estimate one possible scenario to reach these goals. This scenario includes the following goals for Hinesburg for 2050 with interim targets for 2025 and 2035 as shown in the individual tables:

- Weatherization and Efficiency Upgrades: 28% of commercial and industrial establishments and 100% of residences will be weatherized. 84% of both commercial and industrial establishments and residences will have increased electric efficiency. Weatherization typically involves air sealing, but may include a wide variety of other measures. Weatherization options are evaluated and implemented based on efficacy and cost effectiveness. Note – the scenarios only include weatherization of 28% of commercial and industrial establishments as that is the goal in the statewide CEP. As noted in goal 8.4, the Town’s goal is to strive for weatherization of 100% of commercial/industrial establishments and residences by 2050.
- Total Energy Use per Capita: Total energy use per capita will be 45% lower than it was in 2015, as measured by aggregated community-wide data –

*For more information on the Long-Range Energy Alternatives Program and the work conducted by the Vermont Energy Investment Corporation, see the 2018 Chittenden County ECOS Plan, [Appendix 6](#)*



actual or modeling equivalent to our better than the LEAP model.

- Transportation Fuels: Electric vehicles will increase to 89% of the light duty vehicle fleet, and 96% of energy used by heavy duty vehicles will come from biodiesel.
- Increased Generation: Additional renewable energy generation of 13,517 - 23,594 MWh annually will be sited in Hinesburg.

### Electricity

The power supply for Vermont’s electric utilities comes from many sources including Hydro Quebec, Seabrook, NH nuclear plant, small hydro, the New England power grid (predominately natural gas generation plants), biomass, wind, and solar. Hinesburg-based energy generation currently produces 1,458 MWh of electricity annually from renewable sources including building and ground-mounted photovoltaics on various properties, a small wind turbine on the north side of the village area (NRG Systems property). Electricity is also produced by diesel generators at Clifford Lumber and Hinesburg Sand and Gravel in the Industrial 1 district (necessitated by the lack of three phase power). Currently, Hinesburg’s local electric distribution is provided by Green Mountain Power and the Vermont Electric Cooperative. (See the “Renewables” section below for more information on generation in Hinesburg.) 2015 electric use in Hinesburg can be seen in Table 1 below.

**Table 1. Electrical Energy Use, 2015 (MWh)**

<b>Residential</b>	13,586
<b>Commercial and Industrial</b>	8,212
<b>Total</b>	21,797

*Sources: Efficiency Vermont, October 2017*

The Vermont Electric Power Company (VELCO) also maintains a high voltage (115kV) transmission line running north/south on the western side of the town. This line is part of VELCO’s statewide network of transmission lines that serve to bring electrical power into the state and to distribute it. The Town has a stake in future improvements to the VELCO line, especially given that much of the transmission line is located in the rural agricultural portion of Hinesburg. VELCO upgraded the transmission power poles on the high voltage lines extending through Hinesburg in 2014. Though energy use per capita must decrease to meet Vermont’s 2050 energy goals, the use of electricity will actually increase. Electricity from renewable sources will power things like vehicles and heat pumps, switching those sectors away from fossil fuels. See Table 2 below for the LEAP model’s projected electricity use between 2015-2050 to meet the State’s 2050 energy goals.





**Table 2. LEAP Model Estimated Future Electrical Energy Use in Hinesburg, 2015-2050**

	2015**	2025	2035	2050
<b>Without Industrial (MWh)</b>	14,480	17,446	22,236	28,816
<b>Industrial Only (MWh)</b>	3,990	5,661	7,320	9,825
<b>Total (MWh)</b>	18,470	23,106	29,555	38,641
<b>Total Electric Energy Saved (MWh)</b>	248	2,953	5,962	11,150
<b>Residences that have increased their Electric Efficiency</b>	3%	30%	58%	98%
<b>Commercial and Industrial Establishments that have Increased Their Electric Efficiency</b>	3%	30%	58%	98%

Source: LEAP Model

\*Please note that industrial electricity use is recognized as the most difficult element to project in the LEAP model, because of regional discrepancies in data from the commercial and industrial sector. Therefore, projected electricity use and total energy use are reported two ways: with industrial electricity use included and excluded.

\*\*2015 numbers are derived from the LEAP model and may vary from the actual measurements reported by utilities.

## Thermal Energy Use

### Natural Gas, Fuel Oil, Propane, Kerosene

“Most of the energy used in Vermont comes from non-renewable sources. Natural gas and petroleum products account for 62% of Vermont’s total energy usage... Vermont consumed 15.3 million barrels of petroleum and 9.6 billion cubic feet of natural gas in 2013, the most recent year for which data are available. Although they are the state’s biggest drivers of climate change and air pollution, fossil fuels continue to account for our majority share of energy consumption because of their relatively low price, well-established distribution system, compatibility with existing infrastructure and equipment, and on-demand characteristics” (from VT CEP, pg. 389). Fuel oil, propane and kerosene are widely used to heat homes in much of Hinesburg, with the exception of the village area where natural gas is available. Exact usage of natural gas is reported annually by Vermont Gas (see Table 4) but there are no other exact counts of home heating fuel use for Hinesburg. However, estimates from the US Census Bureau are shown in Table 3.

**Table 3. 2017 Home Heating Estimates**

Utility gas	18% of homes
Fuel oil, Kerosene	35% of homes
Propane	27% of homes
Wood	12% of homes

*Please note that these are estimates with a relatively high margin of error and should be used with caution.*

Sources: American Community Survey 2013-2017 5-Year Estimate, Table B25040: House Heating Fuel

Vermont Gas brought natural gas to Hinesburg in 2009. Pipes were laid to serve most of the greater village area. Approximately 500 homeowners and businesses have the option to use natural gas. As of 2014, the conversion to natural gas has been 78% of the residential and non-residential buildings able to connect to the system. This includes the majority of the municipal, commercial, and institutional buildings in Town. Natural gas usage in Hinesburg as of 2015 is shown in Table 4 below.

**Table 4. Current Thermal Energy Use from Natural Gas, 2015**

Total Residential Natural Gas Consumption (MMBtu)	24,483 (52% of total)
Total Commercial/Industrial Natural Gas Consumption (MMBtu)	22,388 (48% of total)
Total Municipal Natural Gas Consumption (MMBtu)	46,872

Sources: Vermont Gas

In 2014 Vermont Gas Systems became one of Vermont’s [energy efficiency utilities](#) and has been actively assisting home and building owners to conserve natural gas. The programs help owners identify, contract and pay for a portion of gas energy improvements for the more efficient use of this fuel. Meeting Vermont’s 2050 energy goals will require customers to switch away from natural gas to a renewable fuel. As of this writing, the town is debating a measure to prohibit additional pipeline expansions within Hinesburg.

### Commercial Energy Use & Efficiency Services

There are approximately 87 commercial, industrial and

institutional buildings and facilities in Hinesburg. Commercial/Institutional/Industrial (CII) buildings are defined as where people are not living on a permanent basis. CII buildings consume approximately one half of the total building energy in Hinesburg. Much room for improvement remains, even though many gains have been made over the years through high efficiency equipment, shell retrofit, above-code new construction and improved processes. Energy efficiency and recapture are also possible in commercial agricultural operations – e.g., reverse osmosis in sugaring operations, dairy farm methane digesters, etc. CII entities are typically focused on return on investment for reduced energy dollar expenditures instead of greenhouse gas emissions. The Energy Committee can help building owners understand that economically attractive energy efficiency projects will have ecological benefits as well. The Energy Committee plans to assist CII owners to conform to the updated and more stringent building code CBES 2015. Additionally, the committee will advise the Planning Commission and Selectboard on possible adoption of a Stretch Energy code. The LEAP model’s projected changes in commercial energy use to meet the State’s 2050 energy goals are shown in Table 5 below.

**Table 5. LEAP Model Estimated Future Commercial Thermal Energy Use in Hinesburg, 2015-2050**

	2015	2025	2035	2050
<b>Total Commercial Thermal Energy Use (MMBtu)</b>	49,770	48,708	46,394	41,036
<b>Percent of Commercial Establishments Weatherized by Target Year</b>	8%	15%	16%	28%
<b>Energy Saved by Weatherization by Target Year (MMBtu)</b>	1,195	2,618	3,630	8,749
<b>Commercial Establishments Using Heat Pumps (%)</b>	0%	16%	25%	28%
<b>Commercial Thermal Energy Use by Heat Pumps (MMBtu)</b>	92	3,950	7,807	11,665
<b>Commercial Establishments Using Wood Heating (%)</b>	5%	7%	8%	8%
<b>Commercial Thermal Energy Use Attributable to Wood Heating (MMBtu)</b>	3,697	5,894	8,118	11,885

Sources: LEAP Model, Department of Public Service, Department of Labor

### Residential Energy Use & Efficiency Services

The residential sector of Hinesburg housing stock accounts for a significant proportion of energy use and Hinesburg’s carbon release to the atmosphere. Hinesburg’s housing stock varies significantly with regard to energy efficiency and the use of renewable energy. The LEAP model’s projected changes to residential heating to meet the 2050 goals can be seen in Table 6.

To move toward the goal of 90% renewable energy by 2050 and all new homes at net zero energy by 2030, the following are recommended:

- All new homes built are recommended to be net zero energy by the year 2030. Between 2015 and 2020 25% of the energy required to electrify and heat new homes will be supplied from renewable energy. Between 2020 and 2025 50% of the energy required to electrify and heat new homes will be supplied from renewable energy. Between 2025 and 2030 75% of the energy required to electrify and heat new homes will be supplied from renewable energy.
- New homes should be encouraged to include photovoltaics to charge an electric vehicle as well as ready connections to charge an electric vehicle. Work on developing requirements for electric vehicle charging capacity in large residential developments and multifamily dwellings.
- Reaching 90% energy use from renewables by 2050 will require changes to existing homes. Hinesburg should encourage residents to improve energy efficiency of existing homes (e.g., weatherization), and shift to non-fossil fuel thermal sources of energy.

**Table 6. LEAP Model Estimated Future Residential Thermal Energy Use in Hinesburg, 2015-2050**

	2015	2025	2035	2050
<b>Total Residential Thermal Energy Use (MMBtu)</b>	173,852	155,857	132,149	91,494
<b>Percent of Residences Weatherized by Target Year</b>	1%	14%	36%	100%
<b>Energy Saved by Weatherization by Target Year (MMBtu)</b>	618	7,275	19,872	62,199
<b>Percent of Residences Using Heat Pumps</b>	3%	18%	37%	60%
<b>Residential Thermal Energy Use from Heat Pumps (MMBtu)</b>	1,739	10,102	20,783	30,470
<b>Residences Using Wood Heating (%)*</b>	14%	14%	14%	14%
<b>Residential Thermal Energy Use from Wood Heating (MMBtu)</b>	27,214	28,621	28,649	25,171

*The LEAP model estimates a future scenario that shows one way for Chittenden County’s communities to meet the state’s 2050 energy goals. However, actually meeting these goals may take a different path than modeled. In Hinesburg, it may be more effective for residents to switch to wood heating systems rather than heat pumps, or to use wood heating as a backup system for heat pumps. Future iterations of this plan will examine new models to show an increased adoption of wood heating. This may also serve to reduce the small amount of natural gas energy that the LEAP model assumes will still be used in Hinesburg and other Chittenden County municipalities by 2050.*

*Sources: LEAP Model, Department of Public Service*



- Homeowners should be encouraged to take advantage of the energy audit services of the various state agencies that sponsor and/or offer these services. These audits should be comprehensive in nature, looking at ways to reduce energy use as a first measure and then look to supply renewable energy.
- Building permits being issued for changes to existing homes should include information as to how a home can achieve net zero energy.
- Those homes that do not have a reasonable site to capture renewable energy should consider community sources of renewable energy.
- Wood combustion appliances should meet the state requirements for allowable particulates released in to the atmosphere. Wood combustion should be a secondary source of thermal energy to a cleaner primary source whenever possible.
- Energy efficient lighting and appliances should be encouraged in all new homes.
- Hinesburg should consider requiring new construction to achieve a higher level of efficiency above energy code (RBES).
- Hinesburg should promote weatherization and fuel switching opportunities from Efficiency Vermont and utilities working towards their Renewable Energy Standard Tier III requirements, and have an inventory of other financing options for homeowners wishing to pursue energy efficiency measures and renewable energy. Between 2015 and 2017, customers in Hinesburg saved a total of

\$275,910 on electric and thermal energy bills due to energy efficiency measures. The Hinesburg Energy Committee would be the logical group for organizing and dissemination this information. Recent projects coordinated in Hinesburg by Efficiency Vermont can be found in Table 7 below. Other weatherization projects that were not affiliated with Efficiency Vermont have probably also taken place, but are not measured here.

Higher energy efficiency measures enhance housing affordability in the long run by reducing monthly costs for heating and electricity. Savings will be substantial over the course of a typical 30-year mortgage, and will continue to accrue beyond that. With that said, further study of the cost of the highest efficiency measures (e.g., net zero energy homes) is warranted to determine the potential impact on initial purchase price, particularly as it relates to affordability for low and moderate income households. The trend toward more energy efficient home construction is largely dictated by statewide energy efficiency building codes that are upgraded every three years. With that said, low to moderate income households should not be priced out of the new home market. Should it be determined that higher energy efficiency measures result in substantially higher purchase prices, both the Town and the State should initiate programs to assist low and moderate income households.

Visit the Vermont Public Utility Commission's [website](#) for more information about renewable energy standards for Vermont electric distribution utilities.

**Table 7. Recent Residential Energy Efficiency Projects**

	2014	2015	2016	2017
<b>Home Performance with ENERGY STAR® Projects</b>	14	18	21	26
<b>Total Residential Projects (includes Home Performance with ENERGY STAR® projects)</b>	37	86	111	265

Source: Efficiency Vermont, November 2018

## Transportation

Transportation accounts for a large part of the state’s overall energy usage, and is the leading producer of greenhouse gases in Vermont and Hinesburg. Gasoline continues to be the principal fuel for transportation.

In order to implement Vermont’s Comprehensive Energy Plan, effort must be made on the local level to reduce both the vehicle miles traveled and the reliance on fossil fuels used in transportation. Successes on this front include the Hinesburg Rides program formed in 2008, the introduction of a Burlington-Hinesburg-Middlebury bus route in 2012, the introduction of a local bus service throughout Hinesburg in 2018, and the installation of EV chargers, as discussed in the Transportation section of this plan.

New sidewalks and crosswalks in the village area have promoted more walking in the town as an alternative to vehicle use. Continuing to build more sidewalk systems, as well as adding bike lanes to town roads and in new developments will encourage more local economic development at the same time as residents are using less fossil fuel to get around and staying more physically fit.

The need for a much higher use of renewable energy in transportation will be a challenge in Hinesburg and the state. In 2017, the DMV reported 3,155 fossil fuel burning light duty vehicles registered in Hinesburg, compared to only 12 electric vehicles. Hybrid vehicles meet that goal to some extent, but Hinesburg needs to plan to accommodate the use of plug-in electric vehicles by our residents and other drivers passing through our town. Electric charging stations, powered by photovoltaic arrays and from the grid, will be an important addition to the region’s transportation infrastructure and should be considered as part of all new dwelling construction. Another way for Hinesburg to meet the goals of Vermont’s Comprehensive Energy Plan is to promote the use of biofuel as a replacement for

petroleum-based fuel for heavy duty vehicles. Oil seed crops, such as sunflowers, grown on what are now unproductive fields, could be an economic boost to local farmers and oil seed processors. The LEAP model’s projected changes in transportation energy to meet the 2050 energy goals are shown in Table 8 below.

**Table 8. LEAP Model Estimated Future Transportation Energy Use in Hinesburg, 2015-2050**

	2015	2025	2035	2050
<b>Total Light Duty Transportation Energy Use (MMBtu)</b>	223,050	185,821	117,705	51,301
<b>Electricity Used for Light Duty Transportation (MMBtu)</b>	177	2,478	17,081	36,049
<b>Light Duty Electric Vehicles (% of Vehicle Fleet)</b>	0%	6%	41%	89%
<b>Biofuel Blended* Energy Used for Light Duty Transportation (MMBtu)</b>	222,873	183,343	100,625	15,252
<b>Biofuel Blend* Light Duty Vehicles (% of Vehicle Fleet)</b>	100%	94%	59%	11%
<b>Heavy-Duty Transportation Energy Use from Biodiesel (Percent of Total)</b>	94%	33%	58%	96%
<b>Heavy-Duty Transportation Energy Use from Fossil Fuels (Percent of Total)</b>	6%	67%	42%	4%

*\*This measures biofuels blended with fossil fuels. A common example is gasoline with ethanol mixed in.*

*Sources: VTrans, LEAP Model*

## Total Energy Use

Making these changes to meet the Vermont state energy goals will result a large decrease in per-capita energy use, as shown in Tables 9 and 10 below. Future projects are shown with and without industrial energy use, as the sector is not well represented by the LEAP model and the projections for this energy type may not be reliable.



**Table 9. LEAP Model Estimated Future Total Energy Use Per Capita (Including Industrial Electricity Use\*) in Hinesburg, 2015-2050**

	2015	2025	2035	2050
<b>Total Energy Use (MMBtu)</b>	509,692	469,224	397,090	315,675
<b>Population</b>	4,489	4,682	4,794	5,016
<b>Total Energy Use Per Capita (MMBtu)</b>	114	100	83	63
<b>Reduction in Total Energy Use Per Capita since 2015</b>	--	12%	27%	45%

Source: LEAP Model

*\*Please note that industrial electricity use is recognized as the most difficult element to project in the LEAP model, because of regional discrepancies in data from the commercial and industrial sector. Therefore, projected electricity use and total energy use are reported two ways: with industrial electricity use included and excluded.*

**Table 10. LEAP Model Estimated Future Total Energy Use Per Capita (Excluding Industrial Electricity Use) in Hinesburg, 2015-2050**

	2015	2025	2035	2050
<b>Total Energy Use (MMBtu)</b>	496,077	449,909	372,116	282,152
<b>Population</b>	4489	4682	4794	5016
<b>Total Energy Use Per Capita (MMBtu)</b>	111	96	78	56
<b>Reduction in Total Energy Use Per Capita since 2015</b>	--	13%	30%	49%

Source: LEAP Model

*\*Please note that industrial electricity use is recognized as the most difficult element to project in the LEAP model, because of regional discrepancies in data from the commercial and industrial sector. Therefore, projected electricity use and total energy use are reported two ways: with industrial electricity use included and excluded.*

### Public Energy Education

The town has already identified the need to create programs, processes and systems to foster sustainable procurement and use of energy. In 2014 the Selectboard initiated a Hinesburg Energy Committee to formally promote the responsible use of energy. The committee consists of up to seven members of the community each serving three-year terms. This committee acts in an advisory capacity for the other boards and commissions in town. The energy committee has helped the town’s overall effort to promote sustainability through several initiatives:

- The committee has advised town officials on how several potential developments under review could orient buildings on the plans to take advantage of passive solar gains and how the developments could incorporate renewable energy.
- The committee submitted a motion to have the town adopt the Energy Code Plus building standards instead of the Residential Building Energy Code.
- The committee presents an annual Efficiency Vermont Button Up workshop for the community each fall. The purpose of the presentation was to educate residents on the importance of making energy efficiency

- upgrades on homes and shows homeowners how they can properly install efficiency upgrades on their own homes.
- The committee held a four-meeting Net Zero Energy and Healthy Homes workshop series in 2018.

### Renewable Energy Generation

In addition to reducing energy consumption, meeting Vermont’s renewable energy goals will require a significant increase in renewable energy generation in Hinesburg. Renewable energy resources are defined in State statute (24 V.S.A. §4303) as, “energy available for collection or conversion from direct sunlight, wind, running water, organically derived fuels, wood and agricultural sources, waste heat, and geothermal sources.” Achieving the State CEP goal of supplying 90% of our energy needs from renewables by 2050, requires an average increase in renewables of approximately 2.57% per year. The Town must promote this goal and work aggressively to achieve it. The Town has installed limited renewables on municipal property – e.g., solar trackers next to the wastewater treatment facility; solar powered lights for the Town Office park and ride. Residents and businesses have also increased usage of solar, wind, and biomass heat (e.g., wood pellets). As of May 2019, the Vermont Energy Dashboard (<http://www.vtenergydashboard.org/my-community/hinesburg/statistics>) showed 235 renewable energy sites in Hinesburg, as shown in Table 11 below.

Increasing the use of renewable energy sources will require concerted efforts by the entire community, such as:

- Additional renewables on municipal properties and facilities, particularly roof-mounted solar (e.g., Town Highway garage, etc.) and ground-mounted solar.

**Table 11. Existing Renewable Electricity Generation**

	Sites	Power (MW)	Energy (MWh)
<b>Solar</b>	231	3.07	3,771
<b>Wind</b>	2	.012	29
<b>Biomass (Wood)</b>	2	Unknown	Unknown
<b>Total</b>	235	3.09	3,800

*Source: Community Energy Dashboard, May 2019*

- Use of electric vehicles for light or medium duty municipal vehicles, and use of biofuel vehicles for heavy duty municipal vehicles to the extent possible. Provision of one or more public electric vehicle charging stations – e.g., Town Office, Police Station, Carpenter-Carse Library, etc.
- Ensure that new construction makes use of renewables to a far greater extent than currently mandated. Revise land use regulations to clarify and prioritize maximizing solar gain, such that any new construction must get as much direct sunlight as possible, while balancing the need to create vibrant streetscapes in the village growth area that necessarily include trees and variable building orientation.

In Hinesburg, these generation goals mean that annual generation capacity in Hinesburg must be increased by between 13,517 MWh and 23,594 MWh, as shown in Table 12 below.

**Table 12. New Renewable Electricity Generation Targets**

	2025		2035		2050	
	Low	High	Low	High	Low	High
<b>Generation Targets – Any Technology (MWh)</b>	3,862	6,741	7,724	13,482	13,517	23,594

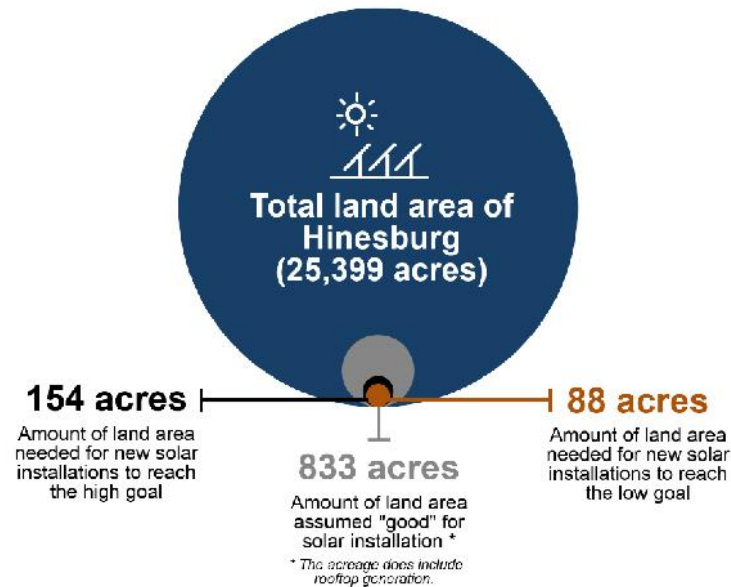
Sources: LEAP Model and CCRPC Modeling

These targets are in addition to the 1,458 MWh generated annually in the municipality as of July 2017

Chittenden County Regional Planning Commission has set high and low generation targets for the county and each municipality (see Supplement 6 of the 2018 ECOS Plan for the methodology). Any amount of generation within this range means that the town is producing its share of renewable energy generation for the county.

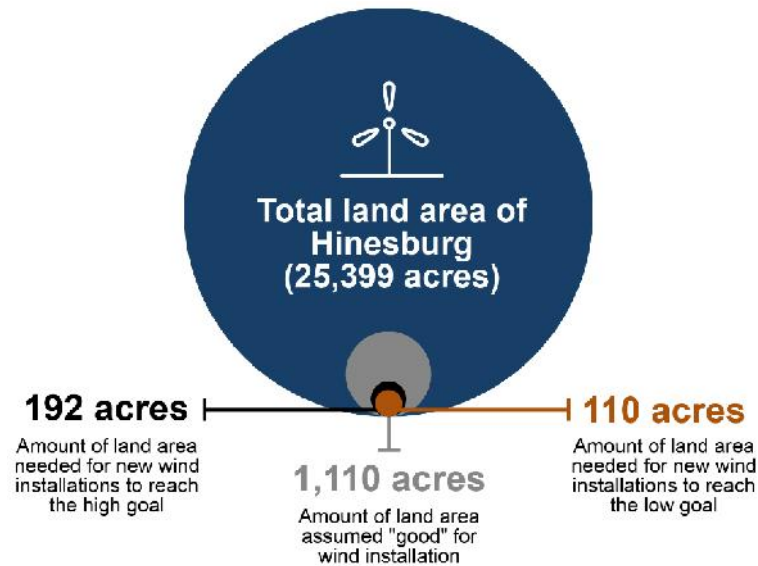
The Town of Hinesburg has more than enough land area to meet these goals with current renewable energy technology. The graphics below show the amount of land needed to produce the generation targets with solar or wind.

**Figure 1. Land area needed to meet Hinesburg’s generation targets with 100% solar**



These hypothetical scenarios show that Hinesburg’s high generation goal could be met with as little as 0.6% of the Town’s total land area. Estimates of Hinesburg’s total generation capacity for various technologies can be found in Tables 13 and 14 below.

**Figure 2. Land area needed to meet Hinesburg’s generation targets with 100% wind**





**Table 13. Land Available for Wind and Solar Generation**

	<b>Prime Potential</b>	<b>Base Potential</b>
<b>Solar</b>	833 acres (3% of town)	5,237 acres (21% of town)
<b>Wind</b>	1,110 acres (4% of town)	10,824 acres (43% of town)

Source: CCRPC and the Department of Public Service, Vermont Center for Geographic Information

**Table 14. Projected Renewable Electricity Generation Potential**

	<b>Power (MW)</b>	<b>Energy (MWh)</b>
<b>Rooftop Solar*</b>	4	4,463
<b>Ground-Mounted Solar* – Prime</b>	104	127,684
<b>Ground-Mounted Solar* – Base</b>	87	107,049
<b>Wind – Prime</b>	44	136,080
<b>Wind – Base</b>	433	1,327,422
<b>Hydro</b>	Future hydroelectric capacity may be available at existing small dams	
<b>Biomass</b>	See Map 6 for forested areas	

Source: CCRPC and the Department of Public Service

\*Rooftop solar potential is calculated by assuming that a certain percentage of rooftops can hold solar systems. Ground-mounted solar potential reports how much land could be developed with solar based on its aspect and elevation, and does not remove space taken up by impervious surfaces like roofs. Therefore, rooftop solar potential cannot be added to ground-mounted solar potential, as this would lead to some generation potential being double counted.

## Energy Siting & Screening Policies

### Local Policies

Hinesburg encourages the development of renewable energy generation and storage facilities (e.g., solar, wind, etc.), but the scale, context and impacts of a project must be considered. Visual screening from public roads and neighboring residences is an important consideration for any ground-mounted facility over 15kw, and is particularly sensitive for facilities over 150kw. Such screening need not hide such facilities, rather it should be used to ensure the facilities blend with the surroundings. State statute (24 V.S.A. §4413b) prohibits municipal land use regulations

from regulating energy generation and transmission facilities. Such facilities are instead reviewed by the VT Public Utility Commission (PUC) pursuant to 30 V.S.A. §248. Section 248 does require that ground-mounted solar generation facilities comply with municipal screening requirements as long as the PUC finds that compliance would not have the effect of prohibiting or interfering with the functional use of the facility. Hinesburg’s Zoning Regulations were revised in 2016 to include screening requirements for such facilities. Although important, screening is only a tool to help blend or hide development after a site has been selected. More importantly, such development must be properly sited in the first place.

This Town Plan provides clear guidance as to the sensitive natural and cultural features that shall inform site selection for any development. The policies in this plan shall be applied to energy generation facilities over 15kw and to transmission facilities, to ensure that such facilities will not unduly interfere with orderly development. **Because this plan is an “enhanced energy plan,” the following policies will be given “substantial deference” in proceedings before the Public Utilities Commission.**

- Primary resource areas are inappropriate for siting of energy generation facilities and shall be avoided. Primary resource areas are:
  - Class 1 and 2 wetlands (Vermont Significant Wetland Inventory and advisory layers) and associated buffers (Map 7)
  - Flood hazard areas (Map 7);
  - Steep slopes 25% or greater (Map 9)
  - Surface waters and setback areas (Map 7)
  - Rare, threatened, and endangered species locations and significant natural communities (Map 9)
- Secondary resource areas shall also be considered, and impacts to such areas shall be minimized. Secondary resources areas are:
  - Moderately steep slopes 15-25% (Map 9)
  - Prime and statewide agricultural soils (Map 5);
  - Core wildlife habitat (Map 14)
  - Wildlife corridors (Map 14)
  - Deer wintering areas (Map 9)
- Particularly in the most rural portions of town (i.e., AG & RR2 zoning districts) forest clearing and impacts to prime agricultural soils shall be minimized to protect the working landscape. Context is important. For

example, it’s reasonable for a working farm to use a portion of its prime agricultural soils for ground-mounted solar if it supports the continuation of the larger agricultural land use. However, the wholesale conversion of forest and/or prime agricultural soils so as to exclude concurrent farm and/or forestry use of a particular property is unacceptable. Important natural features are discussed in depth in Chapter 5, and are depicted on the maps that support this plan.

- Development potential within the village growth area should also be respected. As Hinesburg’s sole growth center, land intensive energy generation and transmission facilities shall be avoided, unless incorporated into a preferred location as noted below. The intent is not to prohibit such facilities entirely in the village growth area. However, energy generation and transmission facilities in this area must preserve the following: buildout objectives as noted throughout this plan (e.g., affordable housing, senior housing, commercial/industrial, etc.), vibrant streetscapes, visual character of the village, ability to have actively used and interconnected greenspaces.
- Town-wide, preferred locations for energy generation facilities include already developed areas. For example: on structures (e.g., roof-mounted), in parking lots, within a grouping of structures and infrastructure (e.g., farm building complex, industrial campus/park, residential dwelling cluster), on the old Town landfill site, in non-productive portions of gravel pits that have been through site reclamation. Many of these areas are already defined as preferred sites in the Vermont Net Metering Rules. Projects sited on preferred site benefit from larger generation limits and higher net metering rates. Preferred sites are not limited solely to already developed areas. Hinesburg

plans to identify other preferred sites on a case-by-case basis based on evaluations of site context, site constraints, and other factors. As sites are suggested in the future, there are two ways they can be formally defined as preferred sites: through an amendment to this plan or through a joint letter from Hinesburg's Planning Commission, Selectboard and the Chittenden County Regional Planning Commission.

- The Town's Subdivision Regulations require underground utility lines for new service to subdivisions. Although substantially more expensive to install, underground utility lines make sense given the community's interest in maintaining the Town's rural character and aesthetics. Although large scale transmission lines are difficult to place underground, energy generation facilities should utilize underground lines both within the project and to feed the facility.

### State Policies

The policies above are not the only policies that apply to energy facility siting in Hinesburg. The State of Vermont has defined certain resources as known and possible constraints, some of which are the same as Hinesburg's primary and secondary resources and some of which are not. These areas are protected by the ECOS Regional Plan and state agency review during the Public Utility Commission review process. State defined known constraints are areas in which the State of Vermont finds that development, including renewable energy generation, is not appropriate. These resources are shown on the map of Known State Constraints. State constraints not covered by the local constraints listed above include:

- Department of Environmental Conservation River Corridors
- National Wilderness Areas
- Vernal Pools (confirmed and unconfirmed)

State defined possible constraints are areas in which the State of Vermont finds that the effects of development, including renewable energy generation, may need to be mitigated. These resources are shown on the map of Possible State Constraints. State possible constraints not covered by the local constraints listed above include:

- Hydric Soils
- Act 250 Agricultural Soil Mitigation Areas
- Vermont Conservation Design Highest Priority Forest Blocks (Forest Blocks – Connectivity, Forest Blocks – Interior, Forest Blocks - Physical Land Division)
- Highest Priority Wildlife Crossings
- Protected Lands (State fee lands and private conservation lands)

## ACT 174 AND SUBSTANTIAL DEFERENCE

In 2016, Act 174 established a process for “enhanced energy planning,” which encourages municipalities to write plans that are “energy compliant.” This plan meets the standards for energy planning established by Act 174 and outlined in 24 V.S.A. §4352. Therefore, the policies of this plan will receive substantial deference in §248 proceedings. The Public Utility Commission shall apply the land conservation measures or specific policies in accordance with their terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. This is a higher standard of review than “due consideration,” which the municipal plan's policies would otherwise receive.

## *Goal 9.1 Encourage the designation, restoration, and preservation of historic structures.*

### Actions:

- 9.1.1 Do public outreach and education about the benefits of historic preservation and designation via National Register of Historic Places (e.g., tax credits for restoration work).



## Historic Resources

Historic resources include buildings, structures, landscapes, and archeological sites. The Vermont Division of Historic Preservation's Historic Sites and Structures Survey (HSSS) for Hinesburg reflects the early commercial and residential pattern of development in the town. The survey is part of the State's program to coordinate and support public and private efforts to identify, evaluate, and protect Vermont's historic and archeological resources. Sites and properties inventoried for the HSSS reflect the historical development of our nation, state and local communities. This list, as well as maps showing the locations of these structures, may be found in the Online Resource Center website maintained by the VT Division of Historic Preservation. Two areas, Mechanicsville and the Village, contain the highest concentration of historic buildings with Silver Street being the site of several historic structures as well. Outside of these areas, most of the historic buildings are farmhouses from the mid 1800's.

Forty-seven of the 48 structures in the HSSS are listed on the State Register of Historic Places. Only one structure in Hinesburg is on the National Register of Historic Places. The Cicero Goddard Peck House at 18 Mechanicsville Road was added to the National Register November 10, 2010 as part of a renovation and restoration project by then owners Randall & Jennifer Volk. In 1984, the VT Advisory Council on Historic Preservation found that the Marsh/Alther House at 1086 Silver Street (currently owned by Sarah Alther Bostwick) appeared to be eligible for the National Register based on an inquiry by Lisa Alther. In 1993, a group of Silver Street residents inquired about the possibility of placing the Silver Street area on the National Register of Historic Places. The State Advisory Council on Historic Preservation determined that Silver Street appears to meet the criteria for inclusion in the National Register as

a rural historic district. No formal applications were made for the Marsh/Alther house or Silver Street.

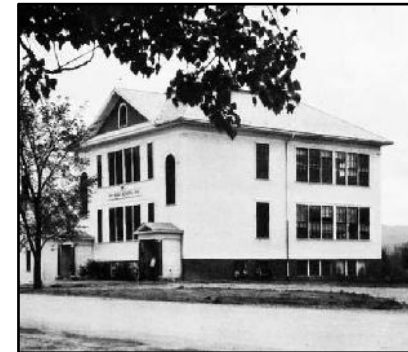
Beyond structures, the Hinesburg Town Forest (off Hayden Hill Road) was listed in the National Register of Historic Places on June 7, 2016. The Hinesburg Town Forest was chosen to be on the register because it is unique in having had a series of formal management plans since its inception. Each management plan and its implementation showed the forest management practices current at the time. The composition of the various stands of trees presently in the forest reflect the forestry ideas that were prevalent at various times which in turn reflect the social, political and cultural and scientific thinking of each period.

A study conducted in 1990 inventoried changes to the historic structures throughout Hinesburg, and found that 66% of the buildings had been changed between 1977 (when the State's historic buildings register was compiled) and 1989. Although many of these changes (e.g., siding, windows, porches/decks) were minor, the study pointed out that the overall impact was large. Of equal, or greater, impact to these historic structures is the changing context in which they exist. This impact has been especially noticeable as the Town moves from its past pattern of development to a more densely settled village area. Construction in fields surrounding the village and in outlying areas, new housing complexes and industrial development, and the demolition of historic structures all contribute contextual change that can erode historic resources. Because most of these impacts affect more than historic structures, meeting the social, economic and environmental goals of this Plan will help preserve the Town's historic resources as well.

An inventory of the Town's archeological resources has not been conducted. Generally, sensitive sites may be identified by certain environmental settings, particularly



*Hinesburg High School*

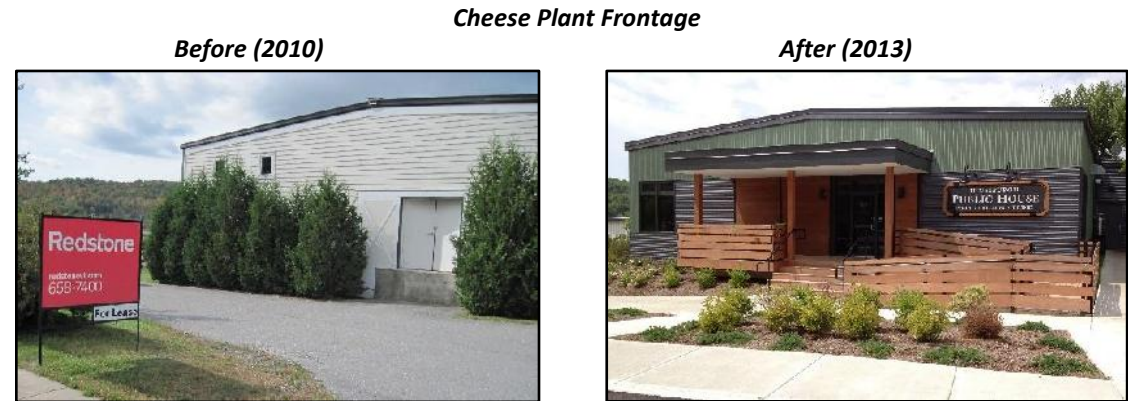


areas along watercourses and lakes. When these sites are identified, through a town wide inventory or individual development reviews, they may be managed by leaving the area undisturbed or by conducting an archeological survey to pinpoint and assess the resource. The Vermont Archaeological Inventory, maintained by the Division of Historic Preservation, documents a small portion of Vermont's archaeological heritage. It is not a comprehensive record, and most of Vermont's archeological sites have not been documented or even discovered.

## Introduction

There are many tools and techniques to help implement the Town Plan vision. This chapter begins by describing some of the most common implementation avenues, and concludes with a table that details the lead responsibility, completion time horizon, and resources necessary for every action item in the plan.

Town plans are meant to be aspirational, visionary documents. Not all of the proposed action items may be accomplished within the next five to 10 years. Some action items may prove to be politically or financially infeasible. When an action item identifies the need for funding, it does not mean that funding has been vetted by the Selectboard or approved by voters. The timing of such action items will be determined by annual work programs and adequate funding via the annual Town budget.



**New  
Police  
Station  
(2014)**

**To achieve great things, two things are needed;  
a plan, and not quite enough time.**

- Leonard Bernstein 1918-1990

## Land Use Regulations

The most commonly used bylaw for controlling development at the local level are zoning and subdivision regulations. Zoning and subdivision regulations control the use of land and structures, and the density, height and bulk of development. 24 VSA Chapter 117 spells out specific requirements and limitations of any municipal land development regulations. The statutes also provide multiple optional tools that communities enact under zoning and subdivision, including:

- Establishment of zoning and overlay districts
- Site plan and conditional use standards
- Performance standards
- Form Based Code inspired standards
- Inclusionary zoning
- Waivers
- Planned unit development
- Transfer of development rights

Hinesburg has utilized these regulatory tools for decades, and will continue to improve and refine these regulations to better implement the Town Plan vision.

## Official Map

The official map is a local bylaw enabled by State legislation which reserves land for streets, recreation paths, drainage, parks, schools and other public facilities. Hinesburg adopted its first Official Map (covering the village growth area) in 2009. The Official Map needs to be updated to addresses changes since 2009, and on a regular basis as plans for community facilities evolve.

## Municipal Ordinances

Multiple municipal ordinances are used by the Town to implement the plan, and deal with a variety of issues: dog control, outdoor fires, municipal water and sewer, impact

fees, speed limits. Ordinances used in other municipalities, but not currently in Hinesburg cover a wide range of issues, such as: noise, backyard farm animals, peddlers/solicitation, food trucks, street trees, signs, outdoor lighting, etc.

## Municipal demonstration projects

Leading by example is an excellent way for the Town to both solve specific issues while demonstrating best practices. There are many opportunities, from energy efficient building construction to the installation of stormwater treatment infrastructure to nicely maintained and landscaped public spaces to the use of renewable energy technologies.

## Land Acquisition

The acquisition of land will likely be required in order to implement several goals and recommendations contained in the plan such as the construction of future community facilities. Land may be acquired through fee simple acquisition, conditions of subdivision approval, or donations.

Hinesburg has a long history of funding a Land Preservation Fund to help with costs related to land acquisition for conservation purposes – e.g., survey work, legal language drafting, matching funds for grants. With that said, contributions to this fund from the annual Town budget has been a relatively small fixed amount (\$1,500 - \$7,500) rather than a percentage of the tax rate as is done in some other communities. Furthermore, no dedicated fund exists for acquisition of non-conservation lands – e.g., sidewalks, recreation paths, economic revitalization, etc.

## Capital Budget & Annual Budget

The Town has adopted a capital budget and program in accordance with 24 VSA Section 4426. The capital budget,



the principal guide for public spending, describes the capital projects to be undertaken during the next 5+ years, including the estimated costs and method of financing. The capital budget helps inform the annual operating budget. Each year, substantial time and effort is put into crafting a budget for the next fiscal year, which is voted on at Town Meeting. Many, if not most, of the action items in the Town Plan ultimately rely on funding in the annual budget – e.g., staffing, special projects, ongoing maintenance, etc.

### Impact Fees

The Town has adopted an impact fee program in accordance with 24 VSA Chapter 131. Impact fees are a means by which developments are required to pay for their “fair share” of public capital expenditures needed as a result of their development. Impact fees may be levied for all improvements meeting this criteria, upon adoption by the municipality. At present, impact fees are only collected and used for fire and police capital needs.

### Special Assessment Districts

Special assessment districts are designated areas in which property owners are charged to cover the costs of installing capital improvements from which the property owners will exclusively benefit. Typical improvements funded by special assessment include water and sewer service, stormwater infrastructure, sidewalk construction and street improvements.

### Public & Private Coordination

The Town should continue to cooperate with regional, State and Federal entities and agencies as necessary to further the goals and policies of this plan. Regional partners include the Chittenden County Regional Planning Commission, Chittenden Solid Waste District, Champlain Housing Trust, Greater Burlington Industrial Corporation,

Lake Champlain Chamber of Commerce, and Green Mountain Transit. Private partnerships are also extremely important, both with the non-profit sector (e.g., Hinesburg Community Resource Center, Hinesburg Land Trust, Hinesburg Historical Society, Champlain Housing Trust, Housing Vermont, etc.) and for-profit businesses and developers.

### Ongoing Planning and Studies

The Town will continue to update the Comprehensive Plan as required by 24 VSA Section 4387. This Plan includes within it recommendation for future action and studies to be undertaken to help implement its overall goals.

### Implementation Table (following pages)

Note – wording of some goals and action items truncated to save space.

### Lead Responsibility Groups:

SB	Selectboard
PC	Planning Commission
DRB	Development Review Board
AHC	Affordable Housing Committee
VSC	Village Steering Committee
TC	Trails Committee
CC	Conservation Commission
RC	Recreation Commission
TFC	Town Forest Committee
EC	Energy Committee
EDC	Economic Development Committee
RLC	Revolving Loan Fund Committee

### Time Horizon:

ongoing	continual process
short	1-2 years
medium	3-5 years
long	5+ years

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
2.1 Affordable housing	2.1.1 Create affordable housing that satisfies demands in the Housing Needs Assessment for Hinesburg.	AHC	ongoing	✓			✓
	2.1.2 Support affordable, senior, and reasonably priced housing town-wide within existing density allowances.	AHC, PC, DRB	ongoing	✓			
	2.1.3 Encourage affordable and reasonably priced housing where suitable infrastructure exists or can be provided, while giving due consideration to important natural resources.	AHC, PC	ongoing	✓			
	2.1.4 Facilitate public/private partnerships for the creation of affordable, senior, and reasonably priced housing, as well as the upgrading and rehabilitation of existing housing, through State and Federal grants, partnerships with non-profit organizations, etc.	AHC, SB	ongoing	✓			
	2.1.5 Identify properties (including Town-owned properties) that could be developed with affordable housing units, and identify funding that could assist a developer to build affordable units.	AHC, SB	ongoing	✓			✓
	2.1.6 Preserve the affordability of the existing housing stock by encouraging rehabilitation, restoration and weatherization.	AHC	ongoing	✓			
2.2 Use infrastructure to support a mix of housing and mixed use development in village	2.2.1 Promote the establishment of affordable rental and owner-occupied housing within the Village Growth Area through the Town sewer allocation policy.	SB	short	✓			
	2.2.2 Use sewer and water allocations to encourage a mixture of housing types and mixed-use developments within the service area.	SB	short	✓			
	2.2.3 Consider supporting financial efforts to establish a cooperative mobile home park through either the creation of a new park or the conversion of an existing park.	AHC	long	✓			✓
2.3 Mobile home park affordability and livability	2.3.1 Modify zoning regulations for existing mobile home parks by permitting density bonuses in consideration of corrections to long-term deficiencies.	PC	medium	✓			
	2.3.2 Consider whether similar modifications should apply to the creation of new mobile home parks.	PC	long	✓			
2.4 Support housing goals via regulations and development review	2.4.1 Review and implement means of streamlining the development review process as a way of reducing housing costs. Remove unnecessary barriers to well planned housing projects.	PC	ongoing	✓			
	2.4.2 Establish guidelines on the type and amount of amenities that must be provided in new housing developments to address quality of life issues.	PC	medium	✓			
	2.4.3 Encourage the maximum development of projects in the Village Growth Area with sensitivity to phasing and infrastructure limits.	DRB, AHC, VSC	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	2.4.4 Encourage housing developments that have a mix of market prices to create developments that serve a variety of income classes.	PC, DRB	ongoing	✓			
				✓			
<b>3.1</b> Village Growth Area as primary mixed use growth center	3.1.1 Investigate existing and optimum development densities as well as the proper balance of commercial, institutional, and residential uses.	PC	short	✓			
	3.1.2 Continue to refine and adjust Hinesburg’s land use regulations, Official Map, capital budget and plan, impact fees, and other municipal tools to implement the Village Growth Area vision.	PC, SB	ongoing	✓			
	3.1.3 Continue partnering with non-profit and for-profit developers to create compact affordable and senior housing.	AHC, SB	ongoing	✓			✓
	3.1.4 Encourage the redevelopment of structures that are underutilized. Facilitate landowner access and understanding of State, Federal, and non-governmental incentive programs for structural rehabilitation and historic preservation.	VSC	medium	✓			
	3.1.5 Prioritize the Village Growth Area for municipal water and sewer capacity, and ensure suitable reserves for infill and redevelopment projects in the existing village core area.	SB	short	✓			
<b>3.2</b> Reconsider Village Growth Area future land use pattern and pace of growth	3.2.1 Consider a temporary moratorium on certain types of village area development to allow the community time to assess water and wastewater capacity limitations.	PC, SB	short	✓			
	3.2.2 Explore a phasing policy and/or annual development limits as part of the land use regulations or water and wastewater ordinances to further the orderly review and build out of larger projects.	PC	short	✓			
	3.2.3 Consider revisions to the land use regulations to reduce or re-configure zoning districts and/or allowed development densities to reflect municipal and green infrastructure capacities.	PC	short	✓			
<b>3.3</b> Village area design standards	3.3.1 Create more specific development design standards (site, building, greenspaces) to more clearly articulate the community’s expectations.	PC, VSC	medium	✓			
	3.3.2 Consider expanding the role of the Village Steering Committee to provide design review guidance and feedback to developers and the DRB on projects in the Village Growth Area.	SB, VSC	short	✓			
	3.3.3 Preserve historic streetscape patterns in the existing village core. Ensure new development includes vibrant streetscapes.	DRB, VSC	short	✓			
	3.3.4 Require new development be designed with public transit access points and supporting pedestrian/bicycle amenities as appropriate, such as bus pull offs along roads, bike racks, benches, etc.	PC, DRB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	3.3.5 Maintain greenspaces within and adjacent to the village area. Consider development design standards that include the preservation of greenspace within the village for active use, and at the periphery of the village growth area.	PC, DRB	medium	✓		✓	
	3.3.6 Explore the creation of a new zoning district around the village area with appropriate design standards and/or where clustering of development is encouraged to preserve greenspaces.	PC	long	✓			
<b>3.4 Rural area working landscape</b>	3.4.1 Revise the zoning for portions of the Rural Residential 1 zoning district to better reflect the rural nature of these areas.	PC	medium	✓			
	3.4.2 Guide development so as to minimize impacts on agricultural and forestry operations, retain tax abatement program eligibility, etc.	DRB	ongoing	✓			
	3.4.3 Direct development to land that is less suitable for agricultural or forestry due to poor soils, slopes and other property size, location, etc.	DRB	ongoing	✓			
	3.4.4 Ensure the creation and preservation of access and rights of way to preserve the long term viability of agricultural and forest lands.	DRB	ongoing	✓			
	3.4.5 Direct development to avoid primary resource areas including: wetlands; flood hazard areas; steep slopes of 25% or greater; surface waters and setback area; rare species locations, etc.	DRB	ongoing	✓			
	3.4.6 Direct development to minimize impacts on secondary resource areas including: moderately steep slopes between 15-25%; prime and statewide agricultural soils; core wildlife habitat and wildlife corridors; deer wintering areas; important cultural features.	DRB	ongoing	✓			
	3.4.7 Plan subdivision of lands to minimize the fragmentation of forest land.	DRB	ongoing	✓			
	3.4.8 Explore zoning techniques for the preservation of Hinesburg's forest resources – e.g., a separate forest district, overlay districts for important forest lands, design standards for forest preservation.	PC	long	✓			
<b>3.5 Monitor implementation of rural area vision</b>	3.5.1 Conduct natural resource and wildlife habitat inventories for public use, and for use by the DRB in the development review process.	CC	medium	✓			
	3.5.2 Develop and maintain a set of indicators as a measure of rural development patterns (e.g. annual, bi-annual or every five years).	PC	long	✓			
	3.5.3 Implement an annual review of Hinesburg's development activity with the DRB to assess the practical implementation of land use regulations and to address any inadequacies or misinterpretations.	PC, DRB	short	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
4.1 Maintain/bolster a thriving, mixed use village center	4.1.1 Manage the Town's revolving loan fund to support both rural and village-based businesses.	RLC	ongoing	✓			
	4.1.2 Inventory existing businesses and vacant commercial spaces.	EDC	ongoing	✓			
	4.1.3 Research the demand for and feasibility of a small business incubator space/co-working space.	EDC	short	✓			
	4.1.4 Share stories about Hinesburg's successes and assets.	EDC	short	✓			
	4.1.5 Work with existing businesses to bring complementary companies to Hinesburg.	EDC, RLC	ongoing	✓			
4.2 Infrastructure to sustain a vibrant business community	4.2.1 Provide necessary facilities and services to support commercial and industrial development – e.g., municipal water and sewer, roads, sidewalks, stormwater infrastructure, etc.	SB	ongoing	✓	✓	✓	✓
	4.2.2 Connect small and medium sized local business owners with technical assistance, training and financial assistance.	EDC	medium	✓			
	4.2.3 Improve pedestrian walkways and vehicular traffic flow to help current and future businesses attract and retain customers.	SB	ongoing	✓		✓	✓
	4.2.4 Encourage telecommunication providers (e.g., Champlain Valley Telecom Green Mountain Access, Comcast, etc.) to provide higher speed internet infrastructure that meets the FCC broadband definition.	EDC	ongoing	✓			
4.3 Support economic vitality in non-village industrial districts as well as rural and residential districts.	4.3.1 Assist with the Current Use program (enrollment, retention, etc.).	EDC	ongoing	✓			
	4.3.2 Encourage development of local food based commercial businesses.	EDC	ongoing	✓			
	4.3.3 Recreation/tourism – target and encourage start-up of recreation related businesses, and promote trail systems.	EDC	ongoing	✓			
	4.3.4 Continue working with Green Mountain Power, landowners, and businesses to encourage the provision of 3-phase power to the Industrial 1 zoning district.	EDC, PC	ongoing	✓			
	4.3.5 Review zoning regulations for contractor yards with a goal of developing performance standards that would allow the separation distances to be reduced to facilitate the review/approval of new yards that are compatible with the surroundings.	PC	medium	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
5.1 Keep large forest ownerships intact and functional	5.1.1 When properties are subdivided, minimize the impact of development on interior forest areas, core wildlife habitat, and wildlife corridors.	DRB	ongoing	✓			
	5.1.2 Work with state and regional partners and road crews to create a plan for dealing with invasive species.	CC, SB	short	✓			
	5.1.3 Create a mechanism to consistently contribute to the Town's Land Preservation Fund (e.g., as a percent of taxes), and protect forest resources by promoting the use of this fund.	CC,SB	medium	✓	✓	✓	
5.2 Ensure development doesn't impact viability of agricultural uses	5.2.1 Development planning shall preserve the Town's valuable agricultural resources by directing growth to locations that minimize impact on these resources.	DRB	ongoing	✓			
	5.2.2 Adopt policies such as "Right to Farm" to minimize conflicts between residential and agricultural uses.	DRB, PC	ongoing	✓			
	5.2.3 Ensure access and proper rights of way to preserve the viability of agricultural land.	DRB	ongoing	✓			
5.3 Support the working landscape; provided incentives to keep lands open and viable	5.3.1 Promotion of local agricultural products and marketing of value added products will be encouraged as a means of fostering the economic vitality of local farms and woodlands.	EDC	short	✓			
	5.3.2 Create a mechanism to consistently contribute to the Town's Land Preservation Fund (e.g., as a percent of taxes), and preserve priority resource land by promoting the use of this fund.	CC	ongoing	✓		✓	
	5.3.3 Work with the Hinesburg and Vermont Land Trusts, or other appropriate non-profit organizations, to encourage the voluntary protection of productive agricultural and forest lands.	CC	ongoing	✓			
	5.3.4 Continue to adjust and fine tune allowed uses in the rural areas to keep pace with trends in value-added agriculture and forestry.	PC	ongoing	✓			
	5.3.5 Provide staff assistance to landowners with larger parcels to encourage comprehensive planning prior to subdivision.	DRB, PC	medium	✓			
5.4 Farming practices	5.4.1 Require adequate, uncut vegetative buffers at productive crop fields along streams, rivers and ponds to provide filtering of field runoff and minimize bank erosion.	PC	medium	✓			
	5.4.2 Encourage productive field cutting schedules to allow young ground nesting birds (e.g. bobolinks, quail, meadowlarks) to leave their nests.	CC	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	5.4.3 Encourage use of fertilizers and their application types (e.g. soil injection, broadcast incorporated, band application) and application schedules that minimize ground and surface water degradation.	CC	ongoing	✓			
	5.4.4 Encourage use of the Northeast Region Certified Crop Advisors (NRCCA) Study Resources for nutrient management, pest management, crop management, and soil and water management.	CC	ongoing	✓			
	5.4.5 Publicly recognize “best farming practice” which protect and improve wildlife habitat, water quality and soil productivity through an annual awards program.	CC	medium	✓			
<b>5.5</b> Protect, enhance, restore surface water resources	5.5.1 Require adequate vegetative buffers and erosion control along rivers, streams, and lakes to protect water quality, allow natural channel modification, and protect buildings. Consider differentiating buffers based on land use.	PC, DRB	short	✓			
	5.5.2 Consider revising the zoning regulations for the shoreline district and/or the larger Lake Iroquois, Sunset Lake watershed to better protect water quality. Consider requiring stormwater treatment improvements in conjunction with expansions to non-complying structures in these sensitive areas.	PC	short	✓			
	5.5.3 In coordination with local and regional groups, and the towns of Williston and St. George, monitor water quality in Lake Iroquois and Sunset Lake, report the findings, and take action to reduce pollution from point and nonpoint sources.	CC	ongoing	✓			
<b>5.6</b> Control stormwater runoff impacts	5.6.1 Educate landowners about how they can help preserve and improve water quality on their own property.	CC, PC	short	✓			
	5.6.2 Continue to identify and construct municipal stormwater treatment infrastructure, especially in already built out areas where there is little or no existing treatment. Demonstrate and promote innovative, low impact development, and green stormwater infrastructure solutions.	SB	long	✓	✓	✓	✓
	5.6.3 Consider establishing a storm water utility responsible for a town-wide systematic approach to storm water management.	SB	long	✓	✓		
	5.6.4 Create a stormwater management plan for Town roads that is aligned with State stormwater permit requirements and prioritized by an erosion risk inventory. The plan shall include proposed remediation, implementation schedules, a capital budget plan and exploration of funding sources.	SB	short	✓	✓		
	5.6.5 Ensure that stormwater runoff from new development on private roads and driveways doesn’t have undue adverse impacts on the public road network.	SB, DRB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	5.6.6 Consider requiring stronger and more innovative stormwater control/treatment practices than those required by State permitting standards if necessary to ensure waterways do not become impaired.	PC	long	✓			
5.7 Protect groundwater resources	5.7.1 Educate residents on groundwater conservation measures and contamination threats and issues.	CC	ongoing	✓			
	5.7.2 Explore and locate additional municipal wells to support existing needs (e.g., replacement of Lyman Meadows water system) and new development in the village growth area and larger water service area.	SB	short	✓	✓	✓	
	5.7.3 Consider low well yield areas in the review process for new development.	DRB	ongoing	✓			
5.8 Preserve wetlands	5.8.1 Require wetland delineation when new development is proposed near potential wetland areas.	DRB	ongoing	✓			
	5.8.2 Conduct and fund field studies and town-wide mapping to delineate and better understand priority wetlands, including vernal pools. Coordinate with the ANR to improve State wetland maps using better UMASS wetland data/maps for Hinesburg.	CC	long	✓	✓		
	5.8.3 Educate landowners about the value and fragility of vernal pools, how to identify them, and how to protect them.	CC	long	✓			
	5.8.4 Avoid impacts to wetland areas whenever possible. When impacts are unavoidable, minimize disturbance and adverse effects on the wetland function.	DRB	ongoing	✓			
	5.8.5 Promote the use of the Town's Land Preservation Fund to preserve and protect priority wetlands that are particularly vulnerable.	CC, SB	ongoing	✓	✓	✓	✓
	5.8.6 Restore wetlands in public/private partnerships to improve wetlands with consideration of effects on surrounding properties.	CC, SB	medium	✓	✓		✓
5.9 Minimize flood damage and bolster community's ability to anticipate, respond, and recover	5.9.1 Work with landowners, watershed groups, and the State to implement river corridor plans.	CC	long	✓			
	5.9.2 Work with private landowners to assess existing water control structures – condition, repair needs, necessity. Consider taking responsibility for maintenance or removal of critical structures with landowner permission.	PC, SB	short	✓		✓	
	5.9.3 Review and revise flood hazard regulations as needed to ensure continued enrollment in the National Flood Insurance Program.	PC	ongoing	✓			
	5.9.4 Update the capital budget and set aside reserve funds in anticipation of pre-disaster mitigation projects.	SB	short	✓		✓	



Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	5.9.5 Adopt the DEC River Program guidance outlined in the Vermont Standard River Management Principles and Practices: Guidance for Managing Vermont's Rivers Based on Channel and Floodplain Function.	PC, SB	medium	✓			
<b>5.10</b> Protect and maintain wildlife	5.10.1 Work with the VT Fish and Wildlife Department, UVM, and other partners to conduct and maintain inventories of natural areas and wildlife habitat, with the help of Hinesburg residents.	CC	ongoing	✓			
	5.10.2 Protect areas of sufficient size and character to support continued preservation of wildlife habitat and hunting through mechanisms like landowner covenants, conservation easements, etc.	CC	ongoing	✓		✓	✓
	5.10.3 When reviewing new development, encourage the preservation of the six habitats of special concern discussed in Chapter 5.	DRB	ongoing	✓			
	5.10.4 Support the eradication of invasive plants that threaten the future of natural areas, surface waters, forests, and farm lands.	CC	ongoing	✓			✓
<b>5.11</b> Provide connectivity among natural areas and core wildlife habitat	5.11.1 Identify and preserve connections that would enhance existing wildlife habitat.	CC, DRB	ongoing	✓			
	5.11.2 Prioritize the conservation of large areas of contiguous forest.	CC, SB	ongoing	✓			
	5.11.3 Work with VT Fish and Wildlife to establish recommended corridor widths for each key corridor shown on Map 14.	CC	medium	✓			
	5.11.4 When reviewing new development, strongly discourage development in key corridor/linkage areas.	DRB	ongoing	✓			
	5.11.5 Along important riparian areas, install culverts that allow for aquatic organism passage, consistent with VT Fish and Wildlife recommendations.	CC, SB	long	✓		✓	✓
<b>5.12</b> Protect ridgelines and hillsides from improperly planned development	5.12.1 Identify scenic view points and work with willing landowners to create public access.	PC	long	✓			
	5.12.2 Continue to develop strategies, including development review standards in zoning and subdivision regulations, to protect ridgelines and hillsides. Consider adding this to the list of secondary resources in the rural area design standards.	PC	long	✓			
<b>5.13</b> Protect quality sand, gravel, stone resources for current/future use	5.13.1 Review zoning regulations to ensure protection of sand, gravel, and stone resources, as well as well-planned extraction in appropriate areas.	PC	long	✓			
<b>5.14</b> Protect the night sky and reduce light pollution	5.14.1 Update the land use regulations for acceptable outdoor lighting and sign lighting, as well as standards for outdoor lighting plans.	PC	medium	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	5.14.2 Do public outreach on how residents can minimize impacts through simple fixture and light bulb retrofits, as well as what to look for when buying and installing new lighting.	PC	medium	✓			
<b>6.1</b> Fiscally responsible and sustainable municipal services	6.1.1 Keep the capital budget and plan, and public safety impact fees up to date, and implement additional impact fees or other comparable mechanisms to recoup a reasonable proportion of the cost of capital improvements from new development.	SB	ongoing	✓	✓		
	6.1.2 Consider creating a volunteer or self-funded grant coordinator position to lower the tax burden for existing projects as well as new projects that benefit the community.	SB	short	✓			
	6.1.3 Explore and locate additional municipal wells to support existing needs (e.g., replacement of Lyman Meadows water system) and new development in the village growth area and larger water service area.	SB	short	✓	✓		✓
	6.1.4 Assess how the Town is impacted by new State water quality standards, and adjust zoning regulations accordingly along with necessary improvements to the municipal water and wastewater system.	SB	medium	✓			
	6.1.5 Revise the Official Map based on on-the-ground changes (e.g., Bissonette Recreation Area), increase the specificity of the desired community facilities shown, and work proactively with landowners to acquire the necessary land for those future community facilities.	PC	medium	✓		✓	✓
	6.1.6 Strive to generate interest in community service on Town boards and commissions, and to fill vacancies in a timely fashion.	SB	ongoing	✓			
	6.1.7 Develop a plan for the long term maintenance of municipal buildings and infrastructure. Ensure there is capacity within the organization to plan for those needs, and ensure those needs are adequately funded.	SB	medium	✓	✓		
	6.1.8 Assess the remaining capacity of the Town's gravel pit.	SB	medium	✓	✓		
<b>6.2</b> Protect and bolster the health and welfare of the community through hazard mitigation measures, support for children and families, and general public health awareness.	6.2.1 Complete river corridor (i.e., fluvial geomorphology) assessment and develop strategies in response to identified risk	SB, partner groups	medium	✓			✓
	6.2.2 Continue to improve highway, culvert and bridge maintenance programs.	SB, staff	ongoing	✓	✓	✓	

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	6.2.3 Improve capabilities of existing and potential public shelters. Review/modify evacuation and sheltering plans.	SB, staff	ongoing	✓			
	6.2.4 Improve capabilities of existing stormwater management infrastructure.	SB, staff	ongoing	✓			✓
	6.2.5 Ensure town and school emergency plans are fully coordinated.	SB, School Board	ongoing	✓			
	6.2.6 Raise public awareness of hazards, hazard mitigation and disaster preparedness.	SB, staff	ongoing	✓			
	6.2.7 Factor in public health and affordability issues when discussing municipal business – e.g., policy discussions, regulations, budget drafting. Consider adding a public health chapter to the next Town Plan to flesh out these issues, similar to what was done with the 2013 Chittenden County Regional Plan (ECOS plan).	SB, PC	ongoing	✓			
6.3 Optimize management and use of recreational facilities and programs	6.3.1 Expand and update the Official Map to include present and desired future recreation areas, fields, facilities, and trails. Make revisions based on decisions already made to relocate facilities (e.g., Bissonette Recreation Area). Create funding mechanisms for needed recreation facilities.	PC	short	✓			
	6.3.2 Maintain existing facilities including the ice rink, tennis courts, basketball courts, playing fields, sidewalks, and trails.	RC, SB	ongoing	✓	✓	✓	
	6.3.3 Continue to work with St. George, Williston and Richmond to manage the Lake Iroquois public beach, land and trail system, as well as ongoing efforts to control non-native species (e.g., Eurasian water milfoil).	RC, CC, SB	ongoing	✓	✓		
	6.3.4 Maintain ownership and control of the Town Forests and the Geprags Park areas. Continue to refine and implement management plans that balance recreational use of the Town Forests and Geprags Park with the protection of natural resources.	TFC, CC	ongoing	✓			
	6.3.5 Continue to offer a range of recreational opportunities through programs, the arts, and sports to serve all ages in the community with special attention to the growing senior population.	RC	ongoing	✓	✓		
	6.3.6 Make recreational activities in the village area easily accessible to pedestrians and bicyclists by creating additional and more direct connections – e.g., Town Office, Lyman Park, HCS, CVU, Library, future Bissonette Recreation Area.	SB	ongoing	✓	✓	✓	✓
	6.3.7 Recognize that class 3&4 dirt roads are used extensively for recreational activities such as walking, biking, and horseback riding. Ensure that these uses are considered when road improvements are	SB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	made. Maintain public access to all town road corridors, active or inactive.						
	6.3.8 Continue to work with the VT Department of Fish and Wildlife to facilitate use of state-owned land for recreation and hunting, including the development of trails.	CC, TC	ongoing	✓			
<b>6.4</b> Create additional recreational facilities to serve town residents	6.4.1 Construct the Bissonette Recreation Area.	RC, SB	short	✓			✓
	6.4.2 Pursue opportunities for valuable lake and stream access as they arise.	SB	ongoing	✓		✓	
	6.4.3 Conduct a study of current and future recreational needs and identify locations for parks, fields and other facilities, paying particular attention to high density residential areas.	RC	medium	✓			
	6.4.4 Budget for and develop sidewalks, paths, and trails in the village area as shown on the Official Map, as well as the high-density residential area along Richmond Road.	SB	ongoing	✓	✓	✓	✓
	6.4.5 In keeping with Complete Streets legislation (Act 34, enacted in 2011), consider appropriate accommodations for pedestrians and cyclists (e.g., sidewalks, bike lanes, widened shoulders) when making improvements to paved roads.	SB	long	✓	✓	✓	✓
	6.4.6 Seek private landowner permission or permanent easements to develop trails connecting existing portions of the trail network.	TC	ongoing	✓			
	6.4.7 Keep recreational offerings and facilities at pace with growth in population and the aging demographic.	RC	ongoing	✓			
	6.4.8 Continue to support recreational and cultural programming that provides entertainment in the performing arts.	RC	ongoing	✓			
<b>6.5</b> Encourage Town and school cooperation in planning and use of school facilities and programs	6.5.1 Encourage the continued use of school facilities as focal points for a wide range of community activities.	PC	ongoing	✓			
	6.5.2 Work with the schools to monitor growth and its impact on school facilities and services.	PC	ongoing	✓			
<b>6.6</b> Ensure opportunities for the creation and maintenance of child care infrastructure	6.6.1 Encourage the continued use of municipal and school facilities for private and public child care opportunities.	PC	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	6.6.2 Work with the schools, the Town Library, the Town Recreation Department to ensure quality after-school programs are available.	RC	ongoing	✓			
<b>6.7</b> Ensure quality child care via business assistance and work force development	6.7.1 Assist child care providers by supporting existing regional referral systems and agencies.	PC	ongoing	✓			
	6.7.2 Include child care referral information, agency links, and training opportunities on the Town’s web site.	PC	medium	✓			
	6.7.3 Promote accreditation and child development credentials, particularly for home-based care providers, by providing facilities and logistical support for training opportunities.	RC	ongoing	✓			
<b>6.8</b> Address growing senior population and those with disabilities via infrastructure and services	6.8.1 Create a task force to study the needs for and then implement ways to deliver services to the Town’s senior population. Explore locations and options for funding a community center to serve a wide range of residents, including seniors and the disabled.	SB	medium	✓	✓		
	6.8.2 Work with HCRC, Hinesburg’s religious institutions, and other partner groups to enable additional programs and services to elders and the disadvantaged, and to promote safe and reliable transportation options.	SB	ongoing	✓	✓		
<b>6.9</b> Promote healthy living and active participation in the community	6.9.1 Provide recreation programs and/or outreach designed for seniors to promote regular exercise and community engagement.	RC	medium	✓			
<b>6.10</b> Maintain and improve library services	6.10.1 Actively encourage access to and training on digital technology - e.g., e-books, video streaming, periodical databases, podcasts, etc.	Library	ongoing	✓			
	6.10.2 Assess demand and make e-readers available for lending as needed.	Library	long	✓			
	6.10.3 Continue to offer children’s programs (e.g., lego club, crafternoon, story time, etc.), and re-establish a consistent schedule of adult programs.	Library	ongoing	✓			
	6.10.4 Encourage additional use of the library facility by outside groups.	Library	ongoing	✓			
	6.10.5 Develop a marketing plan to promote library programs and services.	Library	medium	✓			
<b>6.11</b> Minimize and manage solid waste in collaboration with CSWD	6.11.1 Work collaboratively as a member of CSWD to retain the drop off center at the Hinesburg Town Garage site.	SB	ongoing	✓			
	6.11.2 Through CSWD, continue to educate community members about solid waste issues, and upcoming requirements for dealing with food scraps.	SB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
7.1 Improve traffic flow efficiency along Route 116 in village area	7.1.1 Continue working collaboratively with the State on completion of the planned improvements to the Route 116, CVU Road, Shelburne Falls Road intersection.	SB	short	✓			
	7.1.2 Prioritize the final design and installation of planned improvements to the Route 116, Charlotte Road intersection. Discourage the installation of a traffic light at the Route 116, Mechanicsville Road intersection.	SB	short	✓	✓		✓
	7.1.3 Study design options and costs to convert Stella Road and the Cheese Plant driveway into a public road. Establish a timetable and a capital budget plan to accomplish this.	SB	short	✓		✓	
	7.1.4 Work with the owners of the Mobil Short Stop and the Aubuchon Plaza on Commerce Street to relocate their access points farther away from Route 116 to improve safety and traffic flow at this intersection.	PC, DRB	ongoing	✓			
	7.1.5 Determine desired level of service for each of the Route 116 intersections in the village area during peak traffic times.	PC	medium	✓			
7.2 Maintain/improve public roads for all users	7.2.1 Work with the State and the CCRPC to further evaluate and implement improvements in the village area as discussed in the 2014 Route 116 Corridor Study. In addition to larger scale projects, continue making incremental improvements.	SB	medium	✓		✓	✓
	7.2.2 Research and coordinate with the State on village gateway traffic calming strategies to promote safe speeds when entering the village area.	PC	medium	✓			
	7.2.3 Ensure pedestrian, bicycle, and recreational use of gravel roads remains viable – e.g., assess and adjust road widths, implement traffic calming as needed (e.g., signage, street tree plantings, addition of stop signs), speed enforcement.	SB	ongoing	✓	✓		
	7.2.4 When appropriate, coordinate road improvements and bicycle/pedestrian connections with adjoining towns.	SB, TC	long	✓			
7.3 Support public transit and community infrastructure to reduce vehicle miles driven	7.3.1 Implement plans for a multi-use, municipal parking area behind the Fire Station that will serve as a centrally located park and ride facility and public transit stop.	SB	long	✓		✓	✓
	7.3.2 Ensure park and ride facilities are welcoming through proper maintenance and the use of signage, shelters, lighting, cellular phone and wifi coverage, etc.	SB	ongoing	✓			
	7.3.4 Maintain GMT membership, and continue to support and promote public transit services provided by GMT and ACTR. Continue working	SB	ongoing	✓	✓		

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	with all partners to advocate for alternative public transit funding sources to reduce reliance on property taxes.						
	7.3.5 Network and partner with businesses and/or neighboring municipalities to encourage expansion of bus service and schedules to help reduce traffic volumes in Hinesburg.	PC	ongoing	✓			
<b>7.4</b> Identify and address road-related water quality issues	See action items 5.6.4 & 5.6.5		See 5.6.4 & 5.6.5				
<b>7.5</b> Improve pedestrian/bicycle infrastructure	7.5.1 Install sidewalks to fill in the gaps within the village growth area as shown on the Official Map. Focus first on sidewalk projects that have completed feasibility studies.	VSC, SB	long	✓	✓	✓	✓
	7.5.2 Consult with the State on the viability of the crosswalk concepts for the Route 116, Mechanicsville Road intersection contained in the 2014 Route 116 Corridor Study. Find and implement a crosswalk solution.	VSC	medium	✓			✓
	7.5.3 Repair/improve the sidewalk segment along the east side of Route 116, and south of Kelley’s Field Road, in order to stop water (and ice in the winter) from accumulating on the sidewalk.	VSC, SB	long	✓	✓	✓	
	7.5.4 Develop a system of footpaths and trails throughout the town in conjunction with the rural development portions of this plan, and as identified on Map 13 “Trail Network Vision: Existing Routes and Gaps.”	TC	ongoing	✓			
	7.5.5 Work cooperatively with private land owners (e.g., via easements and license agreements) to allow public non-motorized recreational use of land or roads to facilitate connectivity between existing and planned trail segments.	TC	ongoing	✓			
	7.5.6 Evaluate improvements to selected class four roads to function better as components of the town-wide trail network.	TC	long	✓			
	7.5.7 Update the capital budget and plan to include funds to widen road shoulders for improved bicycle/pedestrian accessibility and safety.	SB	long	✓	✓	✓	✓
<b>7.6</b> Implement transportation policies and plans	7.6.1 Update the Town road standards to improve differentiation between the different types of roads in the town and to allow for different widths, turning radius, etc.	SB	short	✓	✓		
	7.6.2 Continue to consider taking over responsibility for Route 116 through the village area.	SB	long	✓			
	7.6.3 Require that new development utilize shared access points on to public roads whenever possible.	DRB	ongoing	✓			
	7.6.4 Discourage lighting on rural roads for both new and existing development.	PC, DRB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	7.6.5 Minimize speeding through speed enforcement and road design, and seek lower speed limits in densely settled areas.	Police, DRB	ongoing	✓	✓		
<b>8.1</b> Adopt the State enhanced energy planning goals for Hinesburg and develop strategies and shorter-term objectives to achieve them.	8.1.1 Identify long-term strategies and shorter-term objectives for the Town to meet efficiency and renewable energy goals.	EC	medium	✓			
	8.1.2 Develop programs with specific measurable objectives to make progress toward each efficiency and renewable energy goal.	EC, SB	ongoing	✓			
	8.1.3 Use life cycle cost when evaluating energy-related Town capital expenditures, including vehicle acquisition.	SB	ongoing	✓			
	8.1.4 Use benchmarking of municipal, institutional and commercial buildings to educate the owners of their buildings' energy performance relative to other buildings or past performance.	EC	long	✓			
	8.1.5 Work with the Energy Action Network, State and County agencies and other organizations to improve local data available from the Community Energy Dashboard, the Architecture 2030 Challenge for Planning and other sources and tools to better monitor and educate the community on Town progress.	EC	long	✓			
<b>8.2</b> Support the development of alternative renewable energy sources ... to contribute to Vermont's goal of obtaining 90% of energy from renewable sources by 2050.	8.2.1 Identify strategies to increase renewable energy generation within Hinesburg and meet electricity generation targets consistent with Town land use policies and values (see Table 12).	EC	long	✓			
	8.2.2 Encourage the use of renewable energy systems for onsite electricity generation and thermal energy. Analyze and realize the potential for renewable energy generation (particularly solar and wind) on municipal property for municipal and/or community use.	EC	long	✓		✓	
	8.2.3 Encourage farmers to use renewable energy in the production of their goods.	CC, EC	ongoing	✓			
	8.2.4 Promote smart grid and micro grid systems	EC	ongoing	✓			
	8.2.5 Consistent with the Public Utilities Commission process, designate additional preferred sites for renewable energy generation on a case-by-case basis via the joint letter process with the CCRPC.	EC, PC, SB	ongoing	✓			



Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	8.2.6 Periodically update Energy Maps to facilitate development of renewable energy by land owners and energy developers consistent with constraints and Town preferences.	EC	long	✓			
	8.2.7 Encourage owners to install rooftop solar and trackers on existing buildings and land.	EC	ongoing	✓			
	8.2.8 Work with electric utilities to modernize the grid to facilitate development of renewable energy in Hinesburg.	EC	long	✓			
	8.2.9 Encourage energy storage facilities as a component of new renewable energy developments when appropriate.	EC	ongoing	✓			
	8.2.10 Analyze the potential for community solar projects based on current State and Federal policy and financing options.	EC	short	✓			
<b>8.3</b> Preserve existing or potential renewable energy resource	8.3.1 Strengthen zoning and subdivision regulations to require that all buildings be designed to maximize passive and active solar gain. Ensure that larger buildings with expansive roofs are adequately designed such that their roofs can support future solar installations. Consider changing existing language from advisory (e.g., “should”) to required (e.g., “shall”) in section 5.26.2(5) of the Zoning Regulations and sections 5.1.12 and 6.12.4(6) of the Subdivision Regulations. Consider a town-wide requirement (ordinance or zoning regulation) for solar ready roofs on all new construction. Explore amending zoning and subdivision regulations to include design standards to preserve the southern exposure of buildings for passive and active solar gain. Balance this with other siting and design factors, especially in the Village Growth Area where compact development is more common and street trees are necessary.	PC	long	✓			
	8.3.2 Encourage plantings that maximize solar heating in the winter and provide shade in the summer.	EC, DRB	ongoing	✓			
	8.3.3 Encourage ongoing sustainable forest management to maintain a local source of fuel wood (biomass).	CC	ongoing	✓			
	8.3.4 Preserve open areas suitable for solar energy generation (e.g., southern aspect) that are situated close to the Village Growth Area. Such areas could be useful in the future for providing renewable energy to concentrated portions of Hinesburg Village.	PC	long	✓			
<b>8.4</b> Improve energy efficiency, reduce building energy demand, and work towards 100% of businesses and homes being weatherized by 2050.	8.4.1 Maximize the energy efficiency in town owned buildings and vehicles.	EC, SB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	8.4.2 Encourage homeowners and businesses to seek thermal efficiency upgrades and then invest in efficient renewable energy technologies.	EC	ongoing	✓			
	8.4.3 Promote the use of energy efficient lighting, appliances, automatic setback thermostats and motion detecting light controls to save energy.	EC	ongoing	✓			
	8.4.4 Promote the energy efficiency and weatherization services of Efficiency Vermont, Vermont Gas Systems, NeighborWorks, and the energy transformation programs of Vermont Electric Cooperative and Green Mountain Power (“Tier III”) and other efficiency programs. Keep track of how many homes are weatherized, with a goal of 60 homes per year in order to reach the 100% goal by 2050.	EC	ongoing	✓			
	8.4.5 Promote cost-effective energy efficiency in future residential and commercial buildings by adopting Vermont’s stretch code for all development and major renovations in Hinesburg.	PC, SB	medium	✓			
	8.4.6 Work with Efficiency Vermont and other partners to develop a manual to educate homeowners on how to choose and complete the next step towards a net zero energy home. Highlight local success stories, including examples of net zero energy homes – both via new construction and via renovation of existing housing stock.	EC	short	✓	✓		
	8.4.7 Consider future adoption of net zero energy ready requirements for new buildings to meet the State’s comprehensive energy plan goal of all new buildings being net zero energy by 2030. Assess how such requirements could impact initial purchase price of new homes, and whether this adversely impacts housing affordability, particularly for low to moderate income households.	EC, PC	long	✓			
	8.4.8 Leverage and promote State and utility programs that make energy efficiency measures more attractive and affordable. Consider creating a related Town fund to provide assistance to low and moderate income home buyers and existing homeowners, possibly utilizing the Town’s existing revolving loan fund for housing and economic development.	EC, SB	long	✓			
8.5 Reduce transportation related energy demand and switch transportation fuels to renewable electricity and renewable biofuel.	8.5.1 Promote cost-effective energy efficiency in future transportation planning.	EC, PC	ongoing	✓			
	8.5.2 Consider regulation or ordinance changes to require that new developments incorporate electric charging stations, and if possible, power these by solar photovoltaic systems.	PC	medium	✓			
	8.5.3 Encourage the Town and the Champlain Valley School District to install electric charging stations, and to seek higher fuel efficiency and vehicles with alternative fuel types (e.g., biofuels, electric) when purchasing or leasing new vehicles.	EC, SB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
	8.5.4 Consider bicycle paths, pedestrian walkways, and mass transportation access in the review of all development proposals in the Village Growth Area. Support and promote bicycle and pedestrian use along existing roadways and encourage these forms of transportation to neighboring town infrastructure.	VSC, DRB	ongoing	✓			
	8.5.5 Support efforts to increase public transit ridership (e.g., GMT, ACTR).	EC, SB	ongoing	✓			
	8.5.6 Promote more awareness of the State’s GoVermont connecting commuters carpool/rideshare program.	EC	ongoing	✓			
	8.5.7 Investigate why more school children don’t ride the school bus. Explore ways to increase student ridership, and consider expanding ridership to the general public to improve local public transportation options.	EC, PC	long	✓			
<b>8.6</b> Encourage a balanced approach between the placement of utility services and the character of the rural and village areas.	8.6.1 Continue to require new utility lines serving end users be underground, barring site limitations that make underground lines impossible. Seek to relocate existing above ground lines underground within the village core, especially along the “main street” portion of Route 116 from Mechanicsville Road to Friendship Lane.	PC, SB	long	✓			
	8.6.2 Encourage cooperation between the town and Green Mountain Power to find a suitable site for a substation or other improvements that would increase power supply and reliability so that adequate electric power is available for both new development and three phase service for the Industrial 1 zone in South Hinesburg.	PC, SB	long	✓			
<b>8.7</b> Continue to define the role of the Hinesburg Energy Committee.	8.7.1 The Energy Committee shall take the lead in the execution of Town Plan energy goals and recommendations.	EC	ongoing	✓			
	8.7.2 Help property owners understand State energy efficiency building codes for new development – e.g., outreach when building permits are issued.	EC	medium	✓			
	8.7.3 Identify utility, federal and state incentives to support energy conservation efforts and efficiency improvements. Educate the public about potential incentives for energy conservation and efficiency improvements (e.g., workshops, published information, etc.).	EC	ongoing	✓			
	8.7.4 Participate in the public review processes of new utility facilities and municipal facilities and major residential and commercial developments. Review these projects for conformance with the Town Plan. Create an objective set of criteria to enable consistency in such reviews. Seek to preserve the Town’s rural character while recognizing the important function these projects serve.	PC, SB	ongoing	✓			

Goal	Action	Lead	Time Horizon	Necessary Resources			
				Staff, Volunteer	Annual Budget	Capital Budget	Grant, Other
9.1 Encourage the designation, restoration, and preservation of historic structures	9.1.1 Do public outreach and education about the benefits of historic preservation and designation via National Register of Historic Places.	VSC, PC	ongoing	✓			

# Glossary

**Act 250:** Vermont Land Use and Development Law 10 V.S.A. Ch 151; the state environmental review process conducted by a District Environmental Commission to consider a proposed development's impact using 10 established criteria.

**Affordable housing:**

Owner-occupied – Housing owned by inhabitants whose gross annual household income does not exceed 80 percent of the standard metropolitan statistical area (MSA) median income, as defined by the US Dept. of Housing and Urban Development (HUD), and the total annual cost of the housing, including principal, interest, taxes, and insurance, is not more than 30 percent of the household's gross income.

Renter-occupied – Housing that is rented by its inhabitants whose gross annual household income does not exceed 80 percent of the standard metropolitan statistical area (MSA) median income, as defined by HUD, and the total annual cost of the housing, including rent, utilities, and condominium association fees, is not more than 30 percent of the household's gross income.

**Building envelope:** A specific area on a lot, delineated on a survey or plan, within which some or all structures shall be located.

**Build-Out Analysis:** A study that examines an area's capacity for development.

**Cluster Development:** A development design technique that concentrates buildings in specific areas on the site to allow the remaining land to be used for other purposes

(e.g., recreation, common open space, and preservation of environmentally sensitive features, community facilities); often associated with a planned unit development (PUD).

**Core Wildlife Habitat:** Significant forest and wetland areas that are removed from roads, house sites, and other similarly developed areas as shown on map 14 of the Town Plan. Specifically, a subset of the overall habitat blocks delineated by the VT Fish and Wildlife Department in their 2011 "Habitat Block and Connectivity Analysis" dataset:

1. Habitat blocks of 700 acres or more – these blocks comprise the largest and most contiguous habitat areas.
2. Interior portions of smaller habitat blocks that are at least 100 meters from the edge of the habitat block (typically the edge of human disturbance).

Note – The extent of these core wildlife habitat shall be as described above and as conditions on the ground existed as of 9/9/2013 (date of Town Plan adoption), such that incremental reductions in habitat blocks do not result in currently mapped habitat blocks losing the core designation - e.g., a large block becoming less than 700 acres, or the reduction interior area of a smaller block due to edge encroachment.

**Cottage Business/Industry:** A commercial, manufacturing, or light industrial use such as a woodworking shop, arts/crafts studio, food processing kitchen, or computer service shop, that operates on the same scale and intensity as a home occupation but is a principal use on the lot. See Zoning Regulations for a more detailed description.

**Deer Wintering Area:** White-tailed deer in Vermont live near the northern limit of their range in eastern North America. To cope with Vermont's severe climatic conditions, deer have developed a survival mechanism that relies upon the use, access, and availability of winter habitat. These habitat areas are known as deer wintering areas, deer winter habitat or, more commonly, 'deer

yards.' Deer winter habitat is mapped by the VT Fish and Wildlife Department and defined as areas of mature or maturing softwood cover, with aspects tending towards the south, southeast, southwest, or even westerly and easterly facing slopes. It is shown on Map 9 of the Town Plan.

**Flood Hazard Area or Special Flood Hazard Area:** The land in the flood plain within a community subject to a one percent (1%) or greater chance of flooding in a given year. These areas are mapped and designated by the Federal Emergency Management Agency (FEMA).

**Floodplain:** Any land area susceptible to being inundated by water from any source.

**Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point. Please note that Special Flood Hazard Areas and floodways may be shown on a separate map panels.

**Form Based Code:** Land use regulations that focus on design rather than type of use, and describe the desirable physical form, placement, size, and bulk of buildings within the environment.

**Geographical Information Systems (GIS):** A computerized mapping system utilizing datasets that have geographic location information.

**Green Infrastructure:** A wide range of multi-functional, natural, and semi-natural landscape elements located within, around, and between developed areas at all spatial scales. This includes everything from forests and meadows to wetlands, floodplains, and riparian areas.

**Green Stormwater Infrastructure (GSI):** Systems and practices that restore and maintain natural hydrologic processes in order to reduce the volume and water quality impacts of the built environment while providing multiple societal benefits. A complimentary and sometimes alternative system to pipes, catch basins, and storm drains that represent “gray” stormwater infrastructure.

**Growth Center:** An area providing for a concentration of housing, commercial services, employment opportunities and government uses, and served by basic infrastructure.

**Home Occupation:** A home-based business that does not change the character of the neighborhood. See Zoning Regulations for a more detailed description.

**In-fill:** New development that increases the density within partially built up areas; typically on vacant parcels or unused portions of other parcels.

**Inclusionary Zoning:** Land use regulations that require some affordable housing in some or all new development – typically with a trigger so as to apply to medium or larger sized projects.

**Low Impact Development (LID):** An innovative land planning and design approach which seeks to maintain a site’s pre-development, ecological and hydrological function through the protection, enhancement, or mimicry of natural processes. There are many reasons to use LID, but stormwater management is typically the primary use.

**Mixed-Use:** A mixture of residential and non-residential uses within a given development, parcel, or area.

**NWI Wetlands:** Wetlands delineated via aerial photography interpretation through the National Wetland Inventory (NWI) by the U.S. Fish and Wildlife Service.

Generally, this delineation is the basis for State and Federal wetlands regulations. However, these wetland locations are for general planning purposes only, and are not suitable for site-specific design or planning, which requires on-the-ground wetland delineation.

**Overlay District:** A zoning district that is superimposed on other zoning districts, typically due to its town-wide extent. Often used to identify natural features that are not restricted to a single location or area.

**Performance Standards:** Criteria to control impacts generated by, or inherent in, uses of land or buildings – e.g., noise, emissions, traffic impacts, aesthetics, odors, lighting/glare, etc.

**Planned Unit Development (PUD):** A method of innovative land development defined in the Hinesburg Zoning Regulations. A PUD allows a different arrangement and/or density of housing units than otherwise possible under the Zoning Regulations. See Zoning Regulations for a more detailed description.

**Plat:** Otherwise known as a survey. The plat represents the final drawings on which subdivisions are presented to the Development Review Board for approval and which, if approved, shall be filed for record with the Town Clerk.

**Rare, Threatened, or Endangered Species Habitat & Significant Natural Communities:** Known locations for these habitats are documented via the Heritage Database that is maintained by the VT Fish and Wildlife Department. This database does not represent a complete town-wide inventory, so other undocumented occurrences are possible and should be considered if properly identified. These data are made available to municipalities for planning purposes, and are one of the many Geographic

Information System (GIS) datasets utilized in Hinesburg's development review process.

**Reasonably priced housing:** Housing with a cost not more than 30 percent of the gross income for a middle income household earning between 80-200 percent of the Burlington metropolitan statistical area (MSA) median household income (\$61,763; Census 2013 4-yr ACS).

**Riparian:** Of, pertaining to, or situated on, the edge of the bank of a river or other body of water.

**Transfer of Development Rights (TDR):** The transfer of the right to develop or build, expressed in dwelling units per acre, from land in one district to land in another district; a relatively new land development tool used to preserve open space by shifting development to areas better suited for growth.

**UMASS Wetlands:** Wetlands delineated by the University of Massachusetts via a project commissioned by the Hinesburg Conservation Commission in 1997. This delineation was done using 1993 aerial photography, and provides a more comprehensive and detailed wetland delineation than the National Wetland Inventory data provided by the federal government. These wetland locations are for general planning purposes only, and are not suitable for site-specific design or planning, which requires on-the-ground wetland delineation.

**Village Growth Area:** An area comprised of the following zoning districts: Village, Village NW, Village NE, Commercial, Industrial 3, Industrial 4, Residential 1, Residential 2. See Chapter 3 of this plan for more details, and section 3.1 of the Zoning Regulations.

**Watershed:** An area of land that drains water, sediment, and dissolved material to a common outlet at some point along a stream channel or water body.

**Wetland:** For the purpose of this plan, the definition of a wetland, as well as the types of wetlands actually regulated, shall be the same as the State of Vermont wetland rules and regulations. A wetland is an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands are delineated pursuant to protocols established by the Federal and State government, which focus on soil type, hydrology, and vegetation. Class 1 and 2 wetlands tend to be larger, more significant wetlands and are regulated by the State. Class 3 wetlands are smaller wetlands that may or may not be regulated by the State depending on their significance and proximity to other wetlands. Regulated class 3 wetlands are functionally intact enough to provide for wildlife habitat, water quality, or flood prevention. Vernal pools fall into this category. Unregulated class 3 wetlands do not serve these functions in a meaningful way, typically due to: small size, isolation from other wetlands and hydrological features, or past land use practices that have altered the hydrology of the area (e.g., agricultural drainage ditches, tiles, etc.).

**Wildlife Corridor:** Stream/riparian, wetland, or forested areas that provide connections between patches of significant wildlife habitat types listed in Chapter 5 of this plan – also see Map 14. Stream/riparian and wetland wildlife corridors are easily identified while upland forest corridors can range from highly constrained to more diffuse. The width and effectiveness of wildlife corridors vary widely, both being highly dependent on the wildlife species and habitat type in question. Smaller, unmapped wildlife corridors (particularly smaller stream/riparian

corridors) should also be considered if their importance is substantiated by scientific research study or field assessment by a qualified expert (e.g., VT Fish and Wildlife assessment, university research, etc.).