

Dummerston
Vermont

TOWN PLAN

Public Hearing Draft

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INTRODUCTION

Purpose of Dummerston Town Plan

The Dummerston Town Plan is designed to provide guidelines for planning the future of the Town of Dummerston so that community actions, whether private or public, will:

- conform to the wishes of its citizens;
- avoid the adverse and sometimes irreversible effects often associated with purely random development;
- be in harmony with the planning measures of the State, the Windham Region, and neighboring towns.

The Town Plan is to be used by public officials, businesses, landowners, and residents in a number of ways:

- To provide a source of information about the Town.
- To encourage individual and community actions in all areas covered by the Plan that are in the environmental, economic and social interests of the Town.
- To recommend future community programs, actions, and studies that will help to ensure a continuous planning program.
- To provide a framework for zoning and any other bylaws or ordinances the Town may adopt.
- To guide local decision-making in the review of development proposals, including site plan, conditional use, and subdivision reviews.
- To serve as a basis for responding to development proposals requiring Act 250 permits or any other similar State or Federal review proceedings.

How the Town Plan was Developed

The Dummerston Planning Commission is responsible for preparing the Town Plan. This plan is an update of the 2014 Dummerston Town Plan. The Plan is designed to comply with the standards of Title 24 V.S.A. (Vermont Statutes Annotated) Chapter 117 with respect to the content of the Plan, consistency with Vermont's planning goals, and compatibility with the Town Plans of nearby towns and the Windham Regional Plan. Technical assistance was provided by the Windham Regional Commission.

It is important that the plan reflect the wishes of Dummerston residents. For this reason, the planning commission held public forums to get feedback from residents on this update. The planning commission also received input from the Conservation Commission, Housing Advisory Commission, Energy Committee, town officials, and other volunteers.

Process for Adoption, Modification, and Updating

Formal adoption of the Town Plan will take place after public hearings of the Planning Commission and the Selectboard. The Plan is adopted by a majority vote of the Selectboard. A Town Plan expires eight years from the day of adoption.

Planning is an ongoing process. Once adopted, the Town Plan will need review every few years in order to account for new information about the Town and new public needs and desires as expressed by the citizens of Dummerston. This review is one of the main responsibilities of the Dummerston Planning Commission. A Town Plan can be modified and formally amended (through public hearings) at any time during the eight-year period.

Organization of the Town Plan

The Dummerston Town Plan is divided into chapters on various topics. Each chapter includes Goals, which are statements of the end results or conditions desired by Dummerston. They are also expressions of the community's environmental, cultural, and social values. Each chapter also contains Policies, which help define the direction the Town will take and Action Steps which provide the Town a method of implementing the specific policies. The Action Steps also indicate the board or commission that is most appropriate for carrying out the action.

Interpretation of the Town Plan

In situations where the interpretation of the Plan is needed or required, it will be the task of the Dummerston Planning Commission, in conjunction with the Selectboard, to conduct the review.

Throughout the text of this Town Plan many of the Policy statements and Action Steps include imperative verbs. Should or may means that a requirement is encouraged but not mandated, whereas must or shall means that the Town has strong intentions of ensuring a requirement is accomplished. Policy is defined herein as a guideline for achieving short-term and long-term goals.

GOALS OF DUMMERSTON

The following goals shall serve to guide Dummerston in its overall planning process. These goals are statements of the end results or conditions desired by Dummerston. They are expressions of the community’s economic, environmental, cultural and social values. In developing this list of goals, the Dummerston Planning Commission included goal statements from previous Town Plans adopted by the community, and considered the Vermont Planning Goals as set forth in the Vermont Municipal and Regional Planning and Development Act (Chapter 117 4302). The stated goals shall serve as the foundation of this Town Plan and are further clarified and defined by policies and Action Steps found in the various chapters. The Planning Commission will work with officials (elected and appointed) and other committees to achieve these goals.

DUMMERSTON COMMUNITY PROFILE

Goal 1 — Maximize opportunities for all residents to participate in all public processes.

LAND USE

Goal 1 — Achieve a balance between development activities, preservation of natural resources, and undeveloped land in Dummerston.

Goal 2 — Protect the natural environment and its economic, ecological, and aesthetic benefits.

Goal 3 — Promote intensive land uses and development only in areas where adequate public services and facilities are available.

WORKING LANDSCAPE

Goal 1 — Preserve agricultural lands for agricultural use and maintain a strong agricultural economy.

Goal 2 — Preserve important forest land for sustainable forestry practices and support forest-based industries.

Goal 3 — Support the continuation of the Use Value Appraisal Program as a way of retaining large tracts of farmland and forest land.

CONSERVED AND PUBLICLY OWNED LANDS

Goal 1 — Encourage preservation of undeveloped land as an important element in shaping Dummerston's development pattern and in preserving its aesthetic and environmental quality.

NATURAL RESOURCES

Water and Wetland Resources

Goal 1 — Protect surface and ground water quality and quantity for drinking and other domestic uses, for fish and wildlife habit, and for recreational use.

Mineral Resources

Goal 1 — Identify and balance the benefits and uses of sand, gravel and other mineral and earth resources against the impacts associated with the extraction, processing and transportation of such resources.

Ecological Landscape

Goal 1 — Protect and enhance biological diversity in Dummerston.

Goal 2 — Engage townspeople in protecting natural resources.

RECREATION, SCENIC, HISTORIC, AND CULTURAL RESOURCES

Goal 1 — Be stewards for recreational and scenic resources essential to Dummerston’s community character.

Goal 2 — Preserve and protect historic and cultural properties and sites.

COMMUNITY FACILITIES, SERVICES, AND UTILITIES

Goal 1 — Provide for the public health, safety, and general welfare of the community.

Goal 2 — Provide an efficient system of community facilities and services.

FLOOD RESILIENCE

Goal 1 — Enhance flood resilience through the protection and restoration of river corridors, floodplains, wetlands, and upland forested areas that attenuate and moderate flooding and fluvial erosion.

Goal 2 — Encourage flood emergency preparedness and response planning.

TRANSPORTATION

Goal 1 — Provide for safe, economical, and energy-efficient transportation systems that respect the integrity of the natural and social environment.

ECONOMIC DEVELOPMENT

Goal 1 — Support and promote the towns current economic base to retain existing employment opportunities and increase availability of good quality employment opportunities.

ENERGY

Goal 1 — Dummerston will reduce total per-capita non-renewable energy consumption 40% by 2030 from a 2010 baseline.

Goal 2 — Renewable electricity generation in Dummerston will achieve 20% of town wide electricity consumption by 2030.

HOUSING

Goal 1 — Create flexibility and diversity in Dummerston’s housing stock.

EDUCATION

Goal 1 — Provide quality education for all people in Dummerston.

Goal 2 — Ensure that high quality, affordable child care is accessible to all children.

DUMMERSTON COMMUNITY PROFILE

Geography

The Town of Dummerston, approximately 31 square miles (19,815 acres) in size, is located in Windham County in southeastern Vermont. The Town is bordered by five Vermont towns—Brattleboro, Marlboro, Newfane, Brookline, and Putney—and by Chesterfield and Westmoreland in New Hampshire. Brattleboro is considered the regions major growth center, providing the bulk of services and employment for Dummerston residents.

The physical characteristics of Dummerston are dominated by two rivers the Connecticut River, which forms the eastern boundary to the Town, and the West River, which flows through Dummerston before joining the Connecticut River in Brattleboro.

The topography of Dummerston is varied, being relatively flat in the Connecticut River Valley and quite hilly elsewhere in the Town. Black Mountain, at 382 meters or 1253 feet, is a dominant landmark located between the river valleys in the southern part of Town. Other prominent high points include Prospect Hill, Dummerston Hill, and Wickopee Hill.

State Routes 30 and 5 are the main roads serving the community. Dummerston is served by I-91 both at the south and north ends of town (Exit 3 in Brattleboro and Exit 4, which is partly in Dummerston and partly in Putney). Dummerston is located only a few miles north of Route 9, the major east-west corridor linking Brattleboro with Bennington and Keene, New Hampshire. The East-West Road from Route 30 to Route 5 is also an important road used by both local and regional commuters.

Geology

Metamorphic rock, known as the Waits Formation, underlies Dummerston and extends through West Dummerston, Prospect Hill, and Dummerston Center. It is characterized by mica schist, impure marble, and quartzite. Three hundred fifty million years ago, as the tectonic plate drifted northward, magma surged upward from deep within the earth and began to cool, forming granite. Some of these granite formations are visible along Route 30, and this granite exposed by weathering formed Black Mountain and the quarries along the West River.

Other plutonic rocks (igneous rocks formed deep below the surface of the earth) were folded, pushed, and eroded to form the Standing Ponds Volcanics found just south of Dummerston Center running in a north-south direction. Most of East Dummerston is sitting on a combination of metamorphic rocks including impure marble and slate. The old slate quarries along Route 5 north of Houghton Road are good evidence of these deposits.

One hundred seventy five million years ago, the continents moved into their current locations. The processes of erosion and mountain building continued. Mount Monadnock shows the height of the land before erosion. Then in recent geological past the glaciers came in four separate ice ages. The latest ice age occurred 10,000 years ago and covered Vermont in ice two miles thick. As the ice began to melt, portions of Dummerston became covered with water. The part of Dummerston along the Connecticut River and West River was an ancient lake called Lake Hitchcock. When the lake drained into the ocean, great deposits of sand and gravel (formed by water moving over rock) were left along the West River and Connecticut River.

Settlement History

Archeological evidence suggests that pre-historic settlers made their way into the area by following the retreating glacial ice in the Connecticut River valley. As agriculture complemented traditional hunting and gathering practices, established settlements with larger groups of people were formed. Archaeological findings indicate that the Abenaki¹ established extensive villages along tributaries of the Connecticut River.

Europeans came in the mid-1700s as homesteaders, purchasing large tracts of land. They cleared the valley lowlands for pasture and for agriculture. Wood from the forest was primarily used for heating, cooking, and for masts on English ships. At this time, transportation was difficult so town centers were located to be central to everyone. Thus, Dummerston Center became an early town center.

The abundant forest resources in Dummerston led to the proliferation of mills. Slab Hollow became a major settlement area because of the many mills that were located on Salmon Brook. It continued to be as such until the mid-1800s when electricity replaced the need for mills.

The rise of the railroad in the 1800s had a significant impact on Dummerston. Access to rail lines and the ability to transport heavy goods led to the mining of granite from quarries on Black Mountain. A concentration of workers for the quarries led to a new town center known as West Dummerston Village.

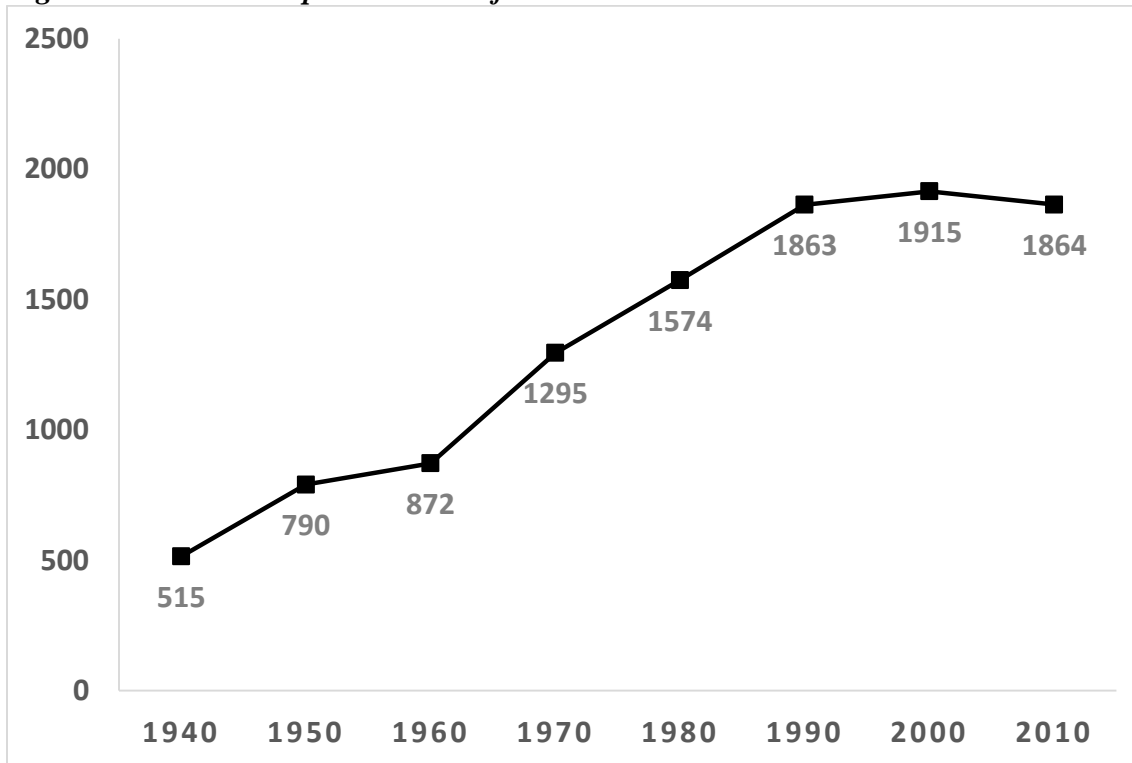
Outside of the established areas of Dummerston Center, West Dummerston Village, and Slab Hollow, the settlement pattern evolved as well. Years of clearing and farming upland soils, led to the loss of topsoil. The rocky uplands of Dummerston were no longer productive for agriculture. Agriculture activities moved from the higher elevations and concentrated in the lower valleys. By the mid-1900s, agriculture was consolidated to large farms in the Connecticut River Valley, many of which remain today.

Population Growth and Projections

Dummerston's population steadily increased from 1940 to 2000, then declined slightly from 2000 to 2010, as shown in Figure 1 below. The most significant increase in population occurred during the period 1960-1970 (48.5%). The 1970s and 1980s saw approximately 20% growth each decade. Since 1990 the population of has leveled off at around 1900 residents. The following figure shows Dummerston's population growth over time.

¹ According to *Vermont, The Green Mountain State* by Walter Hill Crockett, the indigenous people of Vermont is chiefly concerned with the Abenaki.

Figure 1 Historical Population Data for Dummerston



Source U.S. Bureau of the Census

While population has increased significantly in Dummerston in the past, the town’s population as a percentage of the Windham Region’s population has been constant. This is attributable to the fact that while percentages of change may appear significant, the absolute numbers in such changes are relatively small and that many towns in the Region have had similar patterns of growth. The following chart compares Dummerston’s growth with that of other neighboring Vermont towns.

Figure 2 Population Trends in Neighboring Vermont Towns

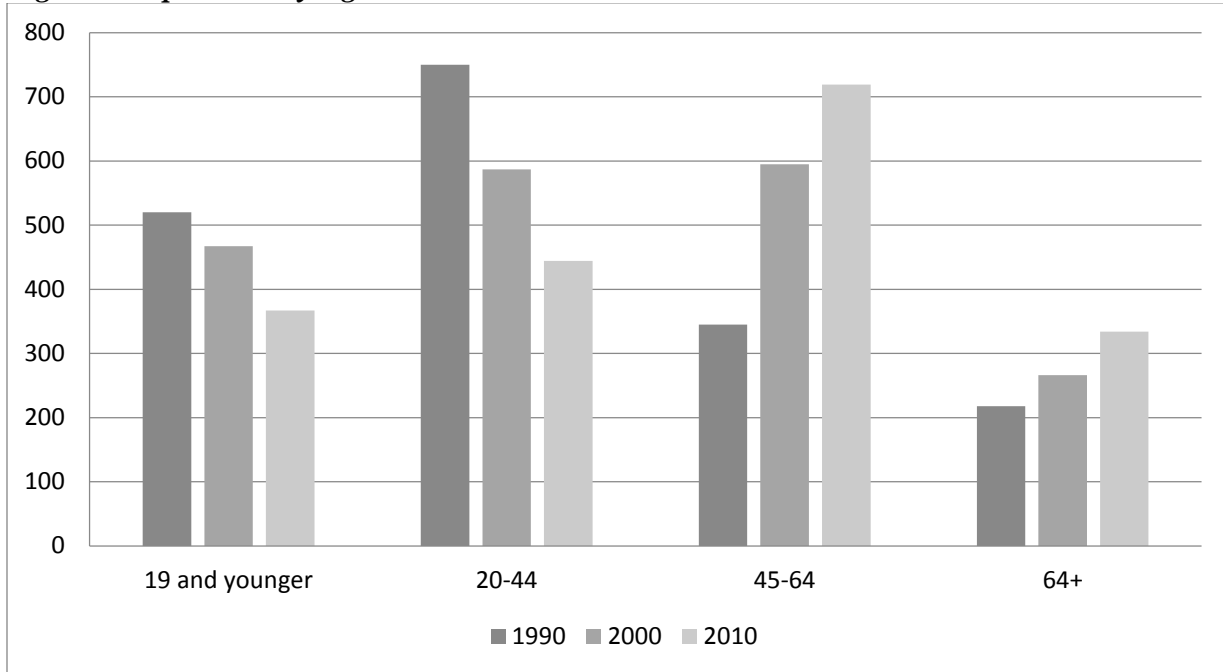
Town	1990	2000	2010	% Change 1990-2000	% Change 2000-2010
Dummerston	1863	1915	1864	3%	-3%
Brattleboro	12241	12005	12046	-2%	0.3%
Marlboro	924	978	1078	6%	10%
Newfane	1555	1680	1726	8%	3%
Putney	2352	2634	2702	12%	3%
Brookline	403	469	530	16%	14%

Source U.S. Bureau of the Census

Age Distribution

Dummerston’s population is aging. Since 1990 the median age of Dummerston has increased by 13 years, or 36%, from 36 in 1990, to 49 in 2010. While this reflects a statewide aging trend, Dummerston’s population is older on average than the state and the county. Windham County’s median age in 2010 was 45, Vermont’s was 41.5.

Figure 3 Population by Age Cohort



Source U.S. Bureau of the Census

Figure 3 shows the current distribution of Dummerston’s residents by age. The following observations can be made from the data

1. There has been a significant increase in the population of people who will likely enter retirement within the next ten years (those ages 45-64).
2. There has been a decrease in the number of people in child bearing ages.
3. The senior population (those over 65) is growing.

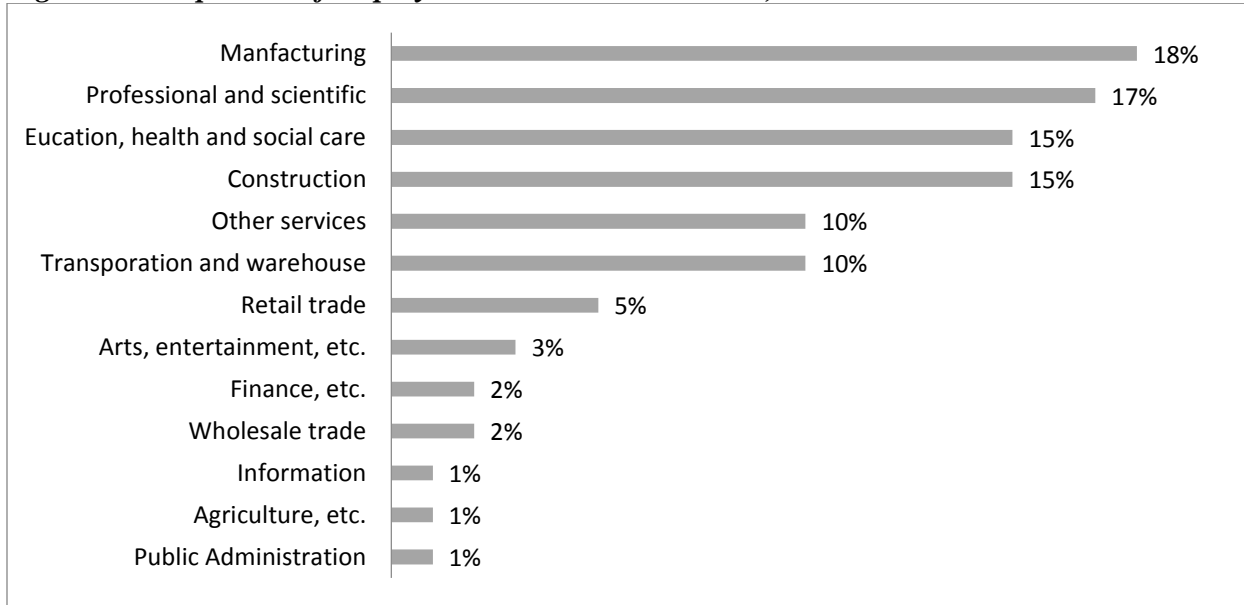
Economy

Dummerston has evolved from an agrarian community with the majority of its residents employed in farming, logging, sawmills and quarries. Now residents work in a diverse range of professions, with agriculture and forestry holding a very small percentage of the overall employment picture. Some commute to businesses in neighboring towns, while some travel further to jobs in larger towns in New Hampshire and Massachusetts. Brattleboro is an important economic hub, providing employment as well as shopping and necessary services for Dummerston residents. A number of residents are employed by area educational institutions, both public and private, as well as area health care practices and institutions.

During the period 2008-2012, 25.5% of Dummerston residents worked in Dummerston, with 12.2% working from their homes. See Figure 4 for a list of occupations showing the range of job

types in Dummerston. A significant number of residents support themselves with businesses run out of their homes, many of which provide services to Dummerston residents. A growing number of residents are able to find employment by telecommuting from home.

Figure 4 Occupations of employed Dummerston residents, 2008-2010



**Source American Community Survey*

According to the American Community Survey, median household income in Dummerston, adjusted for inflation, has been stable over the past 25 years. Estimated median household income in Dummerston in 1989, adjusted to 2012 dollars, was \$63,334 while the same estimate in the period 2008-2012 is \$62,543. For this same time period, the estimated median household income for Vermont is \$54,168 and for Windham County, \$51,113. While the median household income in Dummerston is higher than the state and county, an estimated 33% of Dummerston households income is below \$50,000.

Local Revenue and Fiscal Conditions

Local revenue is generated through property taxes, state funds, and other miscellaneous reimbursements. The Selectboard sets the Town tax rate to raise the money necessary to pay for the municipal expenditures that were approved at Town Meeting. Dummerston gains a significant amount of income from other revenue sources including state highway funds, emergency management reimbursement, fees and charges for services, and permits and licenses.

The following table shows municipal expenditures and revenue. For more detailed financial information, see the Dummerston Annual Report.

Figure 5 Dummerston Annual Municipal Expenditures and Tax Revenue

	1990	2000	2010	2015
Road Department	\$286,538	\$336,427	\$466,260	\$659,475
General Government	\$88,388	\$151,344	\$295,903	\$262,262
Fire & Safety	\$33,498	\$78,290	\$134,194	\$106,654
Emergency Management	\$0	\$6,566	\$32,278	\$30,033
Health and Welfare	\$6,719	\$7,630	\$14,150	\$12,400
County Tax	\$7,609	\$12,453	\$14,833	\$13,680
Total Annual Expenditures	\$422,752	\$592,710	\$957,618	\$1,084,504
Municipal Tax Revenue*	\$238,890	\$315,240	\$671,497	\$734,211

*Includes both General Fund and Highway Fund taxes but not Education taxes

Source Dummerston Annual Reports

Town Government and Administration

The government of the Town of Dummerston derives its authority from its general charter and from the Vermont Constitution. There is a five member Selectboard whose members are elected at Town Meeting and serve staggered terms. The legislative authority of the Town is vested in the voters at Town Meeting, but the Selectboard is the legislative body responsible for the general supervision of the affairs of the Town. The Board's duties fall into three general categories: regulation, general administration, and appointments.

Other elected town officials consist of the Town Clerk, Town Treasurer, Town Moderator, Auditors, Listers, Library Trustees, Town Agent, Town Grand Juror, and Justices of the Peace. These officials provide various services, acting as town staff, presiding over public meetings, handling town accounts, determining the value of real estate property, and working election polls and counting ballots for office.

The Town employs one road foreman and crew and provides wages to the following elected officials: Town Clerk, Town Treasurer, Selectboard, Auditors, and Listers; and to the following appointed officials: Zoning Administrator and Selectboard Assistant. The Emergency Management Director receives a stipend.

A number of ordinances and bylaws are in force in the Town of Dummerston, including Wireless Telecommunication Facilities Ordinance, Trailer Park Ordinance, Traffic Ordinance (speed limits), Road Acceptance Ordinance, and Zoning Bylaws (including flood hazard area regulations).

The Town functions through the active participation of its residents and volunteer groups. Residents serve on various boards and committees and either join or financially support various associations in Town. The willingness of Dummerston's residents to participate in the civic life of the town brings diversity and vibrancy to the public discourse and many benefits to the community. Below is a partial listing of boards and commissions that serve the Town along with some of their responsibilities. All members are appointed by the Selectboard.

The Planning Commission is charged with formulating the Town's long range planning goals through the process of updating the Town Plan every eight years. The Planning Commission also amends the zoning bylaw to conform to the Town Plan.

The Development Review Board is responsible for hearing zoning appeals of the decisions of the Administrative Officer, variance requests, and applications for site plan approval, conditional use approval, planned residential and planned unit developments, and rights-of-way.

The Conservation Commission is responsible for the protection and management of natural resources in Dummerston. It does this through developing and maintaining a biodiversity inventory, community education and outreach (website, e-mail alerts, educational programs), stewardship of town and state owned properties and conserved lands (Prospect Hill, Dutton Pines, Black Mountain) and specific targeted activities such as invasive plant removal and monitoring for invasive pests. It coordinates its activities with community members, other town boards, regional conservation commissions and boards, and local and state natural resources agencies. The Commission was established by the Selectboard in 1990 and has nine members.

The Energy Committee is dedicated to the promotion of environmentally responsible energy conservation and energy efficiency strategies to help residents cut energy costs and support the usage and development of renewable energy sources. The Committee is involved in advocacy work as well as information and awareness activities towards these ends.

Several other Selectboard-appointed groups address specific issues relevant to the Town. The Dummerston Recreation Board manages some of the athletic opportunities offered in the community. The Farmland Protection Committee assists the Selectboard by reviewing applications to the Farmland Protection Fund. For a complete listing of elected and appointed officials, see the latest Dummerston Annual Report.

Community Goals

Goal 1 — Maximize opportunities for all residents to participate in all public processes

LAND USE

Existing Land Use

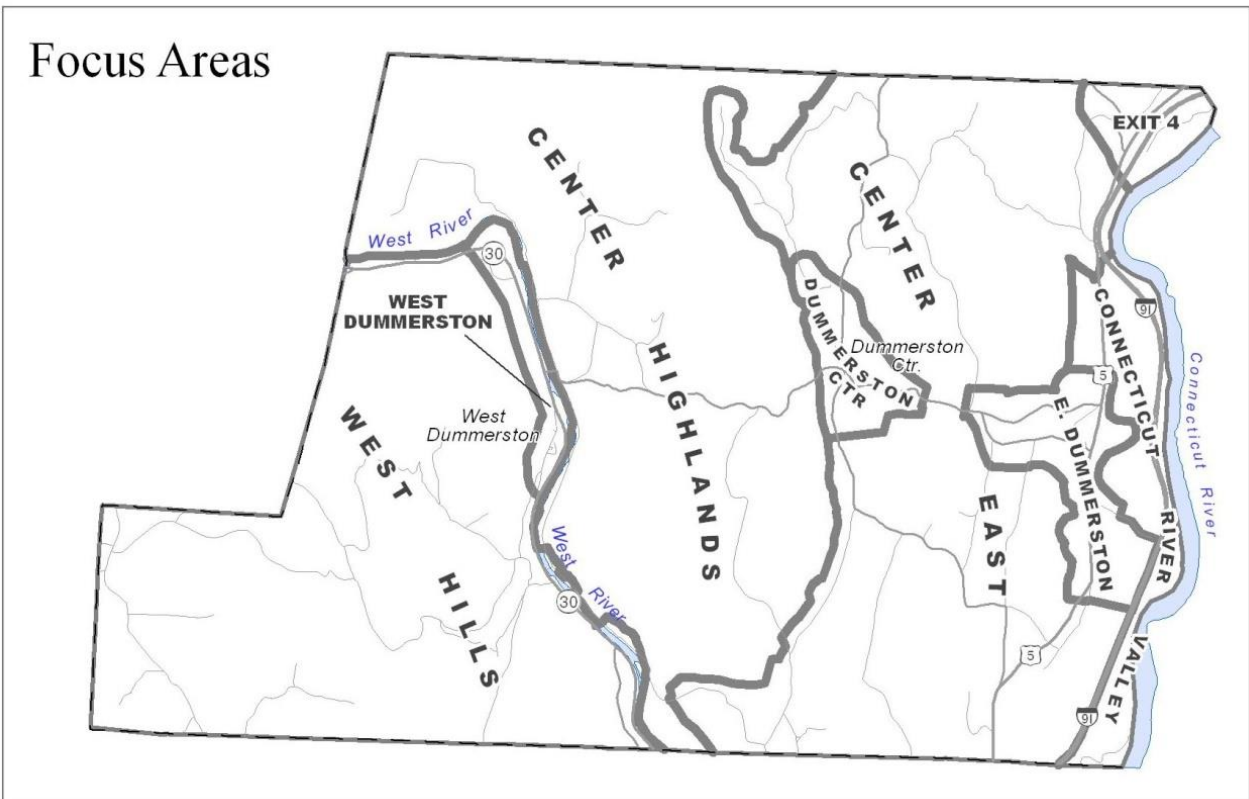
Dummerston's pattern of development reflects the influences of the historic settlement pattern discussed in the Community Profile as well as topography and the transportation system.

Physical limitations continue to exert major control on the use of land in Dummerston. Soils and steep slopes have played a dominant role in limiting development in many parts of Town. Where soils are shallow, unstable and impermeable or subject to wetness or erosion, land development becomes extremely difficult. The Conserved and Working Lands with Existing Development map shows the general pattern of development in Dummerston along with the location of buildings. This pattern has not changed appreciably over the years; development has merely extended along the road frontages in all sections of town. The Existing Land Use by Parcel map shows the dominant land use on each parcel. A more detailed description of these land use categories displayed on this map follows.

1. **Residential Development** is primarily located along the towns rural roads. More recently (post 2001); residential development has been spreading into previously undeveloped areas located further off town roads. The densest concentration of residences can be found in West Dummerston, Dummerston Center, Slab Hollow-East Dummerston, Little Connecticut and along Houghton Brook Road near the Putney border.
2. **Commercial Development** is, for the most part, scattered along Route 5 and Route 30. The Commercial uses include retail and automotive services, farm stands, restaurants, and camping facilities.
3. **Industrial Development** in Dummerston is limited. There is some industrial development in the northeast corner of town. In the southeast corner of town, a lumber yard located on Old Ferry Road in Brattleboro extends into Dummerston. Other industrial uses are located on Route 5.
4. **Public Services/Cultural** uses include the following facilities Town Office, Dummerston School, Lydia Taft Pratt Library, Community Center, West Dummerston Post Office, Evening Star Grange, Historical Society, Green Mountain Camp, fire stations, churches and cemeteries. These facilities are primarily located in Dummerston Center and West Dummerston.
5. **Conservation** includes publicly-owned lands, lands owned by a conservation organization, and private lands with a conservation easement .
6. **Farms** refer to lands that are utilized for the cultivation of crops, dairy farming, raising of livestock and poultry, orchards and tree farms.
7. **Undeveloped** land represents land not being used for development at this time. A large portion of this area is forestland, most of which is in private, non-industrial ownership.

Focus Areas

As part of the process to develop the future land use districts, focus areas depicted on the map below were created to evaluate the landscape and unique values of various parts of Town. These focus areas provide a more detailed description of what each part of Town is like. They should be used in conjunction with the land use districts to evaluate the character of the area during development review.



The **Exit 4** focus area is located on Route 5 with easy access to the Interstate 91 interchange. In the vicinity of Houghton Brook Road and Johnsons Curve, the development is residential. Near the Exit 4 interchange there is commercial development, 2-3 establishments which are connected to Putneys sewer/water line. The area east of the railroad tracks is currently undeveloped and includes two boat landings which provide public access to the Connecticut River. There is active farming occurring in this focus area (an orchard and corn field) and it is important to protect this agricultural land as well as other natural resources.

The gently rolling landscape and fertile soils of the **Connecticut River Valley** have long supported agricultural use of the land in this focus area. The landscape is a patchwork of fields and forested areas. Existing development in this area includes residential development and working farms. There is industrial development on Old Ferry Road, which is accessed by way of Brattleboro.

The **East Dummerston** focus area stretches from Hidden Acres campground to Dummerston School along Route 5 and up East-West Road and School House Road into the residential area known as Slab Hollow. The town's largest concentration of commercial operations is scattered along Route 5. Slab Hollow is a single-family residential neighborhood of small lots with development close to the road.

The **Center East** focus area contains a mixture of scattered development, undeveloped land, and undeveloped areas. Farming has left an imprint on this focus area with fields, some still actively farmed, and forests surrounding the residential development. Most of Dummerston's orchards are found in this focus area. The rising hills to the west provide scenic forested views.

Dummerston Center typifies the traditional village center of the rural upland farming communities which have historically dominated Vermont's agricultural landscape. Community, religious and residential structures combine with undeveloped land to form a community center of cultural significance. The built environment has a consistency in form, material, texture and color. Important landscape features include fields stretching toward the ridge, surrounding woodlands, many large shade trees and the pond and brook located at the crossroads of Middle Road and East-West Road.

The **Center Highlands** focus area is comprised of a connecting swath of land that runs north-south through Dummerston. Black Mountain and Prospect Hill are important high elevation landmarks. The dominant feature in this focus area is the forested landscape, much of which is remote and undeveloped. The forested landscape plays an integral role in the towns biodiversity. Large contiguous areas of unfragmented habitat extend beyond the town borders into the neighboring towns. This unfragmented habitat is critical for animal migration.

High elevations and steep slopes in many parts of this focus area constrain development. Several large parcels have already been conserved. There is some low density residential development on Black Mountain Road, East-West Road and Camp Arden Road. More dense development is located on and around Hague Road, an area known as Little Connecticut. In the areas of residential development there is a peaceful, quiet nature to the area given surrounding forested landscape.

The **West Dummerston** focus area is situated along Route 30, a major transportation route between Brattleboro and towns along West River Valley. It includes West Dummerston Village, which is primarily residential with a few public buildings. Lot sizes are generally one acre or less and structures rely on individual wells and septic systems. The combination of small lot sizes and on-site water and waste water systems is a development constraint. This focus area is defined by the West River and the steep, wooded slopes behind it, with scattered commercial and residential development along Route 30. The commercial development that exists is small in scale and is primarily art-related crafts that are located in residences. There are also some auto service garages and a gasoline station. Route 30 is a popular route for bicyclists and for recreation users, who use the parking lot at the covered bridge.

The **West Hills** is a high elevation area with large, undeveloped tracts of land. It is largely forested and is part of a greater contiguous forested habitat that extends into neighboring towns. A significant portion of the area has been conserved because it serves as a watershed area for Brattleboro's water supply. Residential development is scattered along the roads. Known as Dummerston Hill, it was an early settlement abutting the towns of Marlboro, Brattleboro and Newfane. Existing low density development, steep terrain and limited access from Dummerston contribute to the remote feeling of this focus area.

Future Land Use

The Future Land Use Plan provides for the preservation of Dummerston's natural resources, biodiversity and rural character. The following factors were considered in developing this plan:

Population and Development Trends

Between 1970 and 2010, the population increased 144% and housing units by 193%. While the population has stabilized in the last 20 years, housing growth has not slowed, with the average household size declining from 3.14 in 1970 to 2.26 in 2010. Prior to the 2014 update, the zoning

bylaw delineated districts using an arbitrary setback from the road, a method which does not respect the physical limitations of the land nor unique cultural and/or natural resources value that may be present. The unintended consequence of this, along with arbitrary minimum lot size requirements, was that most residential development occurred in areas further from village centers and main roads.

Community Input

The Planning Commission held two public forums on the Town Plan update in 2016 and 2017, taking feedback from residents and using it to revise the draft.

Biodiversity

Dummerston is fortunate to have a landscape that supports a diverse ecosystem of plants and animals. Conservation Commission efforts to document this biodiversity have been used to help develop a land use plan that will protect the integrity of the towns biodiversity.

Working Landscape

Unlike many Vermont towns, agricultural activity (dairy, orchards, haying, etc.) and forestry are still very much a part of the landscape. In a time where land prices and the economy make it difficult to convert new land for farming, this land use plan recognizes the importance of the existing working landscape and seeks to maintain it for use into the future.

Land Capability

Natural features of the landscape can serve as major development constraints. Steep slopes, flood-prone areas, wet soils and shallow soils all present challenges to development that may be able to be overcome but do not reflect efficient and environmentally sound planning.

Land Use Districts

The following land use districts guide growth and conservation efforts in Dummerston. The Future Land Use map depicts the areas that are described below. The map and the descriptions below are a guide to the land use districts in the Zoning Bylaw.

Conservation

Conservation areas are so designated because of their special and unique value to the regions ecosystems. Lands within this area primarily include publicly-owned lands (either town or federal), lands with conservation easements, steep slopes and connecting habitat areas. The priority in the conservation areas is to maintain large tracts of undeveloped land as well as to protect habitats, watersheds and conservation corridors.

Productive Lands

Productive lands contain lands that currently have or have the potential for productive agricultural or forestry uses. In most locations, undeveloped land, conservation corridors, large parcels, low impact recreation and habitat protection are maintained. There are some low to very low-density residential areas located in these resource areas. The purpose of the resource area is to recognize and provide for the continuation of economic values when the land is in productive use. Another purpose is to preserve the rural character of Dummerston which is characterized by extensive woodlands and undeveloped fields, while accommodating low to very low density residential development that avoids the need for new road infrastructure.

Rural

The rural areas contain low-density development and are generally located at a distance from facilities and services. The rural areas off Bunker Road and Miller Road tend to be undeveloped fields. The Rural areas in the western part of town tend to be forested. These are areas that can support limited residential growth due to topography and soil conditions. The goal of rural lands is to provide for some housing while maintaining forestry and agriculture. Habitat protection and the preservation of the rural landscape are also important.

Rural Residential

Rural residential areas consist of residences that are easily accessible by the existing road network. The goal of the rural residential area is to provide for low to moderate density housing while maintaining the rural feel. Both site specific habitat preservation (e.g., streams, wetlands, vernal pools) and resource use (e.g., agriculture, forestry, outdoor recreation) are encouraged.

Residential

The goal is to encourage the most intensive use of land with a wide variety of housing types and retail and service establishments in scale with the neighborhood. Future development is meant to be compatible with the existing character of the area. More intense use of land within these areas may require shared water supply, sewage disposal and driveway access solutions.

Rural/Commercial

This district includes lands along Route 5 and the west side of Route 30. These lands fit the criteria for Rural Residential, and appear generally suitable for light commercial uses that require good access to a main traveled road. Both residential and commercial uses including recreation are suited for this area. Commercial uses should be compatible with surrounding predominantly residential uses. Strip development should be discouraged and its negative impacts minimized if possible, by techniques such as shared access points, increased landscaping, sign control, and emphasis on pedestrian movement.

Commercial/Light Industrial

The purpose of these areas is to encourage well-planned and coordinated development of commercial and light industrial (e.g. manufacturing, warehousing, building trades, storage, etc.) within the Town. Efforts will be made to guide and regulate development in such a way to ensure wise public investment and minimize impacts on the land and surrounding community while avoiding strip development and supporting a range of economic development and business opportunities in the Town.

Settlement Areas

Of Dummerston's original settlement areas, three remain West Dummerston Village, Dummerston Center and Slab Hollow. Settlement patterns in these areas include historic structures with mixed uses sited close to the street, mostly on narrow lots, or at least close to each other. Currently these areas provide a focus for Town cultural and social activities and for mixed residential, commercial, spiritual, educational and government uses. The compactness of building densities, relative uniformity of scale and design, and age of the structures, give them the effect of typical New England villages.

- **West Dummerston Village** is located adjacent to the Route 30 Corridor, and includes historic structures that once were churches, a Grange, and a school. Many have undergone adaptive reuses, mostly to become residential. West Dummerston Village also has a library, Community Center, a Church, a Post Office, a firehouse

- and a cemetery. In order to encourage compact settlement in the Village, the Town needs to consider current restraints created by inadequate water and septic needs.
- **Dummerston Center** is located at the crossroads of the East West, Middle, Bunker, and Park Laughton roads. The focal point of this district is the intersection where the Congregational Church, Grange, and common are located. Residential buildings dating from the late 18th to mid-19th centuries surround this area, which once served as a town center. This is also the location of the Town Offices, the Town Garage, a Fire Station and the Historical Society. This area may allow opportunities for appropriate infill development provided attention is paid to scale and design that complements the existing historic character of the area.
 - **Slab Hollow** is located on the east side of Dummerston mainly at the intersection of East West Road and Schoolhouse Road. The settlement area extends generally east, west and southeast along Salmon Brook. Formerly the site of several mills and a village-like center, it is now entirely residential. However, should development opportunities arise, the character of the area should be maintained and an appropriate variety of uses be encouraged.

Overlay Areas

Overlay areas provide additional information on the Future Land Use Map.

Connecting Habitats are areas that provide naturally vegetated linkages to support daily and seasonal wildlife movement between larger tracts of undeveloped or conserved lands. The goal is to encourage continued stewardship and minimize development activities that would block or limit wildlife movement between unfragmented blocks of forest.

Land Use Goals, Policies, and Action Steps

Land use planning impacts real property, and therefore the Town is especially committed to working in collaboration with residents to develop land use regulations. Through the established hearing processes, as well as through less formal methods, the Town relies on public involvement to help weigh the interests of individual landowners with the town-wide goals of thoughtful development and conservation.

Goal 1 — Achieve a balance between development activities, preservation of natural resources, and undeveloped land in Dummerston.

Policy 1.1 Designate distinct zoning districts to regulate land use activities to ensure compatibility with the purposes of those respective districts.

Action Steps

- a. Preserve the **Conservation** District for the purpose of maintaining large tracts of undeveloped land, as well as to protect habitats, watersheds and conservation corridors. To this end
 - i. Limit permitted uses within the Conservation District to residential, agriculture, forestry, individual recreational hunting and fishing camps, seasonal or occasional use camps, and accessory uses to the permitted uses on the same lot.

- ii. Limit the creation or extension of new town roads through the Conservation District.
- iii. Investigate public and private strategies for maintaining undeveloped land in a manner that reflects the needs of landowners and protects habitats, watersheds and conservation corridors.
- b. Preserve the **Productive Lands** District to recognize and provide for the continued use of lands that have economic value when in productive use and to preserve the rural character. To this end
 - i. Productive Lands districts should be used for residences, forestry, agriculture, and low-intensity recreation.
 - ii. Encourage clustering of detached dwelling units as a means for leaving land undeveloped and protecting natural resources in this area.
- c. Preserve the **Rural** District to provide housing while maintaining forestry and agriculture that contribute to the rural character. To this end
 - i. Encourage clustering of detached dwelling units as a means for leaving land undeveloped and protecting natural resources in this area.
 - ii. Continue to permit a mix of rural land uses, including residential, agriculture, forestry, and outdoor recreation.
- d. Preserve the **Rural Residential** District to provide for moderate density housing while maintaining a rural feel. To this end
 - i. Continue to conditionally permit multi-family housing in the rural residential district.
 - ii. Continue to permit a mix of rural land uses, including residential, agriculture, forestry, and outdoor recreation.
- e. Preserve the **Residential** District to promote moderate density residential development that is consistent with existing uses and is sensitive to the limitations of the land. Generally the lot sizes are smaller and therefore most appropriate for residences and their accessory uses. To this end
 - i. Residential Districts should permit a mix of uses, including residential, agriculture, forestry and outdoor recreation.
 - ii. Maintain a settlement pattern that allows for safe proximity of water wells and septic systems.
 - iii. Allow a variety of conditional uses which would be compatible with the existing uses and surrounding aesthetic.
- f. Preserve the three **Settlement Area** Districts, West Dummerston Village, Dummerston Center and Slab Hollow, to encourage increased compact settlement consistent with traditional development patterns in Dummerston. To this end
 - i. Conditionally allow commercial uses in Settlement Areas where they have traditionally been found or where they are compatible with existing uses.
 - ii. Encourage uses that do not noticeably increase traffic or noise and are compatible with the quiet residential nature of the Areas.
- g. Preserve the **Rural/Commercial** District to permit a mix of uses, including commercial, residential, agriculture, forestry, and recreation.
 - i. Allow a variety of conditional uses which would be compatible with the existing uses and surrounding aesthetic.

- h. Preserve the **Commercial/Light Industrial** District to facilitate commercial development in a manner that minimizes impact on the land and avoids strip development.
- i. Investigate the creation of overlay areas to facilitate more flexible zoning and land use in different areas of Dummerston, including the possibility of Agriculture, Recreation, Commercial, and Light Industrial Overlay areas. (Planning Commission, Conservation Commission, Farmland Protection Committee, Recreation Board)
- j. Look for opportunities with the Town of Putney to determine land uses that provide opportunity for residential and commercial development that benefits both towns by providing needed services or employment; support continued agricultural use of productive farmland; and protect undeveloped land with wildlife habitat value.
- k. Investigate the feasibility of a variable-lot-size provision in the zoning bylaw (Planning Commission).

Goal 2 — *Protect the natural environment and its economic, ecological, and aesthetic benefits.*

Policy 2.1 Encourage development projects to integrate natural features and resources so that the losses of these are minimized.

Action Step

- a. Develop an informational packet for permit applicants to aid in siting.

Policy 2.2 Create a network of green spaces and greenways that protects and preserves the environment, wildlife habitats, natural resources, scenic landscapes, and provides recreation.

Action Steps

- a. Maintain a minimum setback of 50 from rivers and perennial streams. Encourage the establishment and maintenance of a vegetated buffer along the shoreline for erosion control, filtration and/or capture of nutrient and chemical runoff.
- b. Prohibit new development in flood hazard areas except as provided by State regulations. (See, also, Flood Resilience chapter.)

Policy 2.3 Prohibit the storage and disposal of radioactive materials and nuclear waste.

Goal 3 — *Promote intensive land uses and development only in areas where adequate public services and facilities are available.*

Policy 3.1 Limit light industrial development to areas shown as Commercial/Light Industrial on the future land use map.

Policy 3.2 Construct corridors for new energy transmission or distribution facilities only when needed, and then only within or adjacent to existing operational energy transmission facility corridors to the maximum extent possible. Minimize their visual impact on ridgelines, slopes and undeveloped areas, and avoid important natural and historic resources.

WORKING LANDSCAPE

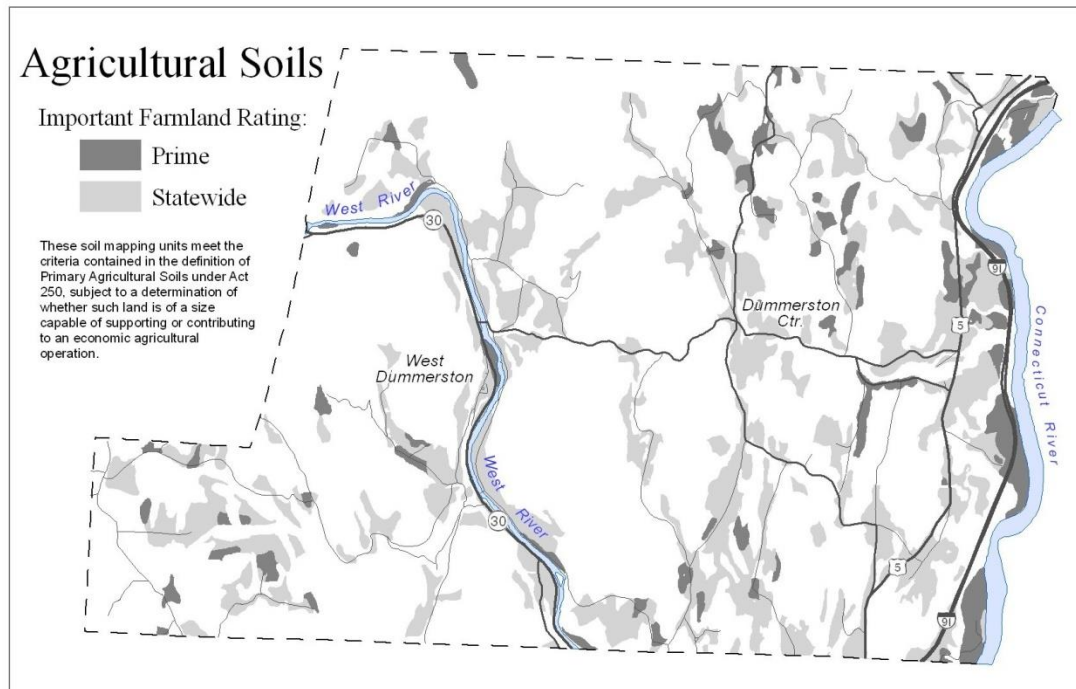
Agriculture

Agricultural land, or farmland, is defined as any land used for agricultural activities by a farm. Usually farmland is cleared, although some forestry practices are considered agricultural, such as the cultivation of maple sugar bushes. Natural and human-influenced factors determine viability of farmlands, both economically and in the ability to produce crops. Soil, slope and climate conditions are examples of natural factors. Accessibility by roads, distances to services, development and markets, and proximity to other agricultural land are human-influenced factors.

Agricultural Soils

The US Department of Agriculture Soil Conservation Service has identified soil types that are best suited to crop production based on soil quality, growing season and moisture supply. Important farmland inventories identify soil map units including prime farmland and farmland of statewide importance. Prime agricultural soils are likely to produce the highest crop yields using the least amount of economic resources and causing the least environmental impact. Soils with an important farmland rating of 'prime' or 'statewide' have the potential to be Primary Agricultural Soils under Act 250. Dummerston's agricultural soils are mapped below and on the Natural Resources Map.

Figure 6 Agricultural Soils



Dummerston's Farmlands

Dummerston's farmlands can be found all over the town, as well as in the fertile Connecticut River Valley. By rough estimate, in 2016, there are over a dozen farms in Dummerston, of various type, including livestock, produce, dairy, orchards, hay, sugaring, and Christmas tree. The diversity of products from these agricultural operations are available to our local community as well as the larger market. It is estimated that about 10% of the town, or 2,000 acres, remains

in fields as hay, pastures and cropland. Orchards and sugarbushes total many more hundreds of acres. Agricultural land in Dummerston is both owner-operated and leased. This patchwork of farmland throughout Dummerston is an important element of the working landscape.

In the late 1980s, Dummerston undertook a project known as a Land Evaluation and Site Assessment (LESA) to evaluate its farmland. A report of its findings was prepared in 1990 and is available at the Town Office. LESA is a technique used by the US Department of Agriculture Natural Resources Conservation Service to objectively rate farmland based on soils and other features. While the soils (Land Evaluation factors) probably won't change appreciably over time, some of the other criteria (Site Assessment factors) considered, such as parcel size and amount of contiguous agricultural land, could have changed since the report.

Significance of Farmland

The Connecticut River Valley contains some of the best agricultural soils in Vermont. Dummerston's location within this valley gives statewide significance to some of its farms. The preservation of our farmland is important for producing local foods and maintaining the rural landscape.

Farmland is a non-renewable resource; once gone it cannot easily be recovered. Dummerston's farmland is critical to maintaining a sustainable and diversified local food supply. This is especially important given that the global food chain is sensitive to rising population, water shortages, climate change and the rising costs of fossil fuels. All of these affect the price and quality of food we eat. Another benefit of local foods is that it is good for the local economy - buying food directly from our local farmers helps them stay in business.

Dummerston's farmland plays a significant role in defining the towns rural landscape. It is a landscape of fields, wooded hillsides and uncluttered hilltops and ridges. This landscape creates a sense of place that helps define Dummerston. Farmland is especially vulnerable to conversion to non-farm uses. Characteristics of best farmlands (level topography and well drained soils) make them highly desirable for development. Dummerston is committed to conserving land for agricultural use. A Farmland Protection Fund has been established to help protect the towns farmland from residential and commercial development. Uses of the fund include, but are not limited to, purchase or assistance in the purchase of rights of first refusal, options to purchase conservation restrictions (purchase of development rights) and purchase by the town of land through bargain sales. Applications for use of the Fund are evaluated by the Farmland Protection Committee who makes a recommendation to the Selectboard.

Increasingly, farmers are finding it necessary to diversify their operations to stay in business. It is important that we encourage this diversity if we want to sustain our farms. One way is to promote farm-related businesses and other non-traditional enterprises to their farming operations. Many of our farms already operate roadside markets and pick-your-own operations.

Dummerston's zoning bylaw now allows for agri-tourism as a conditional use in all districts. This allows for a variety of farm-related enterprises, which might not otherwise be included in the definition of agriculture, for purpose of attracting visitors and generating additional income to the farm. The intent is to support farms in diversifying operations so that they can keep their land in agricultural production as its primary use.

Forestry

Historically, forests have played a vital role in Dummerston, from the making of potash to the sawing of shingles, and as a source of firewood and lumber. Many sawmills were located along Dummerston's small streams. Today, those mills are gone, but the forest continues to have a significant role in the economy and culture of Dummerston as a source of timber products and maple syrup. There are still many sugaring operations in town, large and small, that contribute to the economy and character of the town. Forests also contribute substantially to Dummerston's quality of life and well-being. These benefits include recreation, scenic beauty, wildlife habitat and the role forests play in the natural cleaning of the air and as a vital component in the natural water cycle.

Most forestland is in private non-industrial ownership. The condition of Dummerston's forests and woodlots varies from poor to excellent. Years of take the best and leave the rest have left some forestland with an abundance of low quality trees. Insects such as gypsy moth, pear thrips, and hemlock looper have taken their toll. The American chestnut blight and beech bark disease have also affected forest species composition. High deer population is also a threat to forest health as heavy browsing can lead to lower regeneration and fewer species.

Dummerston currently has a number (ten at last count) of official Tree Farms as designated by the American Tree Farm System. These are actively managed forestlands. To qualify for Tree Farm certification, a tree farmer must 1) own 10 or more acres of forestland, 2) manage for the production of timber and other forest products, and 3) protect the forest from fire, insects, disease and destructive grazing.

These lands also must be inspected every five years to ensure the property is being properly managed.

An important regional resource for forest owners in Dummerston is the Windham Regional Woodlands Association, an organized group of woodland owners in Windham County that provides forest tours, guest speakers and a newsletter promoting good forest management.

Use Value Appraisal

Since 1980, Vermont's Use Value Appraisal Program (commonly referred to as Current Use) has given farming and forestry some continuity. This program taxes farm and forestland according to use value, instead of fair market value. According to the Vermont Department of Taxes, the primary objectives of the program were to keep Vermont's agricultural and forest land in production, help slow the development of these lands, and achieve greater equity in property taxation on undeveloped land. The State of Vermont reimburses communities for municipal property tax revenue that is lost due to enrollment of land in the Program. Participating landowners must pay the balance of property taxes due to the community. The program includes a Land Use Change Tax as a disincentive to develop land.

Parcels enrolled in the program generally must have a minimum of 25 contiguous acres (not counting the 2 acres surrounding any dwelling). Forestland is required to be managed according to the provisions of a 10 year forest management plan that is approved by the County Forester. To qualify as agricultural land, one of the following must be met 25 contiguous acres in active agricultural use, or smaller parcels generating at least \$2,000 annually from the sale of farm crops, or actively used agricultural land owned by or leased to a farmer. Two most significant

changes to the program over the years has been the inclusion of conservation land owned by qualifying nonprofit organizations and the exemption from all property taxes of eligible farm buildings.

In 2016 there were 1,411 acres of agricultural land, 7,404 acres of forest land and 65 non-productive forest acres in a total of 116 parcels and 8,880 acres enrolled in the Use Value Appraisal Program in Dummerston. This amounts to 44.8% of the Town's 19,815 acres.

While Use Value Appraisal reduces the burden for participating landowners, land can be taken out of the program with payment of a penalty. Therefore, it does not provide absolute assurance of continued undeveloped land. Nonetheless, maintaining our forests through long term management plans we are preserving habitat, ensuring a long term supply of high quality timber products, and supporting local jobs that contribute to the local tax base. The maintenance of agriculture lands preserves our capability to produce local foods and protect our rural landscape.

Working Landscape Goals, Policies, and Action Steps

Goal 1 — Preserve agricultural lands for agricultural use and maintain a strong agricultural economy.

Policy 1.1 Preserve agricultural land for agricultural uses and activities.

Action Steps

- a. Consider land use regulations that require development to be located off or away from important agricultural lands. (Planning Commission)
- b. Investigate the creation of an Agricultural District or overlay district. (Planning Commission)
- c. Encourage farmers and owners of other qualifying agricultural land to participate in the states Use Value Appraisal Program. (Farmland Protection Committee)
- d. Work with farmers, landowners, private land trusts and governmental agencies to conserve important agricultural land by purchase, conservation easements, or other means, making use of the Towns Farmland Protection Fund whenever appropriate. (Farmland Protection Committee)
- e. Consider updating the LESA report, especially with regard to the Site Assessment factors.

Policy 1.2 Support and encourage farming and agricultural activity.

Action Steps

- a. Reduce the potential for conflict between farmers and non-farming neighbors by promoting understanding of the States right-to-farm law. (Farmland Protection Committee)
- b. Continue to conditionally permit agri-tourism in all districts so that property owners can diversify and bolster income sources. (Planning Commission)
- c. Encourage diversification of agricultural activities. (Planning Commission and Farmland Protection Committee)
- d. Encourage new farmers and the establishment of new farm operations. (Farmland Protection Committee)
- e. Encourage agricultural specialty crop cultivation and innovation.

Goal 2 — *Preserve important forest land for sustainable forestry practices and support forest-based industries.*

Policy 2.1 Preserve important forest land for sustainable forestry practices.

Action Steps

- a. Identify and map the Towns most important forest lands, in consultation with landowners, specifying their significance. (Conservation Commission)
- b. Assist landowners with the following (Conservation Commission)
 - i. Encourage forest management consultation with the Windham County forester, Windham Regional Woodlands Association, Vermont Coverts, Inc. or private consulting foresters;
 - ii. Provide names of professionals capable of helping landowners 1) assess forest land access sites and 2) avoid subdivision and development that will cause unnecessary fragmentation of forest property.
 - iii. Provide information on managing for biodiversity, the Use Value Appraisal Program, the Tree Farm Program and FSC-based certification
- c. Work with landowners, private land trusts and governmental agencies to conserve important forest land by purchase, conservation easements, or other means. (Conservation Commission)

Policy 2.2 Support forest-based industries and enterprises.

Goal 3 — *Support the continuation of the Use Value Appraisal Program as a way of retaining large tracts of farmland and forest land.*

CONSERVED AND PUBLICLY OWNED LANDS

Dummerston contains a wide variety of conserved and publicly owned undeveloped land. As seen on the Conserved and Working Lands with Existing Development map, these areas are distributed throughout Town. In addition to showing land owned by the Town that is managed for conservation purposes, this map also shows private land in Vermont's Use Value Appraisal Program (also referred to as Current Use).

The Nature Conservancy has conserved 793 acres on Black Mountain through a combination of ownership and a conservation easement. This land, known as the Nature Conservancy Preserve, is accessible to the public via hiking trails. Black Mountain is a unique geological feature, and is the only granite in Windham County. It supports several plant species that are rare for Windham County.

The Vermont Land Trust holds conservation easements on 15 parcels in town totaling 1,571 acres. These lands have a formal, legal restriction on further development. Some are open to the public and some not.

Publicly-owned lands in Dummerston include Dutton Pines State Park and Prospect Hill Pasture. Dutton Pines State Park consists of 13 acres along Route 5. Prospect Hill Pasture is a 37-acre wooded hillside with open land at the top. This property is owned by the Town and managed by trustees with the Conservation Commission providing stewardship.

As indicated on the map, many parcels in current use either abut or are in close proximity to conservation and undeveloped land owned by the Town. Given the importance of large forest and habitat blocks for wildlife, groundwater recharge, and the preservation of rural character, it may be worthwhile for the Town to work with private owners of land in current use to afford them more permanent protection.

Conserved Lands Goals, Policies, and Action Steps

Goal 1 — *Encourage preservation of undeveloped land as an important element in shaping Dummerston's development pattern and in preserving its aesthetic and environmental quality.*

Policy 1.1 Strongly encourage landowners to maintain undeveloped land that:

- **Protects the water, wetland, and ecological resources discussed in this Town Plan**
- **Is adjacent to or within the important wildlife corridors**
- **Is in agricultural use, or which contain prime farmland soils**
- **Provides space for active and passive recreation**
- **Protects scenic views**
- **Provides public access to the waterfront**
- **Provides buffers between compact settlement areas and the rural countryside**

Action Steps

- a. Work with conservation land trusts and other conservation organizations to educate landowners about land conservation options. (Conservation Commission)
- b. Use multiple strategies and means to protect and preserve land and resources, including for example, direct acquisition, conservation easements and a natural heritage registry. (Conservation Commission)
- c. Consider establishment of a Conservation Fund, perhaps through expansion of the Town Farmland Protection Fund. (Conservation Commission, Farmland Protection Committee)

NATURAL RESOURCES

Water and Wetland Resources

Watersheds

A watershed, also known as a drainage area, is a land area which collects precipitation and contributes runoff to a receiving body of water or point along the watercourse. Watersheds are delineated by identifying the highest topographic points in a given area, and determining the direction in which water will flow from these points. Land uses within a watershed can affect water quality.

The entire town of Dummerston is located within the greater Connecticut River watershed. As with most large rivers, the Connecticut River has numerous subwatersheds. Dummerston is divided into three subwatersheds —Lower West River, Connecticut River Dummerston, and Whetstone Brook. For planning and management purposes, the Vermont Agency of Natural Resources has divided the state into basins. Dummerston lies in Basin 11 (West, Williams, and Saxtons Rivers watersheds) and Basin 13 (Connecticut River Direct tributaries). In Dummerston, numerous projects were undertaken at the Covered Bridge to address water quality including the Park and Ride, rain garden, and steps to the West River.

The watershed for the Brattleboro Water Department, which serves as the drinking water source for the Town of Brattleboro, extends into Dummerston. Surface water source protection areas have been developed around Brattleboro's water supplies and extend into Dummerston.

Surface Water Resources

Surface water resources include lakes, ponds, streams, rivers and wetlands. These resources serve many important functions in a community, including water storage, aquifer (groundwater) recharge, water supply, wildlife habitat and recreational opportunities.

Rivers and Streams

Dummerston's most prominent surface water resources are the Connecticut River and the West River. The Connecticut River forms the entire eastern boundary of the Town and serves as a regional recreational resource. The West River bisects Dummerston in the western part of Town and is also an important resource, particularly for recreation and wildlife habitat. Other important watercourses include Stickney Brook, Falls Brook, Salmon Brook, Crosby Brook and Canoe Brook.

Water quality in our rivers and streams is dependent to a large extent on the landscape directly influenced by the watercourse, the riparian areas. The vegetation in a riparian area mitigates erosion and provides shade. Riparian areas also contribute leaves, fallen branches and tree trunks to streams, providing important components to aquatic habitat. These areas also serve as important travel corridors for wildlife, and because of the dynamic nature of rivers and streams, riparian areas host a high diversity of plants, animals and natural communities. The West River and its riparian area is considered a Priority Aquatic Feature by the Vermont Department of Environmental Conservation. There are a number of plants here that are not found elsewhere in the state, and several significant natural communities occur next to the river as well.

Warm water sport fish inhabiting the two rivers include smallmouth and largemouth bass, sunfish species, yellow perch, walleye, chain pickerel, northern pike, brown bullhead and white perch.

Cold water fisheries supporting native populations of brook, brown and rainbow trout include Stickney Brook, Salmon Brook and Canoe Brook and numerous other smaller brooks. Generally, brook trout are more numerous in the upper reaches where water temperatures are colder and contain more dissolved oxygen. Brook trout serve as indicators of the health of the watersheds they inhabit. Well established native populations, such as those in Dummerston, demonstrate the stream ecosystem is healthy and the water quality is excellent. Trout habitat is significantly degraded when trees shading the water are removed, and stream banks are not stabilized by vegetation. This results in high temperatures that brook trout cannot tolerate, and erosion and stream sedimentation that destroy fish spawning and nursery areas. Brown trout and rainbow trout, which are more tolerant of higher water temperature and lower oxygen content, are found in the middle and lower sections of Dummerston brooks, with rainbows concentrated in the lower sections adjacent to the Connecticut River.

The West River, Connecticut River (where it flows by Dummerston), and most streams in Dummerston are classified by the State of Vermont as Class B waters. This classification means suited for bathing and recreation, irrigation and agricultural uses, good fish habitat, good aesthetic value, acceptable for public water supply with filtration and disinfection. Stickney Brook is Class A from its headwaters to where water is diverted to Pleasant Valley Reservoir. This watershed in Dummerston serves as Brattleboros public water supply.

The most significant regulatory mechanism to safeguard Dummerston's surface water resources is the designation of Riparian Areas in the Zoning Bylaw. Riparian areas are defined as lands falling within 500 feet of the West and Connecticut Rivers, and within 250 feet of larger brooks (Fall Brook, Stickney Brook, Canoe Brook, Crosby Brook, Furnace Brook, and Salmon Brook). The regulations feature a 50 foot building setback from the normal mean watermark and limitations on septic locations.

Due to the importance of these surface waters, it is critical that they are protected. Protecting surface water quality includes stream bank management, overseeing point source discharges of wastes, minimizing erosion and sediment transport issues associated with our dirt and paved roads, and controlling non-point sources of water pollution (for example, agricultural run-off, illegal dumping and erosion from logging or construction). Failure to do so will result in stream degradation.

There are two particular areas of concern in Dummerston that have been noted to date. Improperly installed culverts are making several brooks and streams inaccessible or unlivable to fish and other species. Ongoing work by the Highway Department is addressing this issue. In addition, Crosby Brook, with headwaters in Dummerston, has been identified by the State as being of immediate concern. When it enters the Connecticut River in Brattleboro, it is essentially dead. The pollution sources have yet to be determined; however river stewards are looking at possible sources in both Brattleboro and Dummerston.

The Rain Garden at the Dummerston Covered Bridge is a good example of a project that seeks to divert stormwater run-off from the parking lot and Route 30 to a special pool so that particles can settle out. The pool is designed with a special bio-retention mix of soils that are perfect for native plants that like fairly wet conditions. The plants use the water and help the evaporation process to prevent most of the storm water from reaching the West River. Ensuring that development has appropriate stormwater controls can help prevent degradation of local water quality and prevent

harm to fish habitat. The use of rain gardens and other low-impact development techniques during site planning is an environmentally friendly and cost effective way to handle stormwater.

Waterbodies

Waterbodies include ponds and lakes. There are many small ponds scattered throughout Town, most of which are connected to the streams and rivers which form the Town's drainage pattern. They are not large enough to support the type of seasonal residential development associated with larger waterbodies across the state, nor are they significantly utilized for recreation. Some are used for fire protection.

Wetlands

Wetlands are biologically productive ecosystems and serve a variety of functions retaining storm water runoff; reducing flood peaks; delaying flood crests; protecting groundwater quality; improving surface water quality by storing organic materials; chemically breaking down or removing pollutants; filtering eroded sediment; and providing habitat for a wide diversity of plants and animals, including waterfowl, birds, mammals, amphibians, and reptiles. These areas are an indispensable and fragile natural resource. They also contribute to the overall scenic landscape of Dummerston.

According to the Vermont Significant Wetlands Inventory maps, there are over twenty wetlands in Dummerston that are 3 acres or larger in size. Most of the wetlands are located near rivers, streams, or brooks, although several small isolated wetlands also exist. The Water Resources map of this plan identifies these wetlands.

The most effective way to ensure the continuation of wetland values is to protect those areas that remain. Several state and federal laws and regulations (including U.S. Army Corps of Engineers permits) provide protection for wetlands. The Vermont Wetland Rules require state review (Conditional Use Determination) of Class 1 and 2 wetlands prior to the issuance of a local zoning permit. Currently, Dummerston relies on the states regulations to protect the Towns wetlands.

Vernal Pools

There are many ways to define vernal pool. It has been common to classify a wetland as a vernal pool based upon the presence of one or more vernal pool obligate species; species believed to depend upon fish-free habitats for breeding success in the long-term. Vernal pools can also be defined as a wetland type meeting specific criteria wooded location, isolated from other water bodies, small, shallow and seasonal. The Dummerston Conservation Commission inventory of vernal pools included all waterbodies where obligate amphibians breed. These species are the wood frog; the spotted salamander; the Jeffersons salamander; the blue-spotted salamander; and the Jeffersons complex, a group of hybrids resulting from crosses of Jeffersons and blue-spotted. Both Jeffersons and blue-spotted are classified as species of special concern in Vermont. Jeffersons have a state ranking of S2 (rare; at high risk of extinction or extirpation), blue spotted are S3 (uncommon; at moderate risk of extinction or extirpation). According to road crossing data gathered by the Bonnyvale Environmental Education Center, Jeffersons salamanders are more populous in Dummerston than any other town in southeastern Vermont, and, as a species approaching the northern extent of its range, may be more abundant here than anywhere else in the state. Any wetlands that host breeding populations of Jeffersons salamanders can qualify for Class II Wetland status.

Preliminary field investigation by the Conservation Commission has shown that there are at least 180 vernal pools in Dummerston. Although this inventory and mapping effort included ponds that might not fit all definitions of vernal pool, the Dummerston Conservation Commission gathered descriptive data for each occurrence that will allow further classification of these pools.

Groundwater Resources

Groundwater provides the primary supply of potable water for Dummerston residents and businesses through individual drilled wells and developed springs. There are approximately 8 small-scale public water systems permitted in Dummerston. A public water system can either be a public community system which serves residents on a year round basis (for example, that which serves the mobile home park on Route 5) or Public Non-Community which serve non-residential groups of people (for example, Dummerston School). Public water supplies are regulated by VT DEC, as required by the U.S. EPA.

Each public water system has an accompanying source protection area. The current Vermont Water Supply Rule defines a source protection area as the surface and subsurface area through which contaminants are likely to move toward and reach a collection point that supplies a public water system. Within the 200-foot radius of this primary collection area, contamination impacts are likely to be immediate and certain. Beyond that radius, source protection areas are tested and mapped to determine further sources of probable and possible contamination. Where there has been no mapping the DEC assumes a circular area with a 3,000-foot radius around the water source. Jurisdiction over the protection of public water supply sources rests with DEC.

Sources of groundwater include the unconsolidated sediment of streams and buried valleys, bedrock fractures and aquifers in the impure marble beds and in lesser amounts in surrounding units. Potential groundwater sources can be determined by sand and gravel deposit maps, but detailed groundwater mapping is the only way to determine precisely areas of recharge, storage and transmission. No mapping of this sort is currently available.

Threats to the quality of groundwater in Dummerston include septic tanks and leaching fields, along with hazardous cleaning products, paints, lawn and garden products, and automobile products. Even properly functioning septic systems typically introduce nutrients (nitrogen and phosphorous) into the groundwater. Other potential sources of groundwater degradation include, but are not limited to acid rain, pesticides, contaminated runoff from roads and driveways, salt storage areas, road salting, fuel-storage tanks and illegal dumping.

Water and Wetland Resources Goals, Policies, and Action Steps

Goal 1 — Protect surface and ground water quality and quantity for drinking and other domestic uses, for fish and wildlife habit, and for recreational use.

Policy 1.1 Maintain or enhance the chemical, physical and biological quality of Dummerston's surface waters.

Action Steps

- a. Support surface water classification and management strategies that will maintain or enhance existing water quality. (Selectboard, Planning Commission, Conservation Commission)
- b. Use road maintenance methods and materials such as those described in the Vermont Better Backroads Manual. (Highway Department, Selectboard)

- c. Conduct visual surveys of streams to gather baseline data on indicators of possible degradation and study general water quality. (Conservation Commission)
- d. Require, through state or local permit procedures, retention of native vegetation or effective re-vegetation of areas vulnerable to erosion. (Planning Commission, Development Review Board, Selectboard as Road Commissioners)

Policy 1.2 Provide long term stewardship of riparian habitat.

Action Steps

- a. Development occurring on lands that have degraded riparian habitats will require restoration of these areas through natural regeneration of native riparian vegetation and/or by requiring active planting of native woody species appropriate to the site in planting zones. The developer shall guarantee plantings with a performance bond for a minimum of five years. Planting zones shall be described and designated as protected riparian habitat in common-land covenants, easements, and other appropriate legal documents in the riparian area. (Planning Commission, Development Review Board)
- b. Identify high quality riparian areas for consideration of additional protection. (Conservation Commission in consultation with Agency of Natural Resources).
- c. Activities that alter the natural form and function of a surface water, such as filling, dredging, damming, channelization, and removal of riparian vegetation shall be prohibited in all developments subject to review. (Development Review Board)

Policy 1.3 Minimize impervious surfaces in future development.

Policy 1.4 Protect vernal pools, pool-breeding amphibians, and their upland habitats.

Action Steps

- a. Continue to inventory vernal pools and evaluate the biological value of the breeding pools and adjacent terrestrial habitat to rank the pools and create a conservation plan based on the values. (Conservation Commission)
- b. Investigate the need to identify and to reclassify highly significant vernal pools as Class II wetlands so that they are protected by the Vermont Wetland rules. (Conservation Commission)
- c. Educate owners of land that has a vernal pool about the importance of a vernal pool as a wildlife community, especially for amphibians, but for other animals as well, and the need therefore for its protection." (Conservation Commission)

Policy 1.5 Protect public water supplies.

Action Steps

- a. Require that all facilities which store, process or use hazardous materials, or generate or treat hazardous wastes in their operations be sited in compliance with state and local laws, and use best management practices for the protection of groundwater, surface waters and air quality.
- b. Work with residents and businesses to encourage individual water resource protection measures such as water conservation, proper septic system maintenance and proper waste disposal practices. (Planning Commission)

Policy 1.6 Retain wetland areas in their natural state for wildlife habitat protection, as retention areas of surface runoff, and for habitat and scenic values.

Action Steps

- a. Establish a reliable wetlands inventory by verifying the Vermont Wetlands Inventory map. (Conservation Commission)
- b. Consider revising the Zoning Bylaw to protect Class II wetlands by maintaining a vegetated buffer strip around the wetland edge, sufficient to ensure the integrity of the wetlands. A 100 foot buffer zone is recommended, with a minimum of 50 feet. (Planning Commission)

Mineral Resources

Granite, slate and marble were once quarried in Dummerston. However, they are not presently being excavated. Today, sand and gravel deposits, important as current or potential sources for fill, aggregate and road construction materials, are Dummerston's major mineral resources. Significant clay deposits exist in the Connecticut River Valley, and material is occasionally removed from these sites.

With a high number of unpaved roads in town, sand and gravel materials are essential to the town. Dummerston holds a 20-year lease, expiring in 2026, to operate a sand and gravel pit on Clark Road, jointly with the Town of Putney. . Both sand for winter road maintenance and gravel for general road maintenance have been excavated from the property at substantial savings over market prices, however, by 2015 the gravel was depleted so that it now produces only sand. A current source of gravel for Dummerston is from a commercial gravel pit off Route 5, south of Dummerston Station Road. The town holds a 25-year purchase agreement for a negotiated price, well below the current market. There is one other privately owned-and-operated pit off Dummerston Station Road on the east side of Interstate 91. Though it is producing sand and gravel, the town is not currently using this source.

Exploration and discovery of future sources is of paramount importance to the town. Of special concern is gravel, where deposits containing significant material appear to be rare. Likely sources along the Connecticut and West rivers, as well as local high-level sources, should be studied for possible development with special attention given to the environmental impact of any such development. Dummerston will need to find more land within its borders for new sand and gravel pits, or it will eventually be forced to purchase from pits further away at a significantly higher cost.

Mineral Resources Goals, Policies, and Action Steps

Goal 1 — *Identify and balance the benefits and uses of sand, gravel and other mineral and earth resources against the impacts associated with the extraction, processing and transportation of such resources.*

Policy 1.1 Investigate potential new sources of sand and gravel resources for the town.

Policy 1.2 Require that proposals for new earth extractions demonstrate that efforts have been made to minimize noise and any adverse impacts to air quality, surface waters, wetlands, adjacent properties, traffic on local roads and bridges, wildlife habitat and the character of the area and provide a reclamation plan.

Policy 1.3 Prohibit mining and mineral extractions in connecting habitat areas.

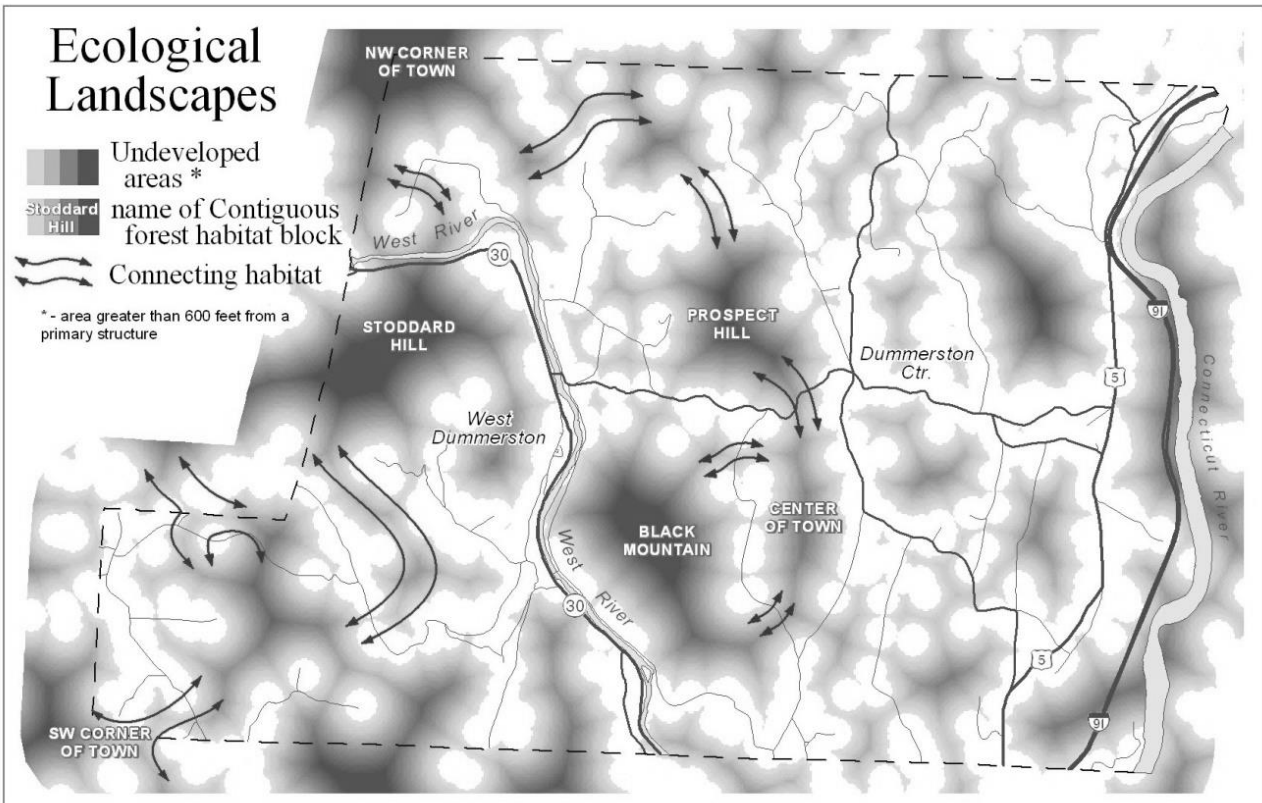
Ecological Landscape

Forests

Woodlands comprise close to 80% of the land cover in Dummerston. Forest types include northern hardwoods, hemlock, eastern white pine, black birch-oak-hickory, a native red pine forest on Black Mountain and mixed woods consisting of hemlock or white pine with mixed hardwoods.

Contiguous forest habitat provides a significant contribution to Dummerston's interests in its natural heritage, identity and working landscape. These lands represent much of what makes life in Dummerston unique and enjoyable. These lands provide a myriad of ecological functions for fish, wildlife, plants and the natural processes that sustain them. Further, they provide extremely valuable connections for people to enjoy and appreciate the land and its abundant resources. Important ecological landscapes and contiguous forest areas that are a priority for conservation efforts are mapped on the Ecological Landscapes map below and include:

- Stoddard Hill, where Maple Valley is located, connects forested areas of Marlboro and Newfane and is important for bear travel;
- The terraces and floodplains along the Connecticut River;
- Black Mountain;
- The Southwest corner of Town that connects to Marlboro and Brattleboro;
- Prospect Hill;
- Silver Maple forests along the Connecticut River;
- The area south of East West Road between Middle Road and Black Mountain Road (center of Town);
- The northwest corner of Town with connections to the Putney Mountain ridge.

Figure 7: Ecological Landscapes

Connecting Habitat

Connecting habitat provides valuable links between larger unfragmented portions of the landscape. Connecting lands allow wildlife to travel safely across the larger landscape, disperse into new territories, find mates and shift their ranges to adjust to climate change. Undeveloped segments of rivers and streams, or any forested or brushy area, such as a fenceline or hedgerow, can serve as a wildlife corridor. Different species have different requirements for connecting habitat, so a variety of types of connecting habitat should be maintained. Important corridors for wildlife movement are shown on the Ecological Landscapes map and include the following

- The area between Hague Road and Evans Road
- The Connecticut and West rivers
- South Branch of Canoe Brook
- Salmon Brook, and
- Stahl-Scott Farm corridor.

Natural Communities

A natural community is an interacting assemblage of plants and animals, their physical environment, and the natural processes that affect them. They recur across a landscape under similar environmental conditions, where natural processes, rather than human disturbances, prevail. Natural communities can be small, such as a vernal pool community, or large, like the Northern Hardwood Forest community that forms the matrix community of Dummerston. Maintaining examples of all of Dummerston's natural communities, in sizes that will enable

them to remain viable, will help us ensure that we have adequate habitat for all of the Dummerston's wildlife.

The Conservation Commission has mapped examples of twelve types of natural community in Dummerston. The Vermont Nongame and Natural Heritage Program has identified and evaluated sites where 8 exemplary natural communities occur in Dummerston. They include a Rivershore Grassland, Riverside Outcrop, Pitch Pine-Scrub-Oak Barrens, Mesic Maple-Ash-Hickory-Oak Forest, Pitch Pine-Oak-Heath Rocky Summit, Red Pine Forest, Red Maple-Black Ash Seepage Swamp, and Silver Maple-Ostrich Fern-Riverine Floodplain Forest. With the exceptions of the seepage swamp and the floodplain forest, all of the sites are associated with the West River or Black Mountain. These exemplary communities represent intact examples of Vermont native flora, fauna and vegetation.

Grassland Habitat and Bird Habitat

Dummerston is host to a diversity of birds. The Atlas of Breeding Birds in Vermont indicates that there are approximately 90 breeding or potentially breeding bird species recorded in blocks that were surveyed in Dummerston (each block is 25 square kilometers). Dummerston also supports some breeding species that are relatively uncommon elsewhere in Vermont including the Carolina wren, the red-bellied woodpecker and blue-gray gnatcatcher. This survey work has indicated that a number of species populations have declined significantly over the past 30 years. Among these are the American kestrel, brown thrasher, eastern towhee, woodcock, whip-poor-will and eastern meadowlark. Some of these species depend upon undeveloped grassland habitats. Most grasslands in town are managed for hay production, which often conflicts with the nesting of these species. Fields that are not mowed until after July 15 allow these species to fledge their young. Two important field-nesting areas are the Bunker Farm (kestrels) and the Falk property (bobolinks). Other species that benefit from maintaining grasslands are some snake species, meadow voles, and the hawks and carnivores that feed on the small mammals and insects that flourish in grasslands. Maintaining a small percentage of Dummerston in grasslands will increase the health of these wildlife populations.

Early Successional Forest and Shrub Habitat

According to Conserving Vermont Natural Heritage, young trees and shrubs, often occupying disturbed sites and areas such as abandoned farm fields, provide unique and important habitat for many species of wildlife. Some species that depend on these habitats (such as the American woodcock, the ruffed grouse, the New England cottontail and the golden-winged warbler) are in decline throughout Vermont, and probably in Dummerston as well. Whereas forest can be preserved by being left alone, early succession habitats must be maintained in that condition or they will become forests. Important early succession habitats in Dummerston include:

- The summit of Prospect Hill
- The pond and swamp on Middle Road
- McDermet property off of Butterfield Road (maintained as early succession)
- The old ski slopes on Maple Valley
- Powerline corridors

Before European settlers arrived, these habitats were created by disturbances like storms and fires. Others were maintained by beavers. While beaver activities often conflict with human use of the land, simple technologies are available to regulate the level of water in a beaver pond.

Deer Wintering Habitat and Deer Browse

The deer population in Dummerston has fluctuated over time due to landscape changes. Annual White-Tail Deer Harvest Reports from the Vermont Department of Fish and Wildlife indicate that Dummerston has a large deer population. Foresters and many woodland owners in Dummerston have observed that the deer population is now so high that deer browse is affecting the ability of the forest to regenerate sugar maple, oak and ash. Seedlings and saplings of these high value hardwoods often show signs of intense browsing, year after year. As a result, forest regeneration in the understory is often dominated by two hardwood tree species that are not preferred by deer, beech and black birch.

Over time, selective browsing can lead to a reduction in species composition and diversity as browse resistant species become more dominant. In addition to reducing the tree populations of maple, oak and ash, deer browse also impacts the diversity of herbaceous and woody plants. As understory habitat on the forest floor changes, an expected result is a decline in the diversity of wildlife, invertebrate species and insect life.

By creating more open habitat, browsing also encourages the growth of invasive plants and spreading ferns that displace native species. In some cases, dense populations of invasive plants, such as barberry, and spreading ferns (New York and hay-scented), reduce or prevent the germination of tree seedlings and create understory monocultures. These changes in forest habitat can prevent regeneration long after a deer population has been reduced.

Efforts by foresters to stimulate hardwood maple, oak and ash regeneration usually have limited success. These efforts include small clear cuts of one acre and larger to create early successional habitat and ample deer food, leaving tops on the ground after logging to make it more difficult for deer to feed on seedlings and saplings, and growing oak trees in tubes until they are out of reach of deer.

The Windham Regional Woodlands Association in recent years has increased its efforts to convince the State Legislature and the Vermont Department of Fish and Wildlife to change its management of deer herds by permitting more harvesting of does in an effort to reduce deer populations throughout the County.

While the deer population may need to be reduced, these animals are an important part of our natural and cultural landscape. Deer wintering areas may be an important part of maintaining a stable deer population in the long term. These hemlock glades provide relief from harsh climatic conditions by providing protection from deep snow, cold temperatures and wind chill. These habitats are characterized by a high degree of softwood cover, a favorable slope, south or westerly aspects, generally moderate elevation, and low levels of human disturbance in the winter. Thirteen known deer winter ranges are located in the Town, involving 12% of the Town's total land base. An individual wintering area may provide shelter for deer that come from a summer or fall range ten or more times its size. Consequently, changes in the winter range may affect deer population not only in Dummerston but also adjacent towns. The Camp Arden deer wintering area is believed to be of regional significance.

Amphibian and Reptile Habitat

Of the 40 species of reptiles and amphibians known to occur in Vermont, 24 are likely to occur in Dummerston. This includes eight salamanders, one toad, six frogs, three turtles and six snakes. In *The Atlas of the Reptiles and Amphibians Vermont*, 14 of these have been documented with a photo or a specimen. It is also possible that the rarest snake in Vermont, the eastern racer, occurs

in Dummerston, since a road killed specimen was found on Depot Road in Newfane. Suitable racer habitat exists in adjacent parts of Dummerston. There was a report of an eastern box turtle in Dummerston, but it is listed as a hypothetical species in the Atlas, since those seen might be escaped pets.

Reptiles and amphibians are especially vulnerable to habitat fragmentation since they often move between different types of habitat in different seasons. Roads pose a high risk to slow moving species. Snakes, especially, often pause in roads to warm themselves.

Important habitat for reptiles and amphibians includes vernal pools and other wetlands, streams and riparian areas, undisturbed sandy areas for egg laying, and, in the case of the eastern racer, undeveloped areas that are not mowed frequently.

Threatened and Endangered Species

The Nongame and Natural Heritage Program, of the Vermont Fish and Wildlife Departments Wildlife Division, tracks rare and unusual and threatened and endangered plants and animals as well as exemplary natural communities within the state. Using a ranking system, this inventory assesses the rarity of species on both a global and a statewide level. There are currently 38 plants and two invertebrates in Dummerston listed by the NNHP as species of special concern. Of these, 12 have been classified as either threatened (T) or endangered (E) The three-bird orchid (E), barbed-bristled bulrush (E, also federally listed), plains frostweed (T), harsh sunflower (T), scrub oak (T), Greens rush (E), tubercled orchis (T), great St. Johns wort (T), lance-leaved violet (T), hairy pinweed (E), and hairy bush clover (T). The brook floater, a freshwater mussel, is the only animal species identified as endangered (E). The Jeffersons salamander is a species of special concern. There is a high likelihood that further populations of documented species and populations of previously undocumented species will be located as more exhaustive surveys are carried out.

Invasive Species

Invasive plant species have become common in many forests, wetland, and riparian areas. They can out-compete native plants for space, nutrients and light. An invasive species is defined as a species that is 1) non-native to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm (Executive Order 13112). Human actions are the primary means of invasive species introductions.

There are widespread populations of Japanese Knotweed, mostly found along the West River. This invasive species presents water quality concerns due to the fact that it out-competes other vegetation and dies back in the winter, leaving shorelines susceptible to erosion because there is no other vegetation stabilizing the stream bank (Basin 11 Management Plan2008). Purple loosestrife is commonly seen in many riparian and wetland habitats in the region. Other species such as Oriental bittersweet, certain species of honeysuckle, Japanese barberry, yellow flag iris, black swallowtail, wild chervil, garlic mustard, and glossy buckthorn have become well established in many locations.

Elevations generally below 1,500 feet are most susceptible to invasive species, though any land with some sort of major disturbance (from wind, water, logging, or land clearing and development) could potentially host them. It may be possible to slow down or even halt the spread of these species by identifying and removing plants as soon as they appear. Early detection is the key. This detection can be aided by educating residents about the identification of

and problems caused by invasive species. Several landowners have put control programs in place.

In addition to invasive plant species there are three major invasive pest threats, one of which is already in Dummerston. They are the Asian longhorned beetle, which threatens many hardwood trees including maple and oak, emerald ash borer which like the Asian longhorned beetle is not known to be in Vermont as yet but is in states surrounding Vermont, and the hemlock wooly adelgid which is throughout Dummerston. The Conservation Commission is working with landowners and the State to be alert for possible arrival of the longhorned beetle and ash borer and, in the case of the hemlock wooly adelgid, to track its presence and find ways to control it.

Ecological Landscape Goals, Policies, and Action Steps

Goal 1 — <i>Protect and enhance biological diversity in Dummerston.</i>

Policy 1.1 Protect ecosystems and the habitat of threatened and endangered species.

Action Step

- a. Provide information to landowners and resource managers about the various rare or threatened plants, mammals, birds and other species on their land, and how to manage for these species. (Conservation Commission)

Policy 1.2 Encourage the conservation and stewardship of existing contiguous habitat.

Action Steps

- a. Develop and implement zoning regulations to encourage creative site planning that allows structures to be grouped together to minimize fragmentation of forestlands and to preserve contiguous habitat. (Planning Commission, Conservation Commission)
- b. Follow best road management practices of VT Local Roads and VTRANS to conserve wildlife corridor functions. (Highway Department, Selectboard, Conservation Commission)

Policy 1.3 Ensure the conservation and proper stewardship of significant natural communities found within Dummerston.

Action Steps

- a. Continue to work on inventory of natural communities in Dummerston, and the mapping of all significant communities. (Conservation Commission)
- b. Public education programs to increase knowledge and appreciation for the natural communities of Dummerston. (Conservation Commission)

Policy 1.4 Protect the functional integrity of deer wintering areas.

Action Steps

- a. Protect deer wintering areas from development and other uses that threaten the ability of this habitat to support deer. (Planning Commission, Development Review Board)
- b. Encourage the Vermont Fish & Wildlife Department to consider forest regeneration when reviewing herd management Policy. (Conservation Commission)

Policy 1.5 Provide information to landowners about the importance of grasslands, early successional forest, and shrub habitat to certain species.

Action Steps

- a. Provide guidelines to private landowners for the management of grasslands for birds and the control of invasives. (Conservation Commission)
- b. Utilize alternatives to beaver and beaver dam removal wherever possible. (Highway Department, Selectboard, Conservation Commission)

Policy 1.6 Undertake efforts to remove invasive species.

Action Steps

- a. Provide landowner education on how to identify and remove invasive species. (Conservation Commission)
- b. Work with the highway department and road crew to identify and remove invasives along the roadsides. (Conservation Commission)
- c. Explore funding for consultation and hiring experts to remove invasive species that are the most difficult to control. (Conservation Commission, Highway Department, Selectboard)
- d. Explore and possibly implement neighborhood and regional approaches to control and removal of invasives. (Conservation Commission)

Goal 2 — Engage townspeople in protecting natural resources.

Policy 2.1 Update existing natural resources information and studies using the best available and most reliable sources of data.

Action Steps

- a. Continue a systematic survey of Dummerston in order to update the communitys inventory of special natural features. (Conservation Commission)
- b. Prepare a Conservation Plan based on the inventory work of the Conservation Commission. (Conservation Commission, Selectboard)

Policy 2.2 Provide townspeople with information about environmentally sound management of land and ways individuals can assist in protecting natural resources.

Action Steps

- a. Recruit volunteers to assist when collecting data for Natural Resource inventories. (Conservation Commission)
- b. Work with experts from local environmental organizations, land trusts, etc. to provide workshops and other opportunities for landowners to learn about and discuss topics such as natural resource protection, farm and forest management and land preservation. (Conservation Commission)

RECREATION, SCENIC, HISTORIC, AND CULTURAL RESOURCES

Recreation and Scenic Resources

Dummerston typifies the scenic, rural character that is found and valued throughout much of Vermont. Our outdoor environment is appreciated by residents and visitors alike. We find satisfaction in the feel of our town. Surveys by the Planning Commission have found that residents like our town the way it is, and, for the most part, they want it to stay as it is. This rural character also attracts visitors to Dummerston who enjoy these resources. Protecting and restoring Dummerston's scenic views, starlit night skies, uninterrupted ridgelines and quiet, rural character are high priorities for the town.

The mix of recreational opportunities available to Dummerston residents and its visitors is varied and rich. They range from highly organized commercial enterprises to informal bike riding. Two campgrounds, KOA and Hidden Acres, are located in the eastern part of Town. A miniature golf course, open to the public, is located at Hidden Acres. The Green Mountain Girls Camp is located in the western part of Dummerston and scholarship assistance is available to eligible girls living in Town. Fruit and vegetable picking is also an important recreational activity for some families during the summer and early fall.

Since most of Dummerston is comprised of forestland, it is not surprising that the forest is used for recreation throughout the seasons. In the winter, cross-country ski trails exist on many private lands. They often merge to form a loosely defined network. The Black Mountain Snowmobile Club has developed a more organized network of trails for its members. During appropriate seasons, hunting for deer, turkey, and grouse are enjoyed by many. Prospect Hill Pasture (which is owned by the town) and Black Mountain are good hiking and picnicking areas. Prospect Hill Trail, located off of Park Laughton Road, provides access to Prospect Hill Pasture. A brochure describing public hiking trails in Dummerston is available from local businesses, the town office, and online from the Conservation Commission. Transition Dummerston and the Conservation Commission have worked with the Selectboard to revitalize Dutton Pines State Park, a 13 acre parcel along Route 5, used for community events, walking, and by motorists as a rest and picnic area.

Dummerston residents have access to several main streams and two rivers that provide opportunities for recreation in the warmer months. There is a boat landing in Dummerston that provides access to the Connecticut River. Dummerston Landing (14 acres) is for non-motorized boats while Putney Landing, near the town line, is for motorized boats. Another access point, Old Ferry Road Landing, is located just south of the Town line in Brattleboro. From these points recreationists can go fishing, water skiing, rowing or paddling. Along the West River there are numerous swimming holes and two public access points the utility substation lands and Vermont Department of Fish and Wildlife lands south of the Covered Bridge. In addition, others enjoy the river for canoeing, kayaking, fishing, tubing and rafting. These activities are dependent upon water levels and therefore upon timing of water releases from the Townshend Dam. Stickney Brook provides opportunities for picnicking and swimming as well as sightseeing. Falls Brook offers excellent hiking opportunities.

Public recreational facilities in Dummerston are scattered throughout the Town. The Dummerston School has a wonderful playground. There are extensive sport fields at the school that are used for soccer, softball and baseball, and the gymnasium is used for basketball, square

dancing and teen dances. The Dummerston Community Center has a smaller playground, and a ballfield. The Dummerston Center Grange Hall is used for annual suppers, theater productions and private functions. The Historical Society hosts lecture programs and gallery shows. The Congregational Church also host suppers and the traditional Apple Pie Festival. The Common is used widely by various groups.

Dummerston roads, many of which are scenic, are used by walkers, runners and cyclists. Insuring public safety, while maintaining rural character, is a concern with all these recreational uses on local and state roads. Other recreational opportunities exist for exploring and photographing historical sites such as villages, buildings, bridges, cemeteries, stone walls and old cellar holes.

The Dummerston Recreation Board organizes a variety of athletic activities and programs for all ages. The Conservation Commission assists the Prospect Hill Trustees in stewardship of Prospect Hill Pasture.

Historic and Cultural Resources

Dummerston is fortunate to have individuals and groups take on local preservation and historical activities, including the collection and dissemination of valuable information about our history. The earliest documented effort is History of Dummerston written in 1884 by David Lufkin Mansfield. In 1986, the Dummerston Historical Society published Dummerston, An Equivalent Lands Town (1753-1986). As part of the Towns 250th anniversary of the signing of the towns charter, Vermont Theater Company produced the play The Equivalent Lands written by Joe Greenhoe. A DVD of the production is available through the Historical Society.

The Dummerston Historical Society was organized in 1977. The historic one-room schoolhouse in Dummerston Center is operated by the Historical Society as a museum. Thanks to a 2012 donation by Sam Bunker of memorabilia collected by his father Ambassador Ellsworth Bunker, the Historical Society expanded its collection and in 2015 built an addition on the backside of the schoolhouse. The Historical Society hosts walkabouts, programs and exhibits to explore the Towns heritage.

There are 4 structures listed on the National Register of Historic Places. These are Naulakha, the Green Iron Bridge (listed on the Register as the Rice Farm Road Bridge), Scott Farm Historic District, and the West Dummerston Covered Bridge.

Also of value to the town are other significant historic buildings and structures in town, as well as areas of historical, educational, cultural, scientific, architectural, and archaeological significance. Nine of these are on the State Register of Historic Places.

Of historical significance is the belief that the first maple tapping in Vermont by white settlers took place at what is now the Sweet Tree Farm on Route 5.

Route 5 is designated as part of the Connecticut River Byway. While being located on the Byway does not afford any protection, the recognition it offers brings attention to the cultural resources on the Byway.

Recreation, Scenic, Historic, and Cultural Resources Vision

Dummerston's unique scenic quality and sense of place is derived from the interrelationship among rural farmland, areas of undeveloped land and village centers. This rural character, graced

with significant natural and historic resources is the quality that makes it an attractive place to live, work and play. Similarly, the historic and cultural past of Dummerston is important to its sense of place and sense of community. The scenic, cultural and historic identity of Dummerston will be recognized and interwoven into the fabric of future development in Town.

Goals, Policies, and Action Steps

Goal 1 — *Be stewards for recreational and scenic resources essential to Dummerston's community character.*

Policy 1.1 Maintain and enhance access to public lands.

Action Steps

- a. Work with appropriate local officials and groups to identify public recreational areas and recommend actions for improvements;
- b. Explore more extensive use of Dutton Pines State Park;
- c. Design a display area(s) for Town and regional recreational events;
- d. Provide information to landowners on the range of options available for allowing limited recreational use of private land;
- e. Identify any new recreation areas that could be purchased by the Town or acquired by gift. (Conservation Commission)
- f. Encourage annual clean-ups of the most popular recreational areas in Town. (Recreation Board)
- g. Increase town awareness of and encourage participation in Connecticut River Byway activities.
- h. Encourage town involvement in Route 30 scenic byway activities.
- i. Seek ways to make town roadways safe for pedestrian and non-motorized vehicle recreational use.

Policy 1.2 Develop an integrated greenway system by linking trails and scenic roads with connections to undeveloped land and recreational areas.

Action Steps

- a. Support extension of new Town trails.
- b. In conjunction with affected landowners, explore the possibility of greenway trails. (Planning Commission, Conservation Commission, Selectboard)

Policy 1.3 Minimize visual impacts of ridgeline development by ensuring that development is located and designed in a manner that protects the uninterrupted skyline.

Action Steps

- a. Consider options to protect the uninterrupted skyline and minimize visual impacts of ridgeline development. (Planning Commission)
- b. Identify town ridgelines, and prepare descriptions of ridgeline attributes to facilitate decision-making about ridgeline development. (Conservation Commission)

Policy 1.4 Protect views of the night sky, eliminate glare, and minimize light pollution.

Action Steps

- a. Modify Dummerston’s Zoning Bylaw or establish a separate outdoor lighting ordinance to establish reasonable limits on outdoor lighting. (Planning Commission)
- b. Modify Dummerston’s Zoning Bylaw or incorporate into a new Sign Ordinance regulation to more clearly limit light pollution and light trespass from signage. (Planning Commission)

Policy 1.5 Minimize community exposure to excessive noise.

Goal 2 — Preserve and protect historic and cultural properties and sites.

Policy 2.1 Support historic preservation activities.

Action Steps

- a. Investigate site planning standards to protect historic resources when development is planned on or near historic properties. (Planning Commission)
- b. Conduct an historic assets survey. (Historical Society, Planning Commission,)

Policy 2.2 Protect exemplary areas of historic resources.

Action Step

Investigate the value of and impact of nominating Dummerston Center to the State and National Registers of Historic Places (Planning Commission with assistance from the Historical Society)

COMMUNITY FACILITIES, SERVICES, AND UTILITIES

Community facilities are those either owned or maintained by the Town of Dummerston, and include structures and lands. Community services are those provided either directly by the Town or by others under contract with the Town. Community utilities are those services that are being provided by companies outside of Town such as electric companies, telephone and cable companies. A Transportation and Community Facilities map has been prepared to complement this chapter.

Town Property

The Town of Dummerston owns a 10-acre parcel at the junction of Middle Road and East-West Road. On this land are the town office building, the town garage, the Historical Society building and the town common. The Town Office houses the Town Clerk, Zoning Administrator, Town Treasurer, Listers, Auditors, and Emergency Management Director. It includes a meeting room shared by various Town boards and committees. The Dummerston Historical Society building, originally a one-room schoolhouse, is used for Historical Society meetings and displays.

The Town Garage provides storage for all highway department equipment, including sand and salt for roadwork. The Town currently holds leases on two sand and gravel pits (for more detailed information on sand and gravel pits, see the Mineral Resources section of the Natural Resources chapter). The Town is responsible for maintaining Town cemeteries, Town roads, bridges, and trails.

The town land abuts the fire station and the Congregational Church in Dummerston Center. The basement of the Church serves as the Town Hall. This arrangement dates back to the 1700s when the town reserved a lot of land to be used for town meetings and worship. Though the building is now owned by the Congregational Church, the space is still used for public functions, such as polling, and community meetings.

The Dummerston Community Center, located in West Dummerston, is a handicapped accessible town-owned building leased to a group of volunteers who maintain the building for use by town committees, local groups, area residents, Dummerston Cares, and the Lydia Taft Pratt library. The property also includes a playing field and playground, open to the public.

Thirty-five acres atop Prospect Hill, northwest of Dummerston Center are owned by the town. It is maintained as a town forest by ten trustees of whom five are the Selectboard and the others members of the public. There is a hiking trail to the top, which is accessed from Park Laughton road by a town right-of-way.

The town also owns approximately two acres of land on either side of the west end of the covered bridge. This property includes a parking lot which is a park-and-ride facility and is used for access to the popular swimming area under the bridge. There is also a rain garden designed to absorb the rainwater runoff from the parking lot. Maintenance of this garden has been delegated to the Conservation Commission.

Emergency Services

Fire Protection

The West Dummerston Volunteer Fire Department, formed in 1949, serves the entire Town. There are two fire stations one in West Dummerston and one in Dummerston Center. Volunteer firefighters respond to many different emergencies including house and brush fires, traffic accidents, medical emergencies, and downed power lines. The fire department assists surrounding towns as part of a mutual aid agreement which means that neighboring town fire departments assist the West Dummerston Fire Department when needed. The town supports the fire department with an annual contribution to its operating budget, as well as purchasing new fire trucks. .

In 2016 the town voted to borrow funds to give to the fire department for rebuilding the Center Dummerston Station, which needed upgrading to house the new, larger trucks and address moisture issues.

Ambulance Service

Rescue Inc, a not for profit, advanced life support ambulance service is contracted to provide transportation of the sick and or injured persons in the town of Dummerston. Rescue Inc provides similar services to other communities in Windham County, Vermont and two communities in the western portion of Cheshire County in New Hampshire. Ambulances may be dispatched from either of their two base stations or from a field posting point and generally arrive on scene in Dummerston in under 10 minutes. First responders from the West Dummerston Volunteer Fire Department augment the ambulance response and reduce the overall time from the call initiation to an Emergency Medical professional on scene.

Rescue Inc assesses the town an annual fee that is based upon a per capita figure. This assessment is budgeted by the Selectboard and approved by the town as part of the annual budget at Town Meeting. As the annual assessment covers only a fraction of the operating budget the ambulance service also direct bills the patient or the patients insurance.

Helicopter Emergency Medical Service is provided primarily by the Dartmouth Hitchcock Advanced Response Team (DHART), located at bases in Hanover and Manchester, New Hampshire. The helicopter launch is requested by on scene responders. This response is a fee for service billed directly to the patient or patients insurance.

Police Protection

Two enforcement services maintain law and order in Dummerston the Vermont State Police and the Windham County Sheriffs Department. The Vermont State Police provide general law enforcement services out of their Westminster barracks. The Selectboard contracts with the Windham County Sheriffs Office for traffic control. There is one Town Constable in Dummerston, but the role has largely been symbolic and they do not participate in law enforcement activities.

There has been recurring concern in Town about speeding occurring on less traveled back roads as well as more frequented corridors such as the East West Road and Middle Road. The Selectboard has been working with the Sheriffs Department to increase enforcement measures and find cost effective ways to reduce speeding on Dummerston's roads, and improve conditions for non-motorized street-users. Concerned citizens will continue to explore how traffic calming techniques can be implemented to help supplement ongoing efforts by law enforcement.

Emergency Management

The purpose of Emergency Management is to provide timely warning and assistance to town residents in the event of emergencies. A volunteer emergency management team with a director appointed by the Selectboard coordinates emergency preparedness and response for the Town. The primary method of emergency notification is through the state-wide VTAlert system, in which users choose to receive emergency messages by phone, cell phone, or email. Residents can sign up at www.vtalert.gov.

An Emergency Operations Center, located in the Town Office and served by a backup generator, is the command center for town officials and emergency operations staff. Backup generators are also available at West Dummerston Fire Department and Dummerston School if there is a need to shelter residents.

Important components of a towns emergency management program are the Local Emergency Operations Plan (LEOP) and the Local Hazard Mitigation Plan (LHMP). Dummerston maintains a yearly updated LEOP, which serves as a reference guide to be used during an event. The LEOP identifies key emergency personnel contact numbers, locations, tasks, and an evacuation plan.

As this Plan is being written, the town is currently without a Local Hazard Mitigation Plan (LHMP), but will be working to develop one. An LHMP assesses risk level for various hazards, potential impacts from high risk hazards, vulnerable sites in the town, and mitigation projects that would prevent and/or reduce damages from future hazard events. Dummerston is particularly vulnerable to flooding, invasive species infestation, wildfires, and winter storm/ice storms. Having a FEMA approved and locally adopted LHMP is important for Dummerston because it provides a blueprint for the town to mitigate future impacts of various potential hazards, as well as being required in order to apply for certain FEMA mitigation grants.

Solid Waste Disposal and Hazardous Materials

Dummerston belongs to the Windham Solid Waste Management District (WSWMD), consisting of 19 towns, each with a representative on the district's board of supervisors. The district facility offers full services including trash disposal, recycling, household hazardous waste collection, a swap shed, and commercial organic waste composting. Dummerston does not provide garbage or recycling collection. Residents, businesses, and public facilities may contract with a private waste hauler or bring their refuse and recycling to the WSWMD Convenience Center on Old Ferry Road in Brattleboro. WSWMD also operates the Swap program, in which people can drop off or pick up reusable products (televisions, furniture, lumber, etc.). WSWMD operated a recycling facility and collected recyclable materials from drop-off bins in its member towns, however, this was closed in 2017.

The Federal Emergency Planning and Community Right to Know Act requires a facility to report to state and local officials when it is storing certain quantities of hazardous materials. According to the 2015 list of Vermont's Tier II sites, there are seven sites in Dummerston. These include the Town Office, the school, a mobile home park, a gas station, a substation, a warehouse, and a telecommunications garage.

Water and Wastewater

The Vermont Department of Environmental Conservation regulates both onsite and centralized water and wastewater systems. The goal of regulating potable water supplies and wastewater disposal systems is to protect groundwater, the environment, and public health.

There are no municipal water or wastewater systems in Dummerston. As discussed in the Natural Resources chapter, there are several public water supply systems. Most residents rely on private wells for water and septic systems for wastewater disposal.

Water supplies in areas of dense development are especially vulnerable to contamination due to the cumulative effects of building on small lots with septic systems and drinking water wells in close proximity to one another, many of which were designed prior to the establishment of State-level standards. Siting systems to meet the state regulations is a particular challenge in West Dummerston Village where small lots make it difficult to meet isolation zones.

Healthcare and Human Services

Most of the health and medical needs of Town citizens are met through the Brattleboro Memorial Hospital, Grace Cottage Hospital, Cheshire Medical Center/Dartmouth-Hitchcock Keene, or private medical professionals.

Certain social service agencies are partially funded by Dummerston voters at the annual Town Meeting. One such local service is Dummerston Cares, Inc., founded in 2005 and reorganized in 2016 as a VT non-profit corporation with IRS 501(c)3 status, a new Board of Directors, and a mission to serve all Dummerston residents by supporting those with health and other wellness needs through services, programs and resources provided directly or in collaboration with related local, regional and state organizations and agencies.

Library Services

The Lydia Taft Pratt Library, the town's public library, is located in the Community Center in West Dummerston. The library is overseen by a part-time paid librarian with support from the Library Trustees and volunteers. All services are free of charge and available to all Dummerston residents. The library provides a variety of services, including public wi-fi access, pre-school Story Hour, a Summer Reading Program, Interlibrary Loan Services, and Homebound Delivery Service. The library receives financial support from the town and fundraising. For information about the library and access to the online card catalog library.dummerston.org. Additionally, more information can be found on the library Facebook page: facebook.com/dummerstonlibrary

Many Dummerston residents also use Brooks Memorial Library in Brattleboro and the Putney Library. Both libraries require an annual fee for non-residents.

Communications

There are numerous ways that information and communication about ongoing issues in Dummerston can be shared. There are several newspapers available to residents such as the regionally read Brattleboro Reformer (daily) and The Commons (weekly) which is the towns newspaper for public notices. The volunteer-run Views of Dummerston (quarterly) provides a way for town committees and organizations to directly reach residents.

The Town of Dummerston maintains its official website (<http://dummerston.org>) for posting information about municipal government, such as meeting agendas and minutes, and board members contact information, as well as forms for licenses, permits, and registrations. Another, unofficial, and privately maintained website (<http://dummerston.com>) has news and information of interest to town residents.

Fairpoint Communications provides landline phone service in Dummerston, as well as high-speed internet in some areas. High-speed internet and voice-over-internet phone service is also offered by cable companies. However, there are still residences in Dummerston that do not have access to high-speed internet service. The town library offers a wireless internet hotspot at the community center. update data available? Cell phone coverage fluctuates throughout Dummerston, with some areas getting better reception and some getting none. There is a Telecommunications Ordinance in effect that establishes a process, performance standards, and guidelines for siting and constructing wireless telecommunications facilities.

Utilities

Dummerston lies within the area served by the electric utility Green Mountain Power (GMP). The company maintains two transmission lines running through the town a 69kV line running along the Rt. 5 corridor; and a 46kV line running along the West River corridor. The West River line has a substation in the northwest corner of the town on Route 30. Vermont Electric Power Company maintains a doubled 345kV transmission line running along the western edge of the town. (see the energy chapter for more detail on the electric grid)

Goals, Policies, and Action Steps

Goal 1 — Provide for the public health, safety, and general welfare of the community.

Policy 1.1 Maintain a quality level of police, fire, and ambulance services.

Action Steps

- a. Continue to provide financial support to the fire department so that an effective fire protection and fire prevention system can be maintained. (Selectboard)
- b. Periodically review the police protection available to residents. (Selectboard)
- c. Periodically review and make recommendations regarding the deliverables and cost of the ambulance service provider contracted to the residents. (Selectboard)
- d. Hire an animal control officer. (Selectboard)

Policy 1.2 Maintain a high standard of emergency preparedness.

Action Steps

- a. Develop, implement, and maintain effective hazard mitigation programs and response plans to include the Local Emergency Operations Plan and the Local Hazard Mitigation Plan. (Emergency Management Director, Selectboard)
- b. Identify hazards facing Dummerston and identify strategies to begin reducing risks from identified hazards. (Emergency Management Director)
- c. Continue to provide training opportunities for paid staff and emergency response volunteers (Selectboard)

- d. Continue to be active participants in emergency preparedness drills and exercises utilizing an all hazards approach. (Emergency Management Director, Emergency Response Volunteers, Town Officials)

Policy 1.3 Provide for efficient and environmentally sound solid waste disposal and maximize opportunities for recycling usable goods.

Action Steps

- a. Increase public awareness of the environmental benefits and risks and potential cost savings of recycling. (Energy Committee, Selectboard)
- b. Continue to investigate cost effective and environmentally sound solid waste disposal, and recycling programs for residents of the Town. (Selectboard)

Policy 1.4 Protect the water supplies in Dummerston so that they remain clean and potable.

Action Steps

- a. Support collaborative wastewater planning efforts. (Planning Commission)
- b. Explore funding for a wastewater capacity study in West Dummerston Village. (Planning Commission, Selectboard)

Policy 1.5 Require that all facilities which store, process or use hazardous materials or generate or treat hazardous wastes in their operations be sited in compliance with state and local laws and employ best management practices for the protection of groundwater, surface waters, and air quality. Require facilities be periodically monitored for compliance with such State and Federal laws and practices.

Goal 2 — Provide an efficient system of community facilities and services.

Policy 2.1 Any construction or expansion of facilities should support development in West Dummerston or Dummerston Center so as to minimize growth in outlying areas and development along Dummerston’s roadways.

Policy 2.2 Make the most effective and efficient use of existing services, buildings, utilities and facilities before adding new capacity or initiating new construction.

FLOOD RESILIENCE

Background

In 2013 Vermont enacted Act 16, “An act relating to municipal and regional planning and flood resilience,” which amended 24 V.S.A. § 4382 - The plan for a municipality - adding to the requirements for a municipal plan a flood resilience plan that:

- (i) identifies flood hazard and fluvial erosion hazard areas, based on river corridor maps provided by the Secretary of Natural Resources pursuant to 10 V.S.A. 1428(a) or maps recommended by the Secretary, and designates those areas to be protected, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, to reduce the risk of flood damage to infrastructure and improved property; and*
- (ii) recommends policies and strategies to protect the areas identified and designated under subdivision (12)(A)(i) of this subsection and to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.*

Fluvial Erosion

Fluvial erosion means the erosion or scouring of riverbeds and banks during high flow conditions of a river. Most of the flooding damage experienced in Vermont is from the power of moving water causing the destruction of under-sized culverts and erosion of stream banks supporting roads and buildings. Providing a river the room it needs to slow the flow allows it to function as a responsive system and helps avoid repeated losses to public infrastructure and investments.

Erosion and deposition along a stream or river is natural. Efforts to stop this process in one place can make it worse in others. Rivers, streams, and their channels are changing constantly in response to the inputs of water, energy, sediment and debris that pass along them. A river is in geomorphic equilibrium when its water, energy, sediment, and debris are in balance.

In this condition a river is neither building up sediment in the channel nor losing sediment from its bed. Importantly, a river in equilibrium has not become overly deep and can continue to overflow onto its floodplains. The water that spills onto the floodplain slows down, and the velocity of the water still in the channel does not become excessively powerful. If the stream cannot spill out of its banks, the power of the trapped water increases and the channel either digs down or cuts out further to the sides.

River Corridors and Floodplains

The River Corridor is the area that provides the physical space that the river needs to express its energy and meander without it having to dig down. The River Corridor includes a 50-foot buffer on either side of the fluvial erosion hazard area to prevent disturbance in this area and allow for bank stabilization.

A floodplain is the area where water flowing out over a river bank can spread out and slow down. The floodplain as defined by FEMA is the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year, the 100-year flood.

Regulatory Flood Hazard Designations

There are two types of regulatory flood hazard designations and two sets of official maps that identify those flood hazards in Vermont. Inundation hazard areas are identified by the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRMs). Fluvial erosion hazard areas are identified by the VT Agency of Natural Resources (ANR) on River Corridor maps.

Dummerston has land, homes and businesses that are susceptible to the two types of flooding impacts: inundation and fluvial erosion. Inundation flooding occurs during high water events on the Connecticut and West Rivers. Fluvial erosion occurs in areas both in and out of the flood hazard area (floodplain) as mapped by the Federal Emergency Management Agency (FEMA). Both inundation flooding and fluvial erosion are potential hazards along the Connecticut River, the West River and Canoe, Crosby, Salmon and Stickney Brooks, as well as along the streams that drain watersheds extending to town borders with Marlboro, Newfane, and Putney.

Inundation Hazard

Towns participating in the National Flood Insurance Program (NFIP) must regulate development in areas designated on the FIRMs that show the floodplain that FEMA has calculated would be covered by water in a 1% chance annual inundation event, also referred to as the 100 year flood or base flood. This area of inundation is called the Special Flood Hazard Area (SFHA). FIRMs may also show expected base flood elevations (BFEs) and floodways (smaller areas that carry more current). FIRMs are only prepared for larger streams and rivers. The Town of Dummerston has areas of inundation hazard flood risk mapped by FEMA.

Fluvial Erosion Hazard

A significant portion of flood damage in Vermont occurs outside of FEMA mapped floodplain areas and along smaller upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. Vermont ANR's River Corridor maps show the area needed to address the fluvial erosion hazards, which may be inside of FEMA-mapped areas, but often extends outside of them. River Corridor maps delineate areas where the lateral movement of the river and the associated erosion may be more of the threat than inundation by floodwaters. Elevation or floodproofing alone may not be protective of structures in these areas, as erosion can undermine structures. ANR released statewide River Corridor maps in 2014. The Town of Dummerston has areas of River Corridor mapped by ANR.

Flood Hazard Regulation

Inundation

The Town participates in the National Flood Insurance Program and has adopted and enforces a Flood Hazard Bylaw. By doing so, property owners in Dummerston are able to obtain federal insured flood insurance at affordable rates and flood disaster assistance. The Flood Hazard Bylaw regulates development within the Special Flood Hazard Areas (SFHA) by imposing design standards that are intended to minimize property damage during flood events.

Erosion

To address Act 16, to protect citizens, infrastructure, and the environment, and to qualify for maximum Emergency Relief and Assistance Fund state match in the event of a disaster, Dummerston will adopt and administer River Corridor protection standards as part of its flood hazard area regulations.

Goals and Action Steps

This plan identifies flood hazards as the Special Flood Hazard Areas (SFHAs) shown on the NFIP FIRMs and identifies fluvial erosion hazard areas as those shown on the ANR River Corridor maps. This Plan designates both those identified areas as areas to be protected, including floodplains, river corridors, and land adjacent to streams, wetlands, and upland forests, to reduce the risk of flood damage to infrastructure and improved property. In addition, this plan incorporates by reference the towns Local Hazard Mitigation Plan approved under 44 C.F.R. 201.6. Finally, this plan recommends the following goals and Action Steps to protect the designated areas to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.

Goal 1 — Enhance flood resilience through the protection and restoration of river corridors, floodplains, wetlands, and upland forested areas that attenuate and moderate flooding and fluvial erosion.

Action Steps

- a. The Town will update the Flood Hazard Area Regulations to include regulation of river corridors, and include provisions for advance notification of and specific limits on new development activities in identified flood hazard areas, fluvial erosion areas, and/or River Corridors (Planning Commission)
- b. The Town will regulate any new development in identified flood hazard areas, fluvial erosion hazard areas, and/or River Corridors to ensure that development does not exacerbate flooding and fluvial erosion, and extend these provisions to development activities that might increase the amount and/or rate of runoff and soil erosion from upland areas. (Zoning Administrator, Development Review Board)

Goal 2 — Encourage flood emergency preparedness and response planning.

Action step

- c. The Town will further pursue a flood resilience management approach by implementing its Local Hazard Mitigation Plan, Local Emergency Operations Plan, and other strategies for restoring the stream geomorphic equilibrium conditions and enhancing the emergency preparedness that will mitigate the risks to public safety, critical infrastructure, historic structures, and municipal investments. (Emergency Management Director, Selectboard)

Additional information is available at <http://floodready.vermont.gov/>.

TRANSPORTATION

Existing Transportation Network

Classification of Roads

Dummerston's network of roads consists of town roads and state and federal highways (see the Transportation and Community Facilities map). State Routes 5 and 30 serve as Dummerston's main arteries for both daily commuting and through-traffic. Both routes run generally in a north-south direction. Some residents in the southwestern corner of Dummerston use Route 9 to gain easier access to Brattleboro.

Town roads are classified as either Class 1, 2, 3, or 4 highways. There are also Legal Trails that are town public rights-of-way which are not highways. This information is represented on Vermont Agency of Transportation (VTrans) Highway Maps that are updated annually based on information supplied by towns on an annual Mileage Certificate. The original purpose of these maps was to document classification and mileage of Class 1, 2, and 3 town highways for calculating payment to towns of state aid for highway maintenance. The VTrans Highway Maps now serve, also, to document the existence and extent of Class 4 roads and Legal Trails. The length of Dummerston's public highways and trails is shown in Figure 6.

Figure 8: Mileage Summary of Town Highway/Roadway

	Class 2	Class 3	Class 4	Legal Trail	Interstate	Non-Interstate	Total Mileage
Town Roadways	12.37	50.31	3.05	1.60			67.33
State Highways					5.93	10.38	16.31
Total							83.64

Source VT Agency of Transportation Highway Map, 2015

Interstate 91 passes through Dummerston following the Connecticut River Valley, providing direct access to the towns road network near the Putney town line at the Exit 4 interchange. Other interchanges are located south in Brattleboro. Routes 5 and 30 are State Highways. In accordance with state law they are exclusively maintained by VTrans.

There are no Class 1 highways in Dummerston. There are several Class 2 roads including East-West Road, Middle Road, School House Road, and Upper Dummerston Road. Most Class 3 roads are comprised of secondary town roads that are passable year round by standard vehicles. Maintenance of Class 2 and 3 highways is the towns responsibility.

Class 4 roads typically are seasonally functional for normal vehicular traffic but are not maintained by the town. There are four Legal Trails a continuation of Hague Road to Evans Road, a continuation of Knapp Road East to Knapp Road West, a continuation of Falls Brook Road north to the town line, and a continuation of Windmill Hill Road (old Route 5) to East-West Road.

Funding for the maintenance and infrastructure improvements comes from federal, state and local sources. Transportation needs exceed and will continue to exceed available funds for the foreseeable future. Dummerston is fortunate to have local source of sand and gravel. For detailed information about sand and gravel resources in town, please see the Mineral Resources section of the Natural Resources chapter. The Town is looking to secure long-term local supplies and is investigating other potential sites based on expected areas of gravel deposits. Finding a

sustainable source of gravel is imperative to controlling road maintenance costs. Along with maintaining dirt road beds with gravel, other annual maintenance includes repaving approximately one mile of road, cutting approximately six miles of roadside brush, and installing approximately 2,500 feet of buried drainage pipe. Also see bridges and culverts below.

Traffic and Circulation Concerns

Travel speed through Dummerston is an ongoing concern and problem. Traffic counts taken on East-West Road, Middle Road, and School House Road confirm this issue. East-West Road is frequently used as a cut through for traffic traveling from Route 5 to Route 30 or vice versa. An ad hoc citizen Traffic Committee has also identified West Dummerston Village, as well as East West Road and Middle Road, as a place where speeding is a concern. The density of development and lack of sidewalks make these high priority areas. The Town will continue to work with the Windham Regional Commission to obtain reliable traffic counting information and evaluate the need for traffic calming

East-West Road and Middle Road are categorized as High Risk Rural Roads. The High Risk Rural Roads program allocates federal funds to mitigate safety issues on rural roads that have a history of crashes distributed throughout the traveled corridor. The program provided funding to install new signs to improve safety along East-West Road from the covered bridge to Dummerston Center and from the Center to the intersection of School House Road, as well as along Middle Road from Route 5 to the Center.

One particular area where existing conditions present traffic safety concerns, based on the popularity of a local swimming hole, is the area south of the intersection of Route 30 and Depot Road (Newfane). There is a significant amount of pedestrian movement across Route 30 on the town border with Newfane as people park on Route 30 and cross the heavily traveled road to access a trail leading to the Rock River and popular swimming holes. The vehicles are parking along the shoulder of the southbound lane and in an informal parking area on the northbound side. The Town supports controlling the access for the informal parking area and limiting parking on the southbound lane as a means of improving the safety of this area. VTrans has implemented the following measures to help address these safety concerns:

- A flashing beacon, southbound lane, with signage of recreational area ahead (can be turned on based on seasonal usage)
- Cross hatching at the intersection of Depot Rd/VT30 to indicate a No Parking Zone
- No parking signs, along the southbound shoulder, extending southerly from the Depot Rd/VT30 intersection
- Signage on the northbound lane of VT30 to indicate pedestrians

Bridges and Culverts

The Town of Dummerston owns and maintains seven bridges. Two bridges on East-West Road, Bridge 29 between Slab Hollow and the Center, and Bridge 32 at the intersection of Schoolhouse Road, were slated to be inspected in 2016. The bridge on Tucker Reed Road at Middle Road failed and was rebuilt in 2016.

Dummerston has two significant historic bridges, both listed on the National Register of Historic Place. The Dummerston Covered Bridge is the longest covered wooden bridge located wholly within Vermont. The last major restoration was during 1997 and 1998. Since then, there has been work to enhance the travel deck, adding runners in 2009, and rebuild the abutment wing walls, in 2012. The Green Iron Bridge, spanning the West River, is a rare intact quadruple intersection

Warren truss bridge. The bridge was fully rehabilitated with work finishing in 2011, including new steel, paint job, and deck.

In 2016, Dummerston has 35 structures, which are water crossings larger than a 3-foot culvert. The town is replacing large culverts with arches which allow much greater water flow, and sediment and debris passage, greatly reducing the chance of flooding. The arches have open bottoms so that the stream bed is uninterrupted and aquatic life in the streams can pass through. Since 2010, arches have been installed on Stickney Brook Road (2011), Dutton Farm Road (2013), Quarry Road (2015), and Park Laughton Road (2016). Projects of this type cost in the range of \$120,000 - \$150,000 in 2016, and would not be possible without state grants for 90% of the cost.

In 2016, there are 584 culverts, 3 feet or less in diameter, that allow water to pass under town roads. These range in condition from fair to excellent. The town is maintaining and replacing these as needed. In 2015, twenty-two culverts were replaced.

Park and Ride Facilities

The Town operates and maintains a municipal park and ride lot at the Covered Bridge on Route 30. It contains 30 marked spaces on pavement and is well used. The State owns several parking sites in Town that are principally used for recreational access to the Connecticut and West Rivers. There is a state Park and Ride facility at the Putney Fire Department property which is located on the town line.

Bicycle and Pedestrian Facilities

There are no sidewalks in Dummerston. Most of the rural roads, both paved and unpaved, have little or no shoulder. Nonetheless, these roads are popular routes for recreational users such as walkers, hikers, mountain bikers, horseback riders and cross-country skiers. Bicycle traffic is particularly heavy along Route 30 and Route 5, especially during the spring and summer months.

The West River Trail is located primarily along the old railroad bed of the West River Railroad. The southerly section of it provides pedestrian, bicycle, and cross country ski access along the West River from near the mouth of the river in Brattleboro to Rice Farm Road in Dummerston.

Public Transportation

Southeastern Vermont Transit (SEVT) operates daily bus service that can link Dummerston to various parts of the region. A commuter bus runs from Bellows Falls to Brattleboro along Route 5. It operates in each direction, twice in the morning and twice in the afternoon. There are currently no dedicated stops in Dummerston. We could request one in the future based on need.

There is an effort underway to address the longstanding unmet public transit need for daily bus service along Route 30 from Brattleboro through Dummerston to points west. Southeast Vermont Transit, Grace Cottage Hospital, Leland and Gray, and a number of towns have collaborated to submit a Congestion Mitigation and Air Quality grant application to provide funding for such service.

SEVT, also called The Current, provides both public transportation and medical rides for the elderly and disabled. The Current serves all of Windham County and lower Windsor County. Dial-A-Ride bus service is available for destinations along Route 30 from Brattleboro to Jamaica. Dial-A-Ride is for the elderly (age 60+) and disabled (on Medicaid) for medical appointments. Transportation is provided from home to the medical appointment and return to

home. Dial-A-Ride medical appointment service is also available for riders who have an ADA-defined disability.

The New England Central Railroad Company operates an active rail line that runs along the western shore of the Connecticut River. The rail bed is used to move freight. Amtrak also uses the rail for passenger service. There is daily northbound and southbound passenger rail service available from rail stations located in Bellows Falls and Brattleboro.

Travel Corridors

Routes 5, 30, and Interstate 91 constitute Dummerston's main travel corridors. Located along the roadsides of these travel corridors are certain amenities such as the Connecticut and West Rivers, active farmland, and forested slopes and ridge tops. Residents and visitors derive enjoyment from these natural and pastoral landscapes. The scenic beauty of rural Dummerston is vital to tourism and the recreation industry. These industries play an increasingly large and important role in the economic base of this region. Route 5 is part of the Connecticut River Scenic Byway which was designated a National Scenic Byway in 2005 by the US Department of Transportation, Federal Highway Administration. This designation recognizes roads for their archaeological, cultural, historic, natural, recreational and scenic qualities.

Transportation Vision

It is the intention of Dummerston to have a transportation system that encourages the safe and convenient movement of people and goods by motor vehicle, bike, and foot.

The transportation system should continue to be a multimodal one that provides different types of transportation options. A dedicated stop along the CRT bus route from Brattleboro to Bellows Falls is desired. Having a predictable pick-up and drop-off location might enhance the service for Dummerston residents.

Transportation is the single largest use of energy in Vermont, and almost all of that is highway transportation. As a rural town, Dummerston will strive to increase energy efficiency. Implementing zoning districts that discourage dispersed settlement patterns will help to reduce expansions of the transportation system and help contain maintenance costs to existing bridges and roads. At an individual level, choosing fuel efficient vehicles and reducing vehicle miles traveled by ridesharing or taking advantage of alternate modes of transportation will help reduce energy consumption.

There are over 52 miles of dirt roads in Dummerston, crisscrossing diverse geological, ecological, and aesthetically appealing landscapes. It is imperative to preserve these roads along with the historic structures that remain alongside them. Retaining the existing features of these roads, which include narrow traffic lanes and curves, can help decrease speed and preserve Dummerston's rural character.

The Covered Bridge is one of Dummerston's most visible landmarks. Maintaining it as a one lane covered bridge is important to preserving our rural character and controlling traffic on the East-West Road. The inconvenience of having to wait for cars from the opposite direction to pass over the bridge is minor compared to the benefits of keeping truck traffic off East-West Road.

Goals, Policies, and Action Steps

Goal 1 — *Provide for safe, economical, and energy-efficient transportation systems that respect the integrity of the natural and social environment.*

Policy 1.1 Maintain a safe and functional public road system.

Action Steps

- a. Continue to grade and seed all road cuts and embankments to minimize erosion and to maintain their rural character. (Highway Department, Selectboard)
- b. Review and update road and bridge condition status annually to reflect the priority of needed improvements. Make recommendations for short and long-term improvements. (Highway Department, Selectboard)

Policy 1.2 Coordinate with local, regional and state entities to plan for Dummerston's transportation needs in a comprehensive manner.

Action Steps

- a. Support the efforts of Connecticut River Transit. (Selectboard)
- b. Continue to work on regional transportation planning with the Windham Regional Commission. (Windham Regional Commission Representatives)
- c. Continue to procure culverts, fuel and other transportation materials and equipment at the best price and quality possible. (Highway Department, Selectboard)
- d. Coordinate with the Agency of Transportation and neighboring towns in planning for road and bridge improvements along Routes 30 and 5, the interstate, and all bridges, to ensure adequate road and bridge capacities without damage to the rural character and environment of Dummerston. (Highway Department, Selectboard)

Policy 1.3 Make more efficient use of existing road capacity without significantly expanding roads or highways.

Action Steps

- a. Find a long-term source of gravel and develop a long-term gravel plan. (Highway Department, Selectboard)
- b. Provide traffic calming where warranted for enhancing or restoring livability of neighborhoods for town residents through reduction of cut-through traffic and excessive speed. Traffic calming should be provided for safety of all road users including pedestrians, children, bicyclists, and those who wish to congregate along the road. (Selectboard, Highway Department)
- c. Avoid, if possible, the widening of existing town roadways and the construction of new roads. (Highway Department, Selectboard)
- d. Where it helps retain and enhance character, adopt a Policy such that unpaved roads remain unpaved. (Selectboard)
- e. Encourage the safe sharing of roadways by vehicles, pedestrians and cyclists. Promote the VT Safe Passing Law and post signs warning of cyclists and pedestrians on popular recreational routes. (Planning Commission, Highway Department)

Policy 1.4 Preserve the character of Town roads.

Action Steps

- a. Conduct an inventory of scenic roads in Dummerston and establish management guidelines to protect the distinctive features located in the right-of-way, such as road surface and width, canopy trees, and stone walls. (Planning Commission & Selectboard)
- b. Determine whether Dummerston should designate scenic roads (either state or local) under the Scenic Highway Law (19 V.S.A. 2501 and 2502, respectively) or the VT Scenic Byway Program, to ensure that future road maintenance and construction activities are carried out in a manner that is consistent with the scenic quality of the area. (Planning Commission)

Policy 1.5 Retain Class 4 roads and legal trails for recreational use.

Policy 1.6 Maintain the Covered Bridge as a working bridge to preserve its historic character and structural integrity.

Policy 1.7 Work with VTrans to enhance safety along Routes 5 & 30 for cyclists and pedestrians.

ECONOMIC DEVELOPMENT

While it is common to think of Dummerston as primarily a labor pool for Brattleboro, Dummerston has a wider diversity of employment opportunities and greater number of employers than is generally appreciated. The local economy is based primarily on services, small businesses, tourism, agriculture, forestry, and home occupations. The Economy section of the Community Profile provides some income and occupation data.

Home occupations are those activities that can be carried on within a portion of a residence. They continue to serve an important role in Dummerston by allowing for local economic development, encouraging the creation of new businesses, and providing flexible or accessible working conditions for residents. The Town recognizes the right of residents to use their homes for economic activities. However, this must be balanced with the need to protect the character of its residential areas and to protect neighborhoods from nuisance. Home occupations may evolve into commercial enterprises that are no longer compatible with residential areas.

The Town supports agriculture, forestry, and other forms of light commercial and industrial, institutional, or recreational endeavors. The Town should also support small-scale businesses which meets the needs of local residents and the traveling public.

Telecommunications technology provides opportunities to sustain relatively full employment for residents.

Economic Development Vision

Dummerston will have a number of healthy businesses, including home occupations, small-scale retail, trade, and agriculture and forestry-related businesses. Economic growth will occur with the broader notion of community development as the underlying theme. This will focus on rural-based businesses and services that will enhance the community-well being and the quality of life for residents.

Goals, Policies, and Action Steps

Goal 1 — *Support and promote the towns current economic base to retain existing employment opportunities and increase availability of good quality employment opportunities.*

Policy 1.1 Encourage home occupations that support existing neighborhood character.

Action Steps

- a. Expand the home occupation provisions in the Zoning Bylaw to set additional thresholds for occupation activities that would potentially cause disruption to the neighborhood character. (Planning Commission)
- b. Address parking, lighting, signage, noise, traffic and daily business activity to avoid impacts on nearby residential properties. (Planning Commission)

Policy 1.2 Encourage appropriate new businesses to locate in Dummerston.

Policy 1.3 Provide assistance and support to Dummerston's existing businesses.

Policy 1.4 Limit commercial development to the scale and character necessary to protect Dummerston's small town atmosphere.

Action Steps

- a. Establish a maximum square footage requirement for commercial establishments. (Planning Commission)
- b. Investigate strategies for regulating appropriately scaled development (Planning Commission)

Policy 1.5 Encourage tourism activity that takes advantage of Dummerston's farmland, natural resources, history and culture.

Action Steps

- a. Encourage adaptive reuse of unique farm buildings for specialized, commercial operations to help preserve them and encourage tourism that is in character with the neighborhood. (Planning Commission?, other?)
- b. Conditionally permit and promote accessory farm businesses to capitalize on their tourism potential. (Planning Commission)

Policy 1.6 Encourage development of high-speed internet service to all properties.

ENERGY

Importance of Energy Planning

The total cost of energy in Dummerston (commercial, residential, and governmental) is estimated to be more than \$1 million each year. Since most of Dummerston's energy is imported from outside of town and outside of Windham county, efforts to reduce our energy use and shift reliance to locally produced energy will only strengthen our local economy.

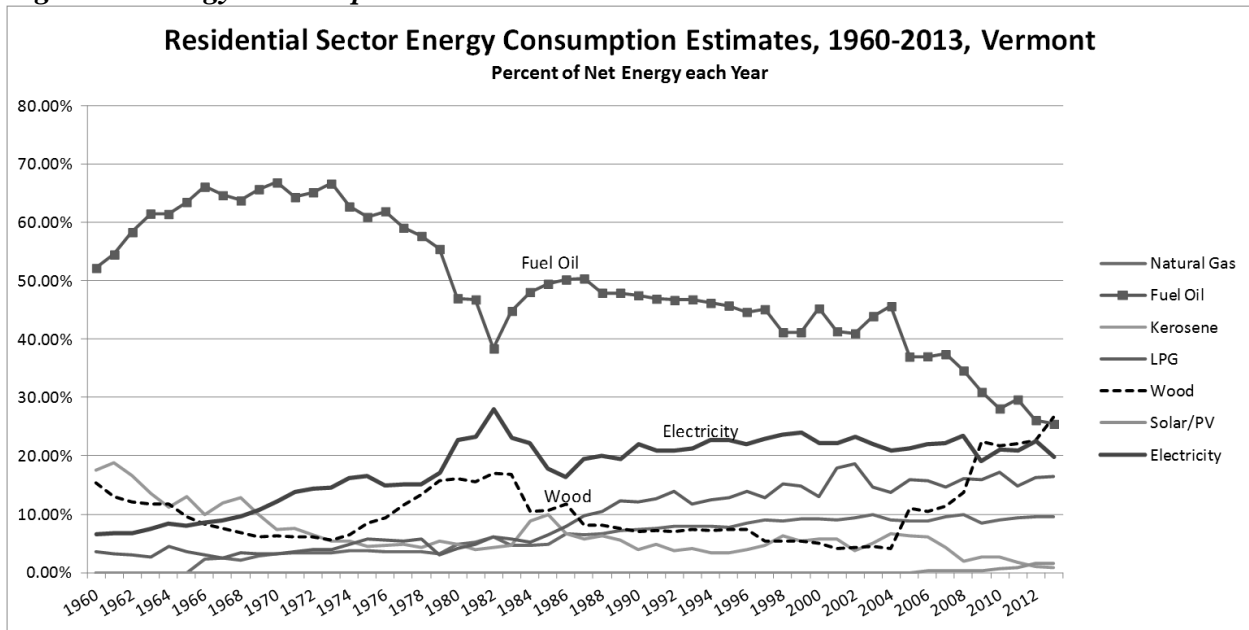
Energy is an important factor for our economic strength, social well-being, and environmental stewardship. Reasonable efforts that we can make to reduce the use of non-renewable energy and shift to environmentally friendly energy sources will benefit the town and individuals both in the short and long term.

Energy policies have traditionally been the responsibility of state, federal, and international legislative bodies, with little to no role for local governments. Dummerston can, however, understand our local energy use and production. We can look for ways to encourage and educate our residents so that we remain resilient in the face of energy fluctuations and in events of extended power outages. Providing our citizenry with educational materials and learning opportunities regarding energy-efficient construction, insulation levels, high-performance windows, and alternative energy production improves our ability to weather any storm and promotes energy independence.

Energy Use

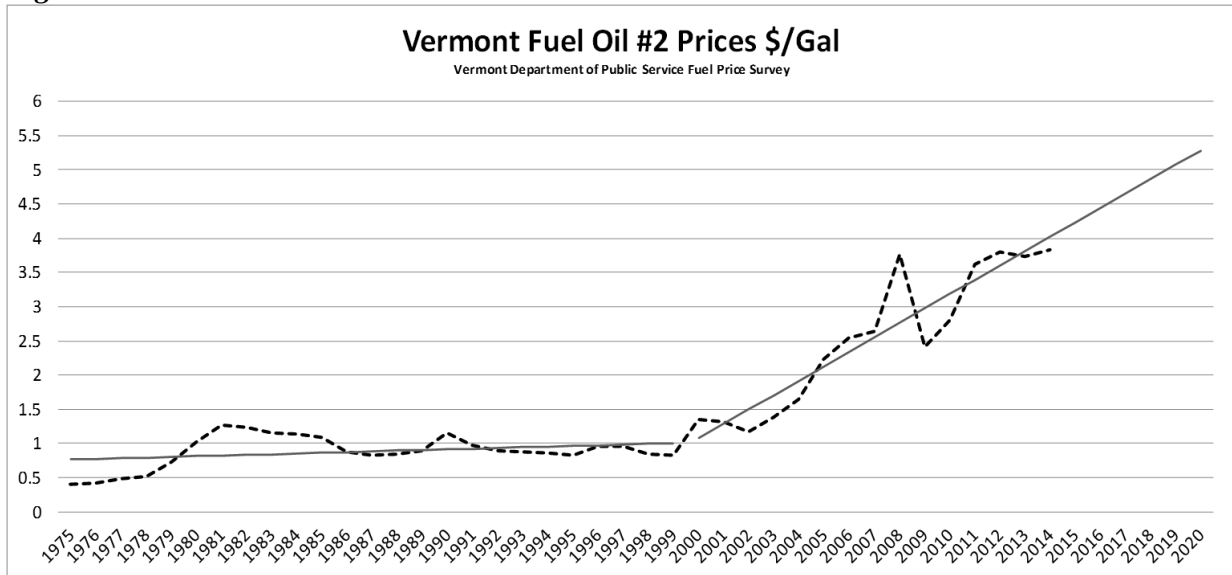
According to data compiled by the US Energy Information Administration (EIA), the State of Vermont shows a trend beginning around 2004 of decreasing use of fuel oil for home heating, and an increase in the use of wood (--the dashed line on the chart below represents cord wood and wood-derived fuels) in the state. The slowly increasing use of solar energy is also evident in the state. The EIA data show the success of Vermont in advancing toward its goals of reducing dependence on fossil fuels and increasing use of alternative energy sources and renewable fuels.

Figure 9: Energy Consumption



The reason for the sharp increase in the use of wood for home heating in Vermont beginning around 2004 is probably due to an increase in the price of fuel oil (and all petroleum products). The following chart shows the trend of the fuel oil price per gallon in the state from 1975 to 2014 (the dashed line). The prices began to rise sharply in the early 2000's. The trend line suggests that fuel oil prices will continue to rise, making it likely that oil prices will help drive a transition to alternative and renewable fuels.

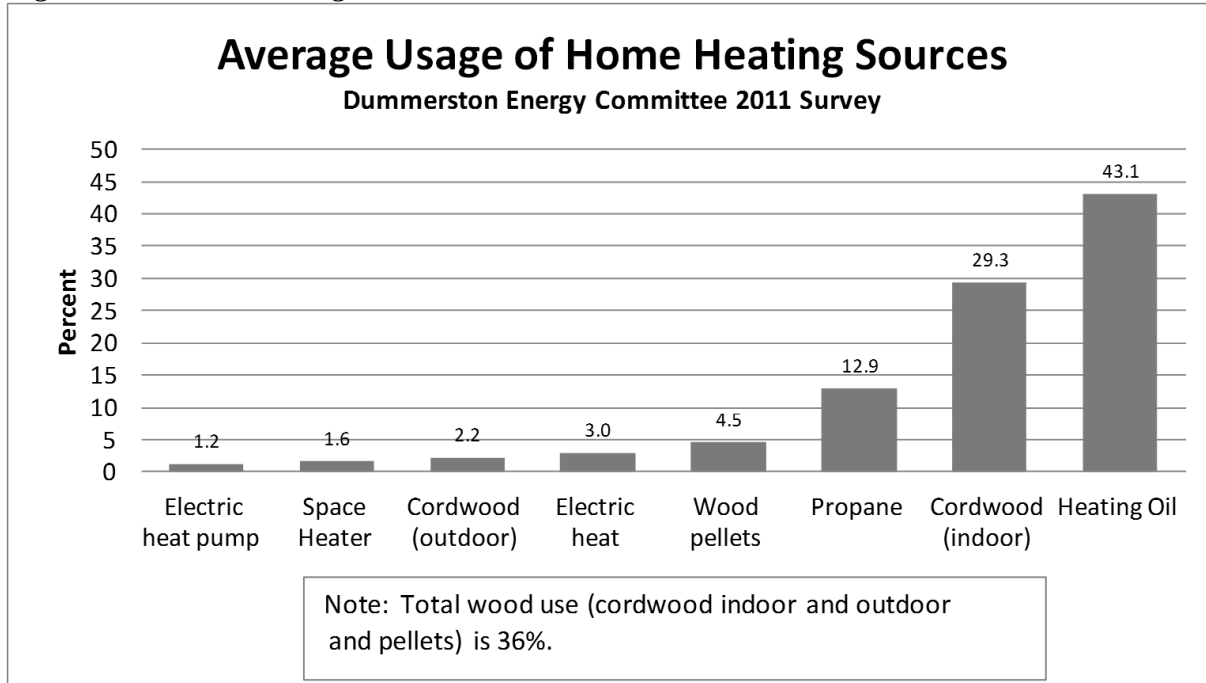
Figure 10: Fuel Oil Prices



The Dummerston energy use patterns were the subject of a survey administered by the Dummerston Energy Committee in 2011. The results form a baseline of town energy use in 2010, which can be used to compare with the results of future surveys to ascertain the trends for the town. One question asked residents to estimate the proportion of each energy source used for

heating their home. The average responses are given in the chart below. Note that the combined total of wood and wood derived products is 36%, compared to 43% for fuel oil. Based on the trend for the state, we would expect that a future survey would show that the use of fuel oil for home heating will decrease and the use of renewables and alternative energy sources will increase.

Figure 11: Home Heating Sources

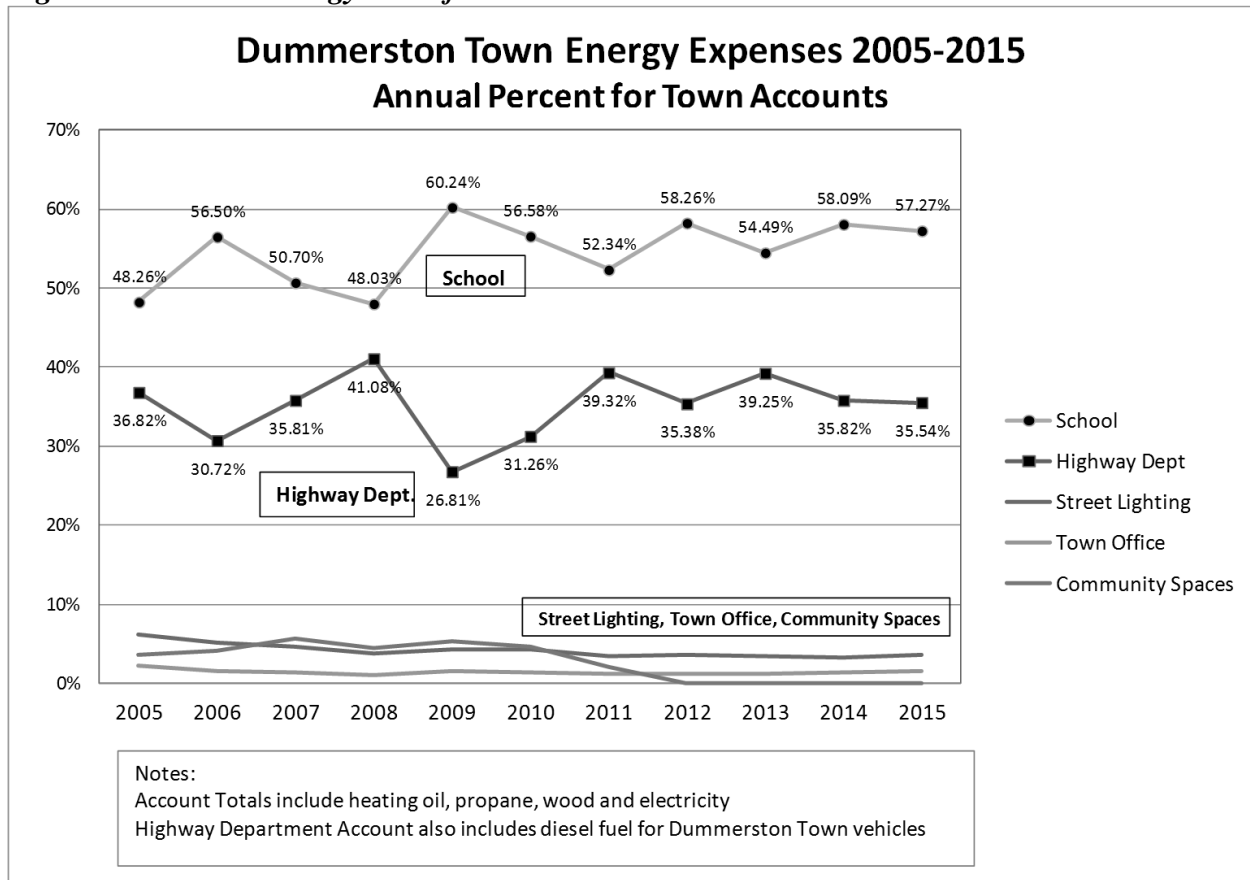


Home heating and automobiles account for the greatest energy use. Dummerston property owners use a variety of energy sources for home heating. According to the 2010 Census, whose numbers roughly verify the numbers from the Dummerston survey, the majority of housing units use fuel oil (46.3%) as the primary heating fuel. The remaining heat fuel sources include wood (38.6%), propane (10%), electricity (3.3%), and other fuel (1.6%). These figures only represent the primary heating source and do not illustrate whether or not there are multiple fuel sources being used.

As a rural state, Vermont continues to show a reliance on petroleum based fuels with a high number of vehicle miles traveled. The U.S. Department of Transportation estimated the per capita vehicle miles traveled in Vermont was 11,500 in 2009. Because there are very few industries or businesses in Dummerston, nearly all workers who live in the Town commute to work. Most commute a minimum of six miles each way (to Brattleboro); some travel much further (to Keene, Greenfield, etc.) According to the American Community Survey for the period 2008-12, 86% of Dummerston’s workforce commuted to work alone or carpooled.

Energy use for the Town government is much easier to quantify, since the Town budget includes energy line items. Energy line items for 2005 to 2015 are shown in Figure 13. Fluctuations in the price of heating and transportation fuels have accounted for fluctuations in energy expenses. Note that the oil furnace in the Town Garage was replaced with a renewable energy source (wood) in 2012.

Figure 12: Annual Energy Costs for Town Facilities and Services



The total energy use by the town includes annual expenditures on electricity, fuel oil, propane and, in the case of the Highway Department, the diesel fuel used for Dummerston town trucks and equipment. The chart above shows that the Dummerston School and the Highway Department expend much more on energy than other public users in the town. The major expenditure of the Highway Department is fuel for their vehicles, and this is relatively inflexible. The energy use of the School includes both electricity and fuel oil for heating.

A recent energy audit of the Dummerston School revealed that relatively inexpensive weatherization efforts could reduce energy use and lower costs. The School has also received proposals to convert from fuel oil boilers to wood pellet boilers and with improved controls. The Dummerston Energy Committee will continue to work closely with the School Board to discuss ways to reduce Town expenditure on energy and move toward renewable and alternative energy sources.

Electricity

Nearly 40 percent of the energy consumed in Vermont comes from electricity. Historically both Green Mountain Power Corporation (GMP) and Central Vermont Public Service Corporation provided electricity to Dummerston. In 2012, GMP (owned by Gaz Metro) purchased CVPS and the two became one.

Power is brought into and through Dummerston via several electric transmission lines. A 69 kV National Grid Transmission line runs in the vicinity of Route 5 from Bellows Falls to the Vernon

Dam. GMP maintains the Southern Loop, a 46kv transmission line that runs from Brattleboro to Bennington via the West River Valley, with a new substation in Newfane. Two 345 kV Vermont Electric Power Company (VELCO) transmission lines run through the western part of Town from a new Vernon substation to Cavendish, Vermont. A project called the Coolidge Connector (also known as the Southern Loop Upgrade Project) that constructed the new, second, 345kV transmission line, also constructed the new substations in Newfane and Vernon, and a spur connecting the 345 kV transmission line to the new Newfane substation.

Recently, the southern loop upgrade and other projects have been implemented to improve the reliability of the transmission lines. Of major concern to residents is land clearing within the easements of these lines. Any new clearings, regardless of whether or not they fall within the easement area can result in significant environmental and aesthetic impacts. These transmission corridors run through important habitat blocks which are vulnerable to forest fragmentation and the introduction of invasive plant and animal species. In addition, new clearings may impact the water quality in wetlands and water. It is imperative that the Public Service Board consider and address these issues when reviewing new or improved energy generation, transmission and distribution projects.

Conservation and Energy Efficiency

With total energy expenditures in the Town in excess of \$1 million, there is considerable opportunity for savings from various energy conservation and improved efficiency measures. Because most of the energy use in Dummerston is for private uses (home heating, commuting, etc), savings would accrue primarily to residents and Town policies to bring about those savings would be difficult to implement. Public education is one of the most effective strategies to bring about savings through energy conservation and improved efficiency, though there are some specific policies that can also help.

Most new construction in Dummerston is required to meet or exceed the Vermont Residential Building Energy Standards and Commercial Building Energy Standards through the use of insulation, heating systems, and weatherproof windows and doors. Current building codes provide basic energy efficiency requirements for buildings; however, technology advancements have generated higher standards such as zero energy construction standards in which buildings generate as much energy as they consume. Various green home certification programs, such as Vermont Energy Star and LEED for Homes (Leadership in Energy and Environmental Design) promote energy efficiency, water conservation, and healthy building materials.

Energy savings can be realized by retrofitting existing buildings with insulation, installing high-performance windows and doors to reduce heat loss, weather-stripping, replacing incandescent or fluorescent lights with LED lights, and using energy-efficient appliances. The following programs are available to residents of Dummerston

- Southeastern Vermont Community Action (SEVCA). SEVCA is the service provider in Windham County that runs the Weatherization Assistance Program. Weatherization services, which include an energy audit, diagnostic tests, analysis and installation measures, are available at no cost to income-eligible homeowners and renters. SEVCA is also available to help in the event of a heating emergency. They can help purchase oil, kerosene, propane or wood. In addition, they also work with electric companies in order to prevent disconnection and help negotiate payment plans.

- Efficiency Vermont. Efficiency Vermont is the States provider of energy efficiency services. They provide technical and financial assistance to electrical consumers for the purpose of improving the efficiency of existing and new facilities.
- ENERGY STAR Home Rebates. Energy Star Homes meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and U.S. Department of Energy. Efficiency Vermont provides free financial, design, and technical to help build an ENERGY STAR qualified home. Benefits of being an ENERGY STAR home include financial incentives such as product rebates; utility savings; higher resale value; increased comfort and air quality; and other environmental benefits.
- Vermont Housing Finance Authority's Energy Saver Loan Program. Administered by Windham Housing Trust, this program offers low interest loan funding for homeowners for an energy audit and improvements specified in the audit.

Initiatives to reduce transportation costs are also viewed as energy conservation measures, especially in a state where the transportation sector is the major consumer of energy. Changes, such as ride-sharing, combining trips and using alternative transportation, will conserve fuel and reduce wear and tear and maintenance costs on individual vehicles. Supporting the current park-and-ride commuter lots can help save energy. A recent advance is the emergence of plug-in electric and hybrid-electric vehicles. When combined with solar-electric systems, as is done by several Dummerston residents, most local transportation can be powered by solar energy.

Effective land-use planning can promote energy conservation. Concentrating new development in areas located close to the community's major roads and existing settlements, as detailed in the Land Use Chapter of this Plan, will minimize the energy consumed by residents commuting and will reduce the energy required to deliver essential services to residents and businesses.

The siting, design, and construction of buildings strongly influences the amount of energy needed for heating as well as the amount of electricity needed for lighting. Careful subdivision design, building orientation, construction, and landscaping provide numerous opportunities for energy conservation, both in the buildings and for transportation getting to and from those buildings.

Potential for Local Energy Production

Energy resources within Dummerston are all renewable resources solar, wood, hydro, and wind. In order to reduce dependence on conventional energy sources, the costs and availability of which are outside residents control, the use of renewable energy sources is encouraged. Solar-electric (photovoltaic) systems are becoming more and more common in Dummerston, with some homes in the town now getting at least a portion of their electricity from the sun.

Most of these solar systems rely on net-metering, an arrangement whereby the customer delivers electricity into the electric grid when their system is producing more electricity than the house is using and draws power from the grid when the house is using more electricity than is being produced. In order to net meter, the customer must receive a Certificate of Public Good from the Public Service Board. Dummerston supports net metering and has voted not to impose real estate taxes on solar energy equipment.

Wood

Wood is widely used in Dummerston either as a primary or secondary heating source. While burning wood does create air pollution, wood-burning technology has improved and pollution-

control regulations have been strengthened over the past several decades. If all residents using wood heat were to switch to state-of-the-art wood stoves that meet U.S. Environmental Protection Agency emission limits or to pellet stoves (most pellet stoves operate with emissions lower than even the best wood stoves), wood heating could increase with no increase in pollution. Wood chip boilers used in larger scale municipal applications provide many of the same benefits.

Solar

Of the energy sources available in Dummerston, solar energy offers the greatest untapped, long-term energy potential. Solar energy can be used in a number of different ways, but the most likely for widespread use are passive solar heating, natural daylighting, and solar electric generation (photovoltaics). In new home design, passive solar can decrease heating requirements by more than 50 percent.

There are several homes in Dummerston that are not connected to the utility grid and rely solely on photovoltaics for electricity. A few other homes are operating on a net-zero-energy basis (meaning that a solar system at the house generates at least as much energy as the home consumes).

Solar-electric systems can be installed on house, garage, or barn roofs, or they can be ground-mounted on racks. The latter can be mounted at a fixed tilt or be seasonally adjustable for slightly better performance. Tracking solar systems provide even higher efficiency.

For homeowners who do not have suitable locations for solar on their homes or property, there is potential for buying into a community solar system, as some residents in Dummerston have done. These community systems are typically 150 to 500 kW in size and sited on larger fields with good solar exposure. Because of group-net-metering regulations in Vermont, a homeowner in Dummerston can be part of a community solar system anywhere in the service territory of Green Mountain Power (the utility company serving the town).

In 2015 a group of volunteers started by the energy committee, created a program called Solarize Dummerston. This process leveraged the use of group purchasing power to further reduce the cost of going solar. The program was a great success with 128 people signed up for the free site assessments. A total of 114.6 kW was contracted from 24 contracts. The average system size contracted in this program was 4.78KW

As batteries become more efficient and costs drop, on-site electricity storage will become more feasible. This could expand the appeal of solar energy and enhance the resilience of Dummerston residents.

Hydropower

Early Dummerston settlers relied on hydropower to operate grist and lumber mills. Dummerston also had a hydroelectric facility on the West River that operated from 1903 to 1968. During the last ten years of operation, the facility generated approximately 1.5 million kWh per year.

While costs and permitting challenges for hydropower are significant, there is modest potential for developing hydroelectric systems in Dummerston. Micro-hydro systems, generating between 5 and 100 kWh, often do not require damming rivers or streams and therefore are easier to permit. The utility of a micro-hydro system depends on the dynamic head, amount of water flow, and the efficiency of the turbine.

Wind

There are a few wind energy systems known to be installed in Dummerston, and these are small wind-energy systems owned by residents. In general, high development costs, significant maintenance needs, and a limited wind resource have prevented significant development of wind-energy systems in Dummerston. The most cost-effective wind-electric systems are so-called wind farms: groups of multiple wind turbines installed in one location. Generally, there are several factors that contribute to the siting of large scale wind-farms elevations greater than 2,000 feet, proximity to electric transmission lines, isolation from neighbors, aesthetic concerns, and wind speed. At this time, it is not believed that a commercial-scale wind farm would make sense in Dummerston. A sizeable wind farm is located in Searsburg and operated by Green Mountain Power.

Energy Vision

Because we are so dependent on energy, regardless of its source, future use projections and planning will only serve us well in the long term. Ideally, we can, collectively, move toward cost efficient, renewable, and clean sources while maintaining supply to meet demand. It is in the best interest of the town to seek out cost savings through renewable sources and conservation efforts, perhaps insulating us from the inevitable increase in the cost of conventional energy. As the role of clean, alternative energy sources expands- Dummerston will seek to understand the alternatives and help mobilize resources for townspeople and all municipal operations to ensure the most advantageous use of all energy sources. It is likely that over time a well thought out and multi-dimensional approach will prove most prudent. A plan that recognizes the financial limitations of residents while promoting realistic changes will have the most far-reaching impacts. Efforts to improve efficiency, reduce demand, and encourage the use of renewables will go a long way in achieving Dummerston's energy goals.

Goals, Policies, and Action Steps

Goal 1 — *Dummerston will reduce total per-capita non-renewable energy consumption 40% by 2030 from a 2010 baseline.*

Policy 1.1 Commit to energy conservation in all municipal properties, and facilities.

Action Step

- a. The Energy Committee offers to review any new municipal building construction or renovations.

Policy 1.2 Provide current and prospective homeowners with information and incentives to focus on energy-saving opportunities for existing homes.

Action Steps

- a. Identify incentives to encourage the construction of highly energy-efficient homes.
- b. Promote the use of financial incentives, revolving loan funds, and other measures to facilitate energy conservation retrofits. (Energy Committee)
- c. Examine strategies to encourage the reporting of energy consumption, or energy performance ratings, by buildings whenever they are sold. (Energy Committee)
- d. Increase public awareness of weatherization programs. (Energy Committee)
- e. Promote the sale and use of LED (Light Emitting Diode) bulbs. (Energy Committee)

Policy 1.3 Enforce compliance with the Vermont Residential Building Energy Standards by ensuring that certificates are filed upon completion of construction.

Policy 1.4 Use site planning, landscaping, and structure design to maximize the potential for energy conservation by reducing the demand for artificial heating, cooling, ventilation, and lighting, and facilitating the use of solar and other energy resources

Policy 1.5 Encourage the use of forest resources for heating and energy generation in a manner that sustains the resource base, maintains proper safety standards, and has minimum impact on the environment.

Policy 1.6 Encourage outdoor lighting that will minimize light pollution. Encourage energy-efficient lighting and fixtures. Encourage the use of timing or motion devices on outdoor lighting.

Policy 1.7 Reduce transportation energy use.

Action Step

- a. Identify and implement strategies for reducing commuting energy use--through such measures as additional park-and-ride facilities, ridesharing programs, and bicycle lanes and pathways. (Planning Commission, Energy Committee)

Policy 1.8 Participate in regional energy planning issues and activities.

Goal 2 — Renewable electricity generation in Dummerston will achieve 20% of town wide electricity consumption by 2030.

Policy 2.1 Support renewable energy technologies for heating and cooling purposes.

Action Steps

- a. Promote high levels of energy conservation and solar design features in new construction projects that come under review. (Development Review Board)
- b. Explore incentives to encourage the use of facilities that employ renewable energy sources, such as solar water heaters (as defined in 32 VSA 3845 (Selectboard))

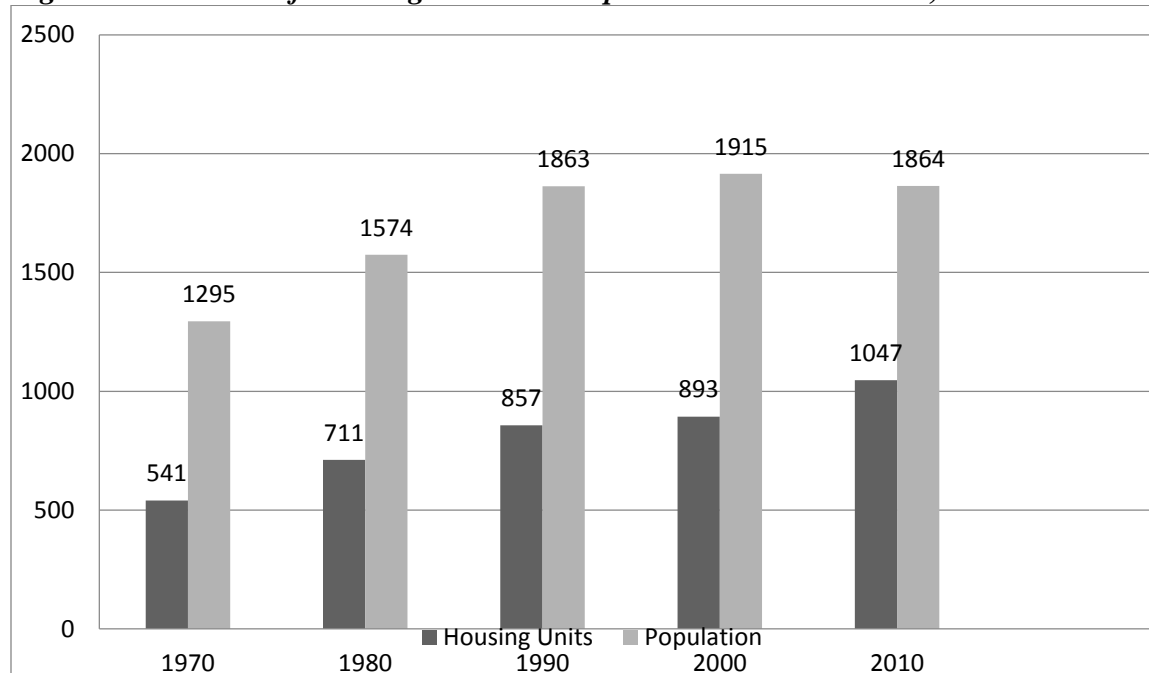
HOUSING

Existing Conditions

The following tables provide the background data underlying Dummerston’s housing goals and policies. The sources for the data used in this chapter are the US Census, the American Community Survey, and the Vermont Housing Finance Agency.

As Dummerston’s population has grown, so too has the number of housing units. Yet, while Dummerston has recently seen a decline in population, the construction of new housing has increased. Figure 11 shows the increase in housing over time. (Figure 1 in the Dummerston Community Profile chapter shows population growth and decline over time) . From 2000 to 2010 the number of housing units in Dummerston rose from 893 to 1,047, a 17.2% increase, while total households rose from 786 to 823, a 4.7% increase. The average household size in Dummerston has steadily declined since 1970, as it has across the country. In 1990 average household size was 2.6 and by 2010 it had declined to 2.3.

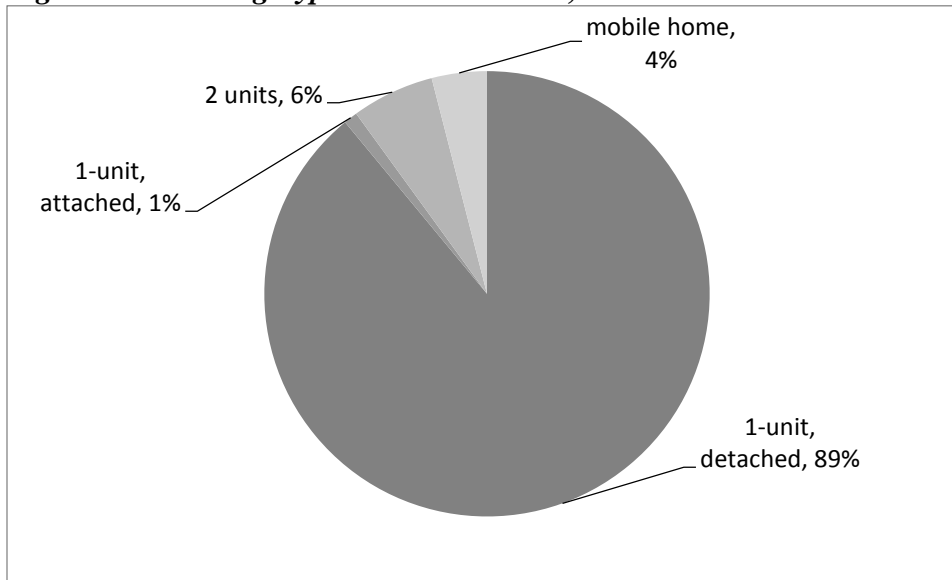
Figure 13: Number of Housing Units and Population in Dummerston, 1970-2010



Source U.S. Bureau of the Census

Of the 1047 housing units in 2010, 796 were owner-occupied, 154 were renter-occupied, 73 were seasonal, and 24 were vacant. These numbers have remained constant except for an additional 228 owner-occupied units since 1990. The percentage of seasonal and rental units in relation to the total housing units has decreased due to the increase in owner occupied units.

Most of Dummerston’s residents live in single family detached dwellings (see Figure 12). The total number of mobile homes has decreased since 1990. There has also been a decrease in the total number of multi-unit structures.

Figure 14: Housing Types in Dummerston, 2010

Source U.S. Bureau of the Census

In 2008 the Dummerston Housing Advisory Committee hired a consultant to analyze the town's demographic, economic and housing conditions and affordability, resulting in a detailed report, the Dummerston Housing Needs Assessment. Although the housing committee has lost membership and is no longer active, the report provides a starting point for this chapter of the town plan.

Home ownership The median price of the 19 primary residences sold in Dummerston in 2015 (\$167,000) is slightly above that of Windham County (\$165,000) and below that of Vermont (\$205,000). The challenge of matching wages to the monthly carrying cost of a home in Dummerston is revealed by the fact that 35% of homeowners with a mortgage pay more than 30% of their household income on housing (including mortgage, taxes and insurance), while an additional 15% of households pay more than 50%. These cost realities also translate into the fact that a median priced home in Dummerston is beyond the reach of a significant majority of first-time buyers. The buying power of such households has declined sharply over the past several years as wages failed to keep pace with home prices. The result leaves the majority of Dummerston's potential first-time buyers with a limited range of smaller, older or less well-maintained properties.

Rental Housing At any given time there are 150 to 160 renter-occupied units in Dummerston; 62% are single-family detached homes, 21% are in two or three unit buildings, while 17% are in mobile homes. The single family detached rental units are more likely to have three or more bedrooms than the other types. Despite the larger size of single-family detached unit rentals, 74 percent of all rental units are occupied by one or two person households, reflecting the change in household size noted above.

Affordability

Rentals in Dummerston are expensive, but not significantly more so than in neighboring communities, or in Vermont generally. There are seldom more than a few rental units of any size available in Dummerston at any given time, which contributes to their cost. According to the American Community Survey, median gross monthly rent during 2008-2012 was \$822 in

Dummerston and \$771 in Windham County. One quarter of the available units are affordable to households earning less than \$50,000 per year. Nevertheless there is a wide variety of working people who cannot afford to rent a one-bedroom unit in Dummerston based on a single persons earnings. In Dummerston and in Vermont, rents have increased much faster than wages. The following table illustrates the wage needed to afford an apartment in Dummerston and pay 30% or less of income for housing (estimated, 2016)

Figure 15: Income Required for Housing

	Dummerston	Vermont
Efficiency units	\$14.90/hour	\$14.83
One bedroom	\$15.60/hour	\$16.58
Two bedroom	\$19.60/hour	\$21.13
Three bedrooms	\$25.54/hour	\$27.75
Four bedrooms	\$30.17/hour	\$31.71

Source: Vermont Housing Finance Agency

Affordable housing is primarily addressed by area non-profit agencies. The following programs/organizations are currently available to Dummerston households:

- The Southeastern Vermont Housing Rehabilitation Loan Fund provides low interest-loans to income eligible homeowners to address health and safety issues, repair or replace septic and wells, correct code violations, and/or to provide access modification for elderly or disabled homeowners. The fund also has special monies available for energy related capital improvements for all income levels.
- Windham/Windsor Housing Trust (WWHT) provides education, counseling, and access to affordable mortgage products that assist first-time home-buyers buy a home. They also provide counseling on foreclosure prevention. WHT is a partner in the Southeastern Vermont Housing Rehabilitation Loan Fund.
- Southeastern Vermont Community Action Agency (SEVCA) provides referrals to area shelters, landlord lists, and assists in completing applications for affordable housing possibilities. SEVCA also operates weatherization and fuel assistance programs for income-eligible homeowners and renters.

Senior Housing

Dummerston is home to 334 persons aged 65 and over, and an estimated ninety percent are homeowners. There are no subsidized independent rental housing units for seniors, no assisted living or residential care facilities, and no age-appropriate ownership housing for seniors in Dummerston. There are six senior housing developments with a total of 294 units located within 12 miles of Dummerston Center, but all of these projects are at or near full occupancy.

Special Needs Housing

There are no special needs or supportive housing facilities in Dummerston. There are assisted living facilities in Townshend and Brattleboro.

Housing Needs

As the data illustrates, housing in Dummerston is predominantly owner-occupied, single family detached units. life transitions (aging, retirement, divorces, entering the work force, etc.) can

require a housing change, and Dummerston continues to lack choices. The 2008 Housing Needs Assessment indicated that Dummerston would benefit from creating flexibility and diversity in the housing stock that would significantly ease the burden of aging seniors, newly forming households, local workers, households headed by young adults, households dealing with divorce and separation, single parents, and those with disabilities by adding the following:

- Rental housing for households with a gross household income that does not exceed 50 percent of Windham Countys median gross household income for households of the same size and seniors;
- Smaller-sized, market rate rental units to meet the needs of newly forming households, low wage local workers, households in transition, and seniors no longer able to maintain their owned homes;
- Young family homeownership opportunities for less than \$150,000;
- Housing that meets accessibility, maintenance and social needs of independent senior households;
- Support to make existing homes handicap accessible.

Housing Design and Location

Creating strong neighborhoods is an important component to meeting Dummerston's housing needs, as well as the towns land use goals. The following are important design and location criteria that should be considered while trying to increase the diversity of housing in Dummerston.

Smart Locations.

Locating housing close to bus service, shopping and human services makes housing more affordable. Since transportation costs consume a large portion of household budgets, homeowners and renters can save on transportation expenses if their housing is located on or near major transportation corridors and particularly, public transit routes. Currently, Southeastern Vermont Transit provides daily scheduled bus service in Dummerston's two most densely settled areas, along Route 5 in the Connecticut Valley connecting the town with Brattleboro, and along Route 30 in the West River Valley. It will be important to work with housing advocates, property owners, service providers, and adjacent towns, to study the advisability, design, infrastructure, density and service possibilities for housing in these corridors.

Energy Efficient Design.

Housing must not only be affordable to live in, but to operate as well. Constructing or remodeling existing housing with energy efficiency in mind is an important component in keeping housing affordable over time. Important considerations for any project should include designing to an appropriate scale, utilizing appropriate insulation, energy efficient lighting and appliances, taking advantage of direct sun for daylighting and heating, utilizing solar panels, and exploring other alternative power sources. (See the Energy chapter for more on energy efficiencies in residential construction)

Universal Design.

The intent of universal design is to simplify life for everyone by making the built environment more usable by as many people as possible, especially those with special needs. A universal design feature is one that can be used by everyone regardless of their ability or disability (e.g.

electrical receptacles placed higher than usual above the floor, standard but wider doors, and elimination of steps at the entrance). Universal design features can easily be incorporated into new homes and some can readily be retrofitted to existing homes.

Housing Vision

We would like Dummerston to be a town that is welcoming and affordable. Ideally our community would be a desirable place to grow up in and to remain in across life stages. Encouraging a variety of housing types to meet lifestyle, demographic, and economic and social needs is the best way to ensure a vibrant and diverse population. We are committed to preserving our existing settlements and neighborhoods through housing rehabilitation and in-fill development of small lot single family homes as well as small scale (2-3 unit) multi-family units. Creative new housing development will hopefully make efficient and sustainable use of vacant land while honoring our natural environment.

Dummerston is a small rural community and does present some challenges to new housing development given that we do not have access, at this time, to public water and sewer services. Given that our neighboring towns, Putney and Brattleboro, do have such services that may factor into the calculus of housing developers when considering where to invest in new housing units. Dummerston has few large buildings in town, residential, commercial, or institutional that would lend themselves to conversion to multi-unit housing.

Although we face some challenges to achieving our housing goals, Dummerston remains a desirable small town to reside in and as housing development and building science continues to evolve and innovate-we remain confident that Dummerston's housing options will expand appropriately.

Goals, Policies, and Action Steps

<i>Goal 1 — Create flexibility and diversity in Dummerston's housing stock.</i>

Policy 1.1 Promote the creation and preservation of housing that is and will continue to be affordable.

Action Steps

- a. Investigate sites for a small affordable housing project (2-3 duplexes, 6-8 units).
- b. Publicize the Southeast Vermont Housing Rehabilitation Loan Fund to expand housing rehabilitation in Dummerston.

Policy 1.2 Provide Dummerston residents with information about housing needs, issues, and choices.

Action Step

- a. Study the trend of second homeownership in Dummerston.

Policy 1.3 Promote accessory dwelling units as a way to increase the rental supply of housing.

Action Steps

- a. Amend the Zoning Bylaw to permit the creation of an accessory dwelling within an accessory building on a single-family lot. (Planning Commission)

- b. Provide outreach and technical support to residents interested in creating an accessory dwelling unit.

Policy 1.4 Form public and private partnerships to help identify potential sites for new affordable housing development and to provide grant and funding support.

Policy 1.5 Promote sustainable living through high quality design, energy efficient construction, and proximity to existing transportation corridors.

Policy 1.6 Encourage the use of Universal Design in new or rehabilitated housing units in Dummerston to enable households or individuals to age in place.

Policy 1.7 Encourage the use of innovative housing formats such as clustered housing

EDUCATION

Public Education

Current Educational Services

The Dummerston Town School District provides public education for grades K-8 to all students that are residents of the town of Dummerston. Dummerston Schools teachers provide a scholastically challenging and educationally enriched environment based on the collaboration of faculty, staff, School Board Directors, parents and community volunteers. The core curriculum is coordinated through the Windham Southeast Supervisory Union and is aligned with Vermont State Standards. There is a focus on traditional literacy (reading, writing and comprehension), mathematics, science and technological literacy. Dummerston School also has a strong arts and music program and offers a variety of sports and extracurricular activities. Some of the popular programs offered at the school include:

- The Winter Activities program has been a long standing tradition at Dummerston School that teaches life long, healthful skills to students for 6 afternoons in January and February. Past and present activities include skiing, snowboarding, snowshoeing, skating, bowling, gymnastics, martial arts, yoga, theatre and pottery.
- The Dummerston School Friends of the Library offers a weekly preschool story hour to welcome and introduce young children and their families to the Dummerston School.
- Girls on the Run is a program that trains girls to participate in a 3.1 mile run/walk event while emphasizing health, exercise and self-image awareness.
- Students in kindergarten through grade 4 participate in Environmental Learning for the Future (ELF) Program, run by volunteers with curriculum from the Vermont Institute for Natural Science.

Since 2008 Dummerston School has hosted the YMCA ASPIRE program which offers affordable afterschool child care for students.

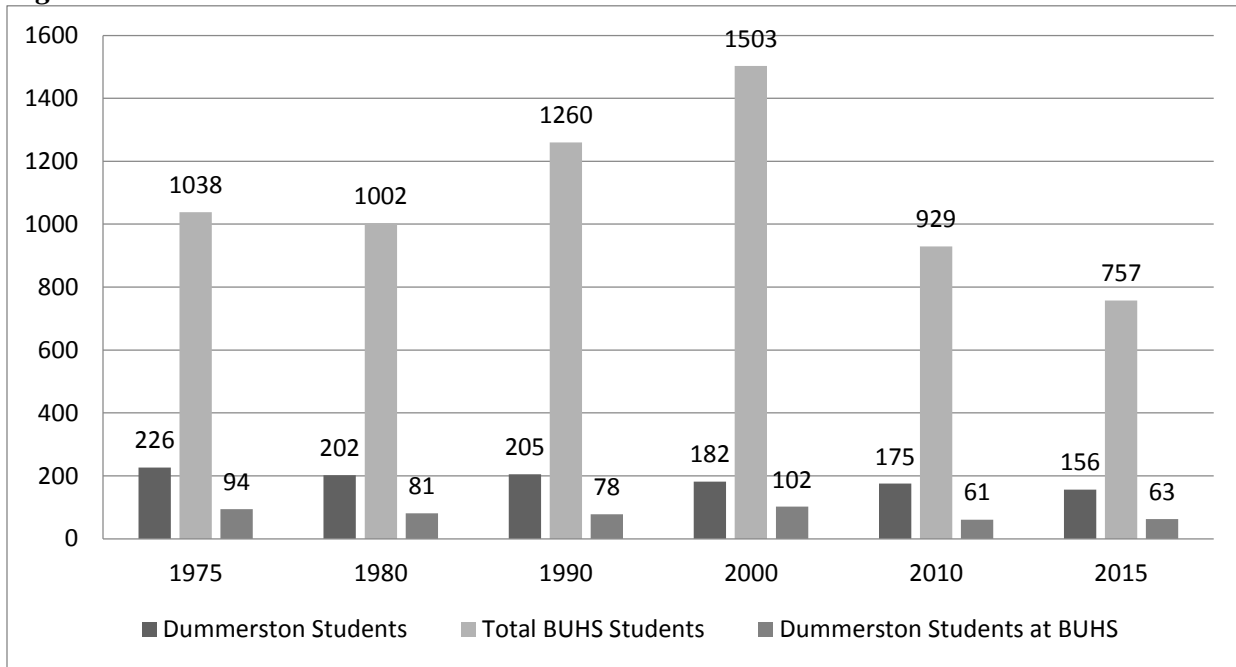
Windham Southeast Supervisory Unions Intensive District Program is located at the Dummerston School. This program assists elementary aged students (grade k-6) with multiple handicaps or disabilities in increasing functional life skills. This is the only site for this program in the Supervisory Union.

Students in grades 9-12 are served by the Brattleboro Union High School District #6 (BUHS #6) which oversees Brattleboro Union High School and the Windham Regional Career Center located at a common site on Fairground Road in Brattleboro. BUHS #6 provides public high school education to students from Dummerston, Brattleboro, Putney, Vernon, and Guilford and accepts tuition students from other towns.

Enrollment History

The following figure shows how enrollment has varied over time in the Dummerston School and in Brattleboro Union High School (BUHS/WRCC).

Figure 16: Dummerston Student Enrollment



Source WSESU

The trend of declining enrollment is expected to continue in the region and across the state. It is not known when it will stabilize or reverse.

Facilities

The Dummerston School building is located on School House Road off Route 5. It was originally built in 1951 as a three-room building. The most recent addition to the building occurred in 1994, when the district closed its school building in West Dummerston Village and consolidated all grades in the one building. The building has been well maintained and is in excellent condition. The West Dummerston school is now the Dummerston Community Center. The Transportation and Community Facilities map shows the locations of these buildings.

The school gymnasium is a multipurpose space, used for lunch, physical education, after-school sports and activities, and large group events. It is also a valuable asset to the town as it is used for community events, sports, as a polling place, and for town meeting. The school also has excellent playing fields that are used both by the school and the greater community for a variety of sports activities.

School Governance

The Dummerston Town School Board (DTSB), consisting of five elected members, is responsible for many aspects of the school operation including fiscal oversight, budget preparation, maintenance, and negotiating classified staff wages and the administrators contract.

Similarly, the BUHS #6 Board of Directors is responsible for overseeing the budgets and administration of the High School and Career Center. There are 9 seats on the board, of which Dummerston has one seat. This seat is filled by election at Town Meeting for a three-year term.

The Windham Southeast Supervisory Union (WSESU) is a union of several school districts representing the towns of Brattleboro, Dummerston, Guilford, Putney, and Vernon. WSESU has the administrative responsibility for the school districts of BUHS #6 and the towns listed above.

Board members from each school district make up the WSESU board. The DTSD board has three voting members on the WSESU board. The WSESU board approves the budget which is then funded by assessments from each member district.

At the time of this writing, school districts in the WSESU are deciding how they will meet the requirements of Act 46. Some other Supervisory Unions have merged into a single school district and this is one option for WSESU. This would lead to significant changes in governance.

Education Funding

As is typical for Vermont towns, the largest portion of the property taxes raised goes to funding education. Education funding is distributed on a per-pupil basis from Vermont’s education fund. Money for the fund comes principally from a state-share education property tax that is assessed on both residential and non-residential properties. The base tax rate is set by the state but, while the non-residential rate is uniform across the state, school districts may increase their tax rate by exceeding a per-pupil spending threshold(also set by the state) in their budgets. The more the per-pupil spending exceeds the threshold, the more the education tax rate for the residents of that district is increased.

Dummerston has consistently been one of the schools with the highest perpupil education spending in the state. As a community, Dummerston residents value and support the education of its students in a rural, smaller school setting despite external pressures from legislation and realize that the arbitrary spending threshold used by the state does not reflect the true cost of educating our children.

Bus service is provided for all students in the WSESU. The WSESU contracts the bus service and the DTSD pays for the costs in its assessment to WSESU. Many administrative functions are provided by the WSESU offices. The WSESU also administers Special Education services in all member districts. The cost for these services is covered by WSESUs assessment to DTSD, which is included in the DTSD budget.

Support for the Brattleboro Union High School is raised via direct taxation to residents of the five member towns. The district's education tax rate is split; with a portion allocated to the Dummerston School (DTSD) and a portion allocated to the Brattleboro Union High School (BUHS #6).

Figure 17: Education Expenditures and Tax Revenue

	1990	2000	2010	2015
DTSD Total Expenditures	\$1,131,892	\$2,277,484	\$3,294,482	\$3,293,670
Education Tax Revenue to DTSD	\$855,233	\$1,390,360	\$1,802,685	\$2,588,230
Education Tax Revenue to BUHS #6	\$428,595	\$632,592	\$1,161,770	\$1,079,330

Source Dummerston Annual Reports

Dummerston School Endowment, Inc., a non-profit corporation, was set up to enrich the education opportunities of students attending Dummerston School. Its purpose is to supplement academic programming at the Dummerston School in areas such as foreign language and technology instruction.

Other Educational Services

Childcare

Safe and affordable child care is important to local residents. Dummerston's Zoning Bylaw provides for both family child care homes and child care facilities. There are a variety of state-regulated child care facilities, both family-and center-based located in Dummerston and in nearby towns. As this Plan is being drafted, the Vermont Department for Children and Families, Child Development Division, Bright Futures Child Care Information System lists three Registered Homes and one Licensed Provider available in Dummerston.

The local demand for childcare services is difficult to measure. In 2002, the Windham Regional Commission conducted a county-wide needs assessment. Among the findings are the following, which are still relevant in Dummerston in 2017:

- Even though there has been a decrease in the number of children under the age of 5 between 1990 and 2000, state and national trends suggest that there may have been an increase in the number of working parents resulting in an increased need for child care.
- There is a particular need to increase the availability of high-quality child care for infants and toddlers (ages birth to 2 years old).

Early Education

Dummerston School District participates in Vermont's Public Preschool Partnerships Program and collaborates with qualified preschool programs in the area, though none of them are in Dummerston. Under this program, children participating in one of the qualified preschool programs are counted towards the resident student count (average daily membership) under the school financing formula. Seventy percent of the funds received are passed on to the preschools while the remaining funds are retained by the school district. Per the contract, the funds that are passed on must be used in three ways tuition reduction, program development, and/or staff development.

Early Education Services in Brattleboro operates an Early Head Start program. Head Start is a national program that promotes school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social and other services to enrolled children and families. The income eligibility of families is 130 percent of the federal poverty level.

Home Schooling and Private Schools

Home schooling is an option used by some families. The exact number of students being home schooled is not known so it is difficult to track changes. Parents interested in home schooling their children must have a plan approved by the state. Although the town school district does not receive funding to help educate home-schooled students, Dummerston School works to assist their efforts through access to services and resources such as music, the library, and extracurricular activities.

There are a number of both primary and secondary private schools in the region, although none are in Dummerston. Some Dummerston students attend these schools, but the number is not known.

Colleges and Adult Education

The Community College of Vermont (CCV) has a campus in Brattleboro which offers Associate degree programs and workshop. Several private and public colleges and universities are located within commuting distance of Dummerston.

Opportunities for adult education include:

- various programs offered through community libraries and individual groups;
- career-related certificate programs and non-credit programs offered through CCV;
- work readiness and literacy programs available through Adult Learning in Brattleboro; and
- learning opportunities for people 50 and older at the Osher Lifelong Learning Institute which is located in the Southeast Vermont Learning Collaborative on Route 5.

Education Vision

The educational programs and facilities in Dummerston are important components of Dummerston's social and economic well-being. Dummerston will continue to provide a solid educational foundation for its students to ensure educational and personal success. All young children in Dummerston will have access to affordable, quality child care and educational experiences.

Goals, Policies, and Action Steps

Goal 1 — *Provide quality education for all people in Dummerston.*

Policy 1.1 **Maintain or enhance the level of excellence in our schools.**

Policy 1.2 **Seek creative methods to improve public education without increasing expenditures.**

Action Steps

- c. Evaluate on an ongoing basis the transportation Policy for Dummerston students. (School Board)
- d. Encourage community involvement and seek funding sources for the newly created Dummerston School Endowment, Inc. (School Board)
- e. Develop a Policy for long term energy management at Dummerston School. (School Board and Dummerston Energy Committee.
- f. Evaluate desirability of shared programs with neighboring schools.

Policy 1.3 **Continue to make school facilities available to community groups for evening or weekend programs, for recreational programs, and for adult educational programs throughout the year.**

Action Step

- a. Maintain effective communication between School Board and Selectboard.

Policy 1.4 **Promote lifelong learning.**

Action Step

- a. Support long-term viability of Southeastern VT Learning Collaborative.

Policy 1.5 Continue administration of Miller Fund for needy children of Dummerston.

Goal 2 — Ensure that high quality, affordable child care is accessible to all children.

Policy 2.1 Support the provision of safe and affordable child care.

Action Step

- a. Maintain an inventory of all child care programs in the town and their capacity.
(Emergency Management Director)

Policy 2.2 Ensure that land use regulations do not place unreasonable limitations on child care homes and facilities.

Action Step

- a. Consider permitting child care facilities as an accessory use for education institutions, churches, and places of employment. (Planning Commission)

RELATIONSHIP TO ADJACENT TOWNS, WINDHAM REGION AND THE STATE OF VERMONT

Vermont's Growth Management Law, Title 24 VSA Chapter 117, passed in 1988, set up a system for communities to work in concert with their neighbors, and with agencies of State government, to shape the future. As envisioned, decisions on local growth issues are to be made by the local communities, and decisions of regional significance are to be made by the regions communities acting in concert. Each State agency action and program that affects land use is to be based on agency plans developed in consultation with communities and regions.

To achieve a unified vision for the future, plans at all levels are to be consistent with the Vermont planning goals and compatible with one another. Town Plans are to be compatible with the regional plan and with approved plans of other municipalities in the region. As defined in the law, for one plan to be compatible with another, the plan in question, as implemented, will not significantly reduce the desired effect of the implementation of the other plan.

Compatibility with Town Plans

Dummerston shares boundaries with Brattleboro, Marlboro, Newfane, Brookline, and Putney. The Connecticut River separates Dummerston from Chesterfield and Westmoreland, New Hampshire. The status of Town Plans for Vermont towns is as follows:

- Brattleboro Town Plan adopted February 9, 2013
- Marlboro Town Plan adopted October 10, 2013
- Newfane Town Plan adopted July 22, 2013
- Brookline Town Plan adopted January 9, 2013
- Putney Town Plan adopted December 16, 2015

This Plan strives to support the goals and policies of the neighboring towns as well as strengthen the relationships with those towns to work on issues that are a common concern. The Dummerston Town Plan is compatible with the town plans of neighboring towns. The future land use districts do not conflict those in the neighboring towns. The lands on the border are similarly designated to perpetuate the rural land uses that currently exist and where applicable, protect the value natural resources and physical constraints of the landscape. Along Route 5 at the Putney border, the land is designated to support growth in Putney Village and to maximize existing infrastructure.

Compatibility with the Windham Regional Plan

The Windham Regional Plan (adopted September 30, 2014) is intended to provide guidelines for the planning and coordination of change and development which will, in accordance with present and future needs and resources, best promote the health, safety, and welfare of the citizens of the region. The Dummerston Town Plan supports and complements the land use and development goals of the Regional Plan.

There are some differences between the proposed land use map in the Windham Regional Commissions Plan and the future land use map in the Dummerston Town Plan. Dummerston has classified several areas as Residential while the Regional Plan categorizes these areas as Rural Residential. In the context of Dummerston, these areas are some of the more compact

development areas. However, on a regional scale, they are not compact areas when compared to the villages and downtowns that serve the region. This apparent discrepancy is ameliorated because at the local level the plan helps create compact settlement areas separated by countryside and provides for intensive residential development in areas related to community centers which is one of the planning goals of the State of Vermont.

The corridors along Routes 5 and 30 appear to display another incompatibility between the Regional and Dummerston plans, but here as well it is ameliorated by a thorough local planning process and its results. While the Regional Plan classifies the land in these corridors as Productive Rural and Rural Residential, the Dummerston plan includes some areas classified as Rural Commercial. Prior to the 2014 town plan update these corridors were classified entirely as Rural Commercial. The planning process for the 2014 update included extensive study and many public meetings with a high level of public participation on the subject of land use in the corridors, a process lasting four years. The resulting compromise was a significant reduction in the amount of land classified as Rural Commercial in the corridors, though certain areas remain. This made the 2014 Town Plan much more compatible with the Regional Plan than the 2010 Town Plan was. The planning process for the current Town Plan did not include an update of the Land Use district mapping because the previous planning process was so recent and thorough.