

Royalton Town Plan

Adopted 03/03/2015

Written with assistance from the Two Rivers-Ottawaquechee Regional Commission, funded by a Municipal Planning Grant from the Department of Housing and Community Development.

Table of Contents

I.	Introduction.....	6
A.	Foreword by Planning Commission.....	6
B.	History of the Town Plan.....	6
C.	Town Plan Purpose.....	7
D.	Implementation Strategies.....	8
E.	Town Regulations.....	8
F.	Other Regulatory Methods.....	9
G.	Non-Regulatory Methods.....	9
H.	Process for Modification and Updating.....	10
I.	New in this Plan.....	10
II.	Demographics.....	11
A.	Population.....	11
III.	Natural, Scenic and Historic Resources.....	13
A.	Goals, Objectives, Policies and Recommendations.....	13
B.	Background.....	15
C.	Primary Agricultural Land.....	15
D.	Productive Forest Soils and Secondary Agricultural Soils.....	16
E.	Earth Resources.....	16
F.	Groundwater.....	17
G.	Shorelands.....	17
H.	Wetlands.....	18
I.	Flood plains.....	18
J.	Flora, Fauna and Natural Communities.....	20
K.	Natural Areas.....	22
L.	Recreation Lands.....	22
M.	Scenic Areas.....	23
N.	Historic Resources.....	23
IV.	Agriculture and Forestry.....	24
A.	Goals, Policies and Recommendations.....	24
B.	Background.....	25
C.	Farm and Forest Land Issues.....	25
D.	Agricultural Trends.....	25

E.	Forestry Trends	26
F.	Sustaining Agriculture and Forestry	27
G.	Farming, Forestry and the Economy	28
V.	Community Facilities and Services.....	29
A.	Goals, Policies and Recommendations	29
B.	Public Lands and Buildings	30
C.	Water Service.....	30
D.	Telecommunications and Internet Access.....	31
E.	Sewer and Storm Drainage Facilities.....	33
F.	Highway Department and Town Garage Facilities	33
G.	Solid Waste	34
H.	Recreation Facilities.....	34
I.	Religious Institutions	35
J.	Cemeteries.....	35
K.	Libraries and Cultural Institutions	35
L.	Health and Social Services.....	36
VI.	Health and Emergency Services	36
A.	Goals, Policies and Recommendations	36
B.	Fire Protection Services	37
C.	Police Protection Services.....	38
D.	Emergency Medical Services.....	38
E.	Emergency Management Planning	39
VII.	Economic Development.....	41
A.	Goals, Policies and Recommendations	41
B.	Introduction.....	42
C.	The Village Economy	44
D.	The Town Economy.....	45
E.	Promoting Economic Growth	46
F.	Employment and Wages	47
G.	Taxes.....	48
H.	Economic Development and Land Use.....	48
I.	Energy	49
A.	Goals, Policies and Recommendations	49

B.	Background	50
C.	Energy Demands	51
D.	Current Energy Sources	52
E.	Renewable Energy Resources	54
F.	Permitting Considerations	57
G.	Residential Energy Efficiency	58
H.	Municipal Role in Energy Efficiency	60
I.	Energy and Land Use Policy	61
J.	Energy and Transportation Policy	62
VIII.	Housing	62
A.	Goals, Objectives, Policies and Recommendations	62
B.	Background	63
C.	Housing Affordability	64
D.	Elderly Housing	65
E.	Taxes	67
IX.	Education	67
A.	Goals, Objectives, Recommendations	67
B.	Royalton School	68
C.	Enrollment	68
D.	Carpenter Recreation Park	69
E.	Adult Education	69
F.	Childcare	70
X.	Transportation	70
A.	Goals, Objectives, Policies and Recommendations	70
B.	Public Highway System	72
C.	Class 4 & Trails	73
D.	Transportation Access	73
E.	Route 107 Corridor	74
F.	Waterman Road	75
G.	Road and Culvert Management	75
H.	Other Modes of Travel	75
I.	Park & Ride	76
XI.	Land Use	77

A.	Goals, Objectives, Recommendations and Policies	77
B.	Existing and Historical Land Use	78
C.	Land Use Regulations and Act 250.....	78
D.	Future Land Use.....	81
	Village Areas	82
	Foxville Hamlet	83
	Resource Conservation Area.....	84
	Flood Hazard/Shoreland Area.....	84
	Agricultural/Residential Area	86
	Commercial/Industrial Area.....	86
	Route 107 Low Density Service/Office	87
	Waterman Road Industrial Area	88
	Intermodal Industrial.....	89
	Farmland Conservation /Limited Development.....	90
XII.	Flood Resilience.....	91
A.	Goals, Policies and Recommendations	91
B.	Background.....	94
C.	Flood Hazard and Fluvial Erosion Hazard Areas in Town	96
D.	Promoting Flood Resilience.....	98
XIII.	Relationship to Other Plans.....	100
A.	Relationship to Municipal Plans	100
B.	Relationship to the Regional Plan.....	101
C.	Goals, Policies and Recommendations	102
XIV.	Town Plan Implementation.....	102
A.	Tools for Regulatory Implementation.....	103
B.	Tools for Non-Regulatory Implementation.....	105
C.	Responsibility for Implementation.....	107

Maps Included:

- Map #1: Current Land Use
- Map #2: Future Land Use
- Map #3: Natural Resources
- Map #4: Transportation
- Map #5: Utilities, Facilities and Education

I. Introduction

A. Foreword by Planning Commission

The Planning Commission has developed this Plan based on the premise that the majority of the citizens of the Town wish to preserve the rural, small town character of Royalton.

It is the purpose of this Plan to provide a statement of how the Town has reached its present state, elements of the Town that should be preserved, recommended policies for future development, and a blueprint for how those policies could be expanded and implemented.

B. History of the Town Plan

Royalton was patented in 1769, and settlement of the village began soon thereafter. By 1791 there were 149 families in the Town and by 1807 Royalton village was large enough to support a distinguished academy.

Situated on the White River and its First and Second branches, the Town's 25,815 acres include rich, level, bottom land which has provided a livelihood for generations of farmers. Moving away from the rivers, the land changes quickly to rugged, rocky hillsides which historically limited agricultural, residential and commercial development.

In 1848, the railroad came to the valley and the village of South Royalton came into existence. With the railroad came growth, and South Royalton became a center of commerce for the area.

From 1870 to 1970, Royalton's history is similar to that of most rural Vermont towns. Growth slowed and there was a major out-migration moving west to better farmland and jobs. Population stabilized in the 1900's and remained relatively flat well into the 1960's. Growth and the outside pressures for change were not significant issues facing the Town.

The building of Interstate 89 in the 1970's and the founding of Royalton College, soon to become Vermont Law School, brought profound change. The Interstate reduced traffic to local businesses on Route 14. As growth took place north and south of Royalton along the highway, and especially in the White River/Lebanon/Hanover area, population began to spill over to Royalton, accelerating the Town's growth and putting increased pressure on limited land, public services, school facilities, and economic resources.

Planning was started in Royalton in 1974. The initial planning considerations were centered around flood plain regulations and the preparation of the first Town Plan. After multiple rewrites and positive discussion concerning Royalton's future, the first plan was adopted in 1988 and subsequently re-adopted in 1993. Regional influences and changing community values drive the requirement to re-evaluate the plan on a continuous basis. An extensive revision of the Town Plan was completed by the Planning Commission and adopted by the voters of Royalton in 1997 and in 2001. A revision was completed by the Planning Commission during 2007, and approved by the voters of Royalton on March 6, 2007. This new revision was completed by the Planning Commission in December of 2014, in preparation for an Australian Ballot vote in March 2015.

C. Town Plan Purpose

The Royalton Town Plan provides a framework to be used for accomplishing community aspirations. It gives specific guidance, while retaining enough flexibility to be useful when faced with unforeseen circumstances. The Plan states goals, objectives, and recommendations for action that will guide future growth and development of land, public facilities, and services.

Goals, objectives, and recommendations of a plan must be viewed as an integrated, interdependent system of statements that have clear relationships to each other and to the body of the plan. The Town Plan addresses critical areas that relate to growth and development. Goal statements, objectives, and recommendations describing specific action steps begin each chapter.

The definitions of these terms must be made clear for the understanding of each plan section as well as the coordination of the plan sections with each other.

- **Goals** are long-range aspirations which serve to establish the Town's future direction. The "goal" describes the end condition that is sought;
- **Objectives** are a measurable component of a goal which are action-oriented and designed to address outstanding town problems. Objectives are achieved, in part, by implementing planning policies;
- **Recommendations** are courses of action suggested to achieve objectives and may be used to solve existing problems or avoid their recurrence. These may include performance criteria, specific strategies, changes in administrative procedures, or suggestions for further study.
- **Policies** are definite courses of action adopted and followed by a government, institution, body, or individual for the attainment of desired objectives.

The Plan provides a guide for the protection and enhancement of our natural and cultural resources. The Plan aims to help the citizens of Royalton better define and direct the future of their community. It is a planning tool that provides a vision of what the community should be over the next 5 to 10 years.

The Plan is to be used by the Town Boards, Commissions, Departments, residents, and businesses in a number of ways:

1. To provide a framework for planning the future of the Town;
2. To assist in the development of a Capital Budget and Program;
3. To direct the formulation of departmental policies and strategies;
4. To serve as a basis for responding to Act 250 permit requests;
5. To present a framework for developing zoning and subdivision bylaws;
6. To supply data and solutions for planning issues;
7. To recommend future planning studies and funding sources.

D. Implementation Strategies

Adoption of this new Town Plan presents an opportunity to direct the changes that are already occurring in Royalton. The primary tools for directing growth are this Town Plan, the Town's existing by-laws and ordinances, and the volunteer work of Royalton's citizens.

Recommendations are listed at the beginning of each chapter of the Plan. These are actions designed to achieve objectives, carry out policies, and determine priorities.

E. Town Regulations

The Town of Royalton has an array of regulatory tools to carry out the land use goals and objectives of this Town Plan. Town ordinances must be reviewed and revised based on this Town Plan as well as current needs and conditions. Copies of these ordinances are available at the Town Offices. These revisions, guided by the policies and objectives of the Town Plan, will be extremely important to the future of the Town. They will be based on decisions made with the long-term common good in mind. These tools include:

- **Solid Waste Management Implementation Plan** – This Plan is under review by the state and describes municipal policy on separation, recovery, collection, removal, storage and disposition of solid waste including recyclables.
- **Emergency Management and Disaster Mitigation Plans** – The Town has adopted an updated Local Emergency Operations Plan and is in the process of updating its Hazard Mitigation Plan. The LEOP identifies people to contact in the event of an emergency. The HMP identifies the hazards to which the Town is vulnerable and measures to mitigate them.
- **Flood Hazard Area Zoning Bylaws** - This bylaw was rewritten in 2007 and outlines regulations that apply to any construction or filling in areas of town deemed to be flood hazard zones in accordance with the Flood Insurance Study prepared by the Federal Emergency Management Agency.
- **Official Map** – The "official map," as it is called in the Statutes, documents the location and width of existing and proposed highways and drainage ways and the location of all existing and proposed parks, schools and other public facilities
- **Highway Policy** - This policy has been in effect since August 2001. The policy describes existing road classifications, road reclassification, new road construction standards, road acceptance, Class 4 roads, access roads, highway planning, recreational vehicles, overloads, and maintenance of town highways.
- **Highway Access Ordinance** - This ordinance was revised and readopted in November 2007. The Ordinance establishes requirements for permits for driveways to be built accessing town roads. Requests are reviewed by the Selectboard for safety and drainage.
- **Telecommunications Facilities Ordinance** – This ordinance, adopted October 1998, grants the Selectboard authority to regulate the construction, alteration, development and decommissioning of wireless telecommunications facilities within the town.
- **Pollution Abatement Facility Ordinance** – Royalton has a Pollution Abatement Facility Ordinance which includes an Occupancy/Use permit issued when construction has been completed in compliance with applicable ordinances.

- **Sprinkler System Ordinance** – The Fire District is currently drafting a Sprinkler System and Use Allocation Ordinance.

Other Town ordinances have been adopted in Royalton to regulate:

- Alcoholic beverages possession and consumption
- Animal control
- Off Road Vehicles
- Non-motorized vehicles
- Road Naming
- Recycling
- Traffic (including parking regulations)

Based on the response to a survey conducted in 2004, the Town should consider adopting modest zoning regulations and a subdivision ordinance. The Town should consider adopting a sign ordinance and standards to regulate aggregate sign size. The Town of Royalton is considering adopting an ordinance to regulate junkyards.

F. Other Regulatory Methods

- **Act 250:** Presently, the State Land Use and Development Law, regulates some land development by requiring permits prior to construction. These permits, issued by the District Environmental Commission, determine the objectives for land development in the Town of Royalton based on the ten permit criteria stated in the law.

By law, the District Environmental Commission must consider Royalton’s Town Plan as input in deciding permit conditions for commercial developments on more than one acre or for residential development of six or more lots. Also by law, both the Selectboard and the Planning Commission have party status in all Act 250 proceedings involving land in Royalton and may testify on each of the ten criteria. The Town Plan provides the Town and the District Environmental Commission with an important standard for review and comment on Act 250 applications.

- **Capital Budget and Program:** The Town does not have a Capital Budget and Program.

G. Non-Regulatory Methods

The following are techniques of development control and guidance that are implemented by individual residents or property owners.

- **Land Trusts:** Land trusts are generally non-profit organizations dedicated to the protection of land resources and can be created to help individuals conserve their land. Property owners can also create a land trust. Because of their non-profit status, most contributions of lands or funds are deductible from federal income taxes.
- **Restrictive Covenants:** An individual property owner can achieve the long-term conservation of land through placing development restrictions or covenants in deeds used to transfer land to new owners.

- **Use Value Appraisal (“Current Use”) Program:** A State program designed to enable owners of working farms and managed woodlots of over 25 contiguous acres to pay property taxes that are based on the agricultural or forestry value of the land as opposed to the development value of the land.

Many of the recommendations relate to one or more of these existing tools. In addition, the Recommendations focus on new studies to be conducted by the Planning Commission, citizen advisory groups, Town departments, state and regional agencies and others. Recommendations also call for the adoption of an official map, regulations, an Advisory Design Review Process and many other specific actions.

H. Process for Modification and Updating

The Town Plan is a dynamic document and represents a process just as much as it does a product. The nature of growth and change quickly dates the data contained within the Plan. The Plan must be readopted at least every five years. When possible, updated statistics should be added to the plan being readopted. Of course, other revisions and modifications will most likely be needed to reflect changing conditions. While the Planning Commission is responsible for maintaining the Town Plan, any individual or group may initiate changes. Title 24 of Vermont Statutes Annotated (V.S.A.) Section 4384 details the procedures to be followed for the adoption of plans and any amendments.

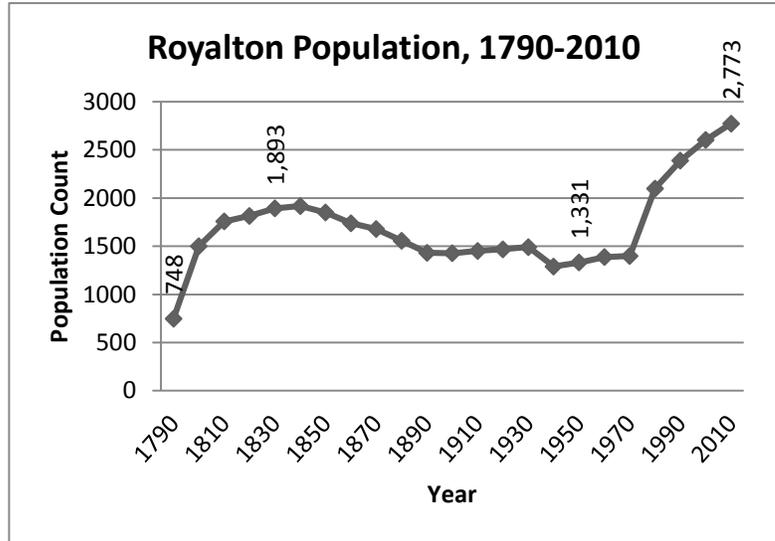
I. New in this Plan

The 2014 version of the Plan has been revised primarily to keep up with changes in state statute, update census data and to correct any out-of-date elements. This Plan includes the now required Flood Resiliency Element as well as updates to the Economic Development chapter and Energy Chapters. The most notable change in land use policy comes with the expansion of the Village Area around Royalton Village. Also important to know is that where previous versions of this plan referenced the Exit 3 study as an external document, the information in the report has now been merged into this Plan.

II. Demographics

A. Population

Existing population characteristics, past trends and future projections are all major considerations in the town planning process. An increasing population within a community is in most cases accompanied by an increase in demands for municipal services. One main purpose of proper community planning is to anticipate, plan for and guide population growth in such a way that the increasing demand for municipal services does not outweigh the town's ability to accommodate this growth. Another purpose of proper community planning is to anticipate and have a plan for the other extreme of population loss.

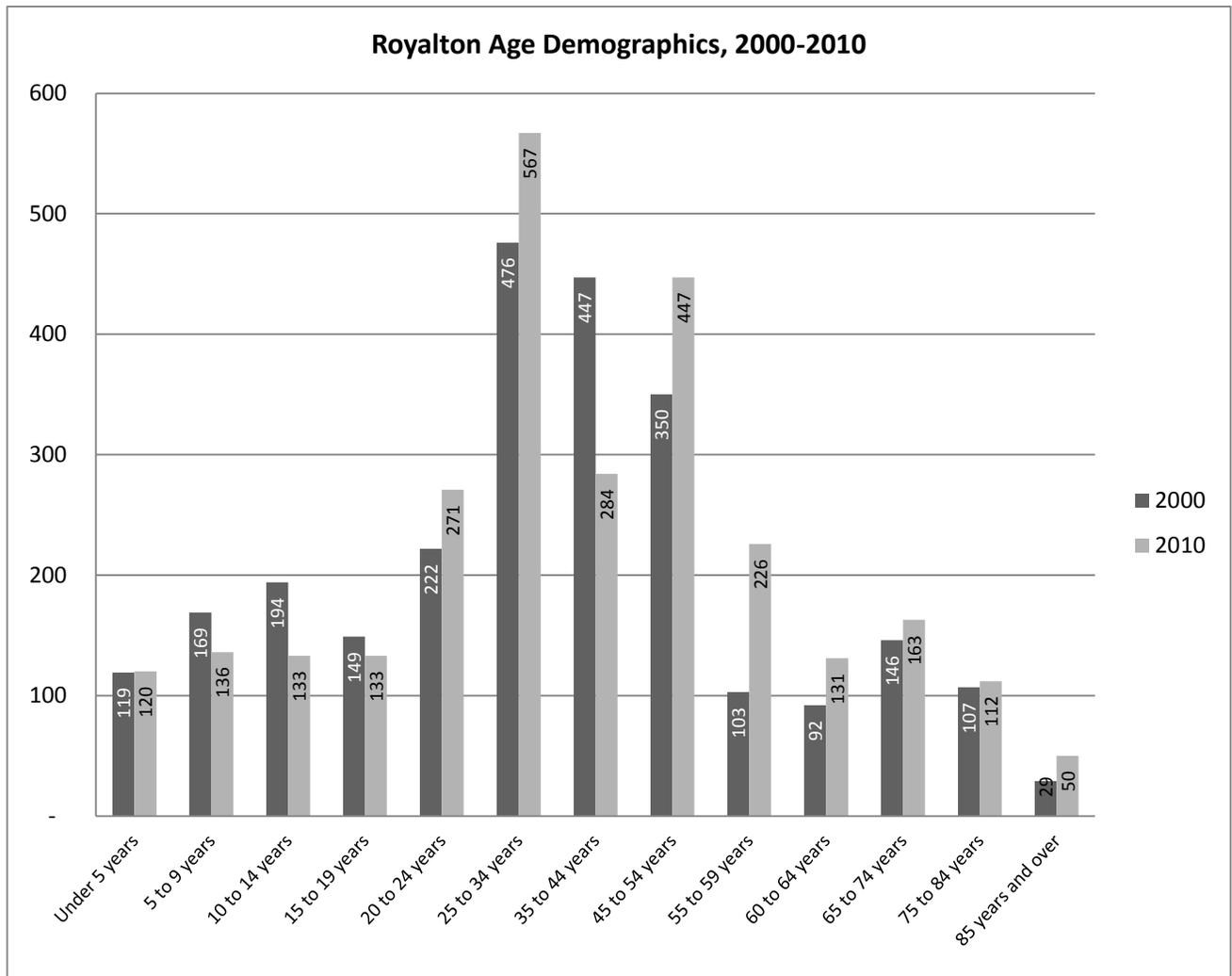


1 - Town of Royalton Population (1900 - 2000)
Source: U.S. Census 2010

Royalton has been experiencing population growth since the 1970s up until 2000. The following graph illustrates Royalton's population pattern over a 100-year period. The population figures have been taken from the U.S. Census 2000. As illustrated in figure 1, Royalton's population grew slowly and steadily between 1900 and 1970, except for a 13% decrease from 1930 to 1940 (200 people). Between 1970 to 2010, however, the population expanded by 95%, or by 1374 in total.

	1970	2000	2010	1970-2000	2000-2010
	Census	Census	Census	% change	% change
Royalton	1,399	2,603	2,773	86.1%	6.53%
Barnard	569	958	947	68.4%	-1.15%
Bethel	1,347	1,968	2,030	46.1%	3.15%
Pomfret	620	979	904	57.9%	-7.66%
Randolph	3,882	4,853	4,778	25.0%	-1.55%
Sharon	541	1,411	1,502	160.8%	6.45%
Strafford	536	1,045	1,098	95.0%	5.07%
Tunbridge	791	1,309	1,284	65.5%	-1.91%

2 - Population Change in Royalton & Surrounding Towns (1970 - 2010)
Source: U.S. Census



3 - Royalton Age Demographics, 2000-2010 - Source: U.S. Census

Royalton’s population growth during the 1970-2010 period is compared in Figure 2 to the growth in the surrounding towns. According to these data, Royalton experienced a higher rate of growth than all of its neighbors during the first 30 years, except the towns of Sharon and Strafford. During the decade between 2000-2010 when many communities lost population, Royalton continued to gain. As indicated in Figure 3 below, between 2000 and 2010 population increases occurred primarily in the 25-34 year age group. There were nearly 20% more residents aged 25-34 in Royalton in 2010 than in 2000. This increase is most likely due to the influx of students who attended Vermont Law School during the decade. But, it should be noted that 60% of the residents who were 25-34 in 2000 did not appear to remain in Royalton a decade later when they would have been 25-44 years of age. The loss of young adults (generally between the ages of 25-35) has been a concern throughout Vermont during the past decade. Often referred to as a “brain drain,” the out-migration of young adults raises concerns on both economic and social levels. Without a talented and well-educated pool of young workers, there are worries that towns will find it increasingly difficult to attract and retain well-paid jobs, which in turn can have serious repercussions for the community’s capacity to raise tax revenues and pay for essential services. Young adults who leave their rural communities often do so because communities lack the resources commonly sought after by people of their age group, such as reliable high speed internet access, clear cell phone

reception and opportunities for social interaction with others of their age group. While many younger residents do not appear to remain in Royalton, it does appear that the 447 residents who were 35-44 in 2000 years of age remained in the community a decade later (45 to 54 years of age), with no net loss in this age group. Unlike many neighboring communities and Vermont as a whole, Royalton does has a smaller elderly population. In 2010, 11.7% of the population was over 65 years of age, which is lower than Windsor County (18%) and the State of Vermont (14.6%). Vermont has the lowest birth rate in the nation (10.4 births per 1,000 of population, compared with 14.2 for the U.S) which, when coupled with immigration of residents over 55, results in an aging population that will need services that are not readily available in a town like Royalton.

III. Natural, Scenic and Historic Resources

A. Goals, Objectives, Policies and Recommendations

Goals:

1. To identify, protect and preserve the natural and historic resources of Royalton.
2. To maintain and improve the quality of air, water, wildlife and land resources.
3. To support and encourage the protection of all the waters in the White River watershed.
4. To encourage and strengthen agricultural and forest businesses.

Objectives:

1. Carefully review all development projects to ensure minimal negative impact on Royalton's natural and historic resources.
2. Actively plan for the conservation of unique resources.

Recommendations:

1. Continue to assemble accurate maps to assist in proper planning and in the review of development proposals.
2. The Conservation Commission should study and develop strategies to protect long-term viability of agricultural and forest lands.
3. Continue to encourage the use of locally grown products - particularly in the local schools.
4. Develop regulations to protect natural and historic resources of outstanding value from adverse development that would impair their character or quality, and to encourage development that preserves our resources as listed later in this Chapter.
5. The Town Historic Preservation Committee should seek Certified Local Government Status to secure funding and training for historic preservation programs and projects. A survey and nomination to the National Register of Historic Places should be completed for Royalton Village. An architectural survey of Foxville may be undertaken.
6. Historic Landmarks not yet designated should be identified and designation secured.
7. A survey of Route 14 and Route 110 for nomination as possible scenic highways should be undertaken.
8. Adopt regulations governing the extraction of earth resources.

Policies:

1. Land Development Criteria

- All land development shall be conducted in a manner to prevent erosion.
- All land development on slopes greater than 25 percent shall be severely restricted; in addition, vegetative cover shall be retained where possible and re-established on disturbed soils.
- New construction shall be consistent with existing development patterns in terms of scale, massing, building materials, siting, signage, landscaping, and density.
- Development will generally avoid areas with shallow soils.
- No habitation will be permitted in areas where the depth to seasonal high water table is 0 to 1½ feet.
- Development, other than isolated houses and camps, will be designed to preserve continuous areas of wildlife habitat, such as deer wintering areas.

2. Resource Lands and Natural Areas

- Promote continued use of agricultural and forest land for sustained farming and forestry activities.
- Development within agricultural districts may be required to be clustered to protect important resource land.
- Development or intensive land uses shall not be located in mapped wetlands or within buffer zones to significant wetlands.
- Development within shoreline areas of streams, rivers, or ponds will be compatible with the natural beauty of the area, protect existing vegetation, and be set back sufficiently to prevent erosion and pollution. Visual and physical access to the water bodies should be retained.
- Buffer strips should be utilized where they will minimize flood hazards and maintain stream bank stabilization.
- Public funds will be directed away from development that could harm fragile natural resource areas.
- Critical wildlife habitat designated in the plan should be protected from incompatible uses.
- Good forestry practices as defined by the Vermont Department of Forests, Parks & Recreation are encouraged of all forestry operations conducted within Royalton. Any subdivision of forests should result in parcels of such dimension, geographic and topographic configuration as to be practical and economic for good forestry management and that, in such subdivision, access to all resulting and remaining forests in Royalton is assured.
- Earth resource extraction operations shall be conducted in such a manner as to be consistent with the goals in this chapter and the requirements of Act 250.

3. Areas Potentially Hazardous to Human Life and Health

- No land alteration that adversely interferes with the natural flow of water to surface waters will be allowed.
- The preferred uses for flood hazard areas should be for open space, greenbelts, pastureland, recreational and agricultural uses.
- Development which will contaminate any water supply will not be permitted.

- All development other than uses and structures essential to the operation of agriculture, forestry, outdoor recreation, and wildlife protection will be restricted in floodways.

4. Historic Resources

- Reuse of historic structures and their environs is to be encouraged. Rehabilitation, and applicable supporting federal tax incentives, should be carefully considered before demolition is permitted. Examples of adaptive reuse include the Brightwood House and The Royalton Academy.
- Persons reusing buildings within the historic districts are encouraged to use the Secretary of the Interior's Standards for Historic Preservation Projects as guidelines for planning repairs and alterations.
- Commercial and public activities should be located in existing buildings within the existing village centers. Strip development is not consistent with this plan ~~generally discouraged~~. New construction along Routes 14, 107, and 110 shall be compatible with existing and neighboring setbacks, signs, parking, and building materials.

B. Background

Natural and scenic areas in Royalton record geologic history and reflect the past and present use of our land resources. Such resources are greatly appreciated by the citizens of Royalton as the source of much of the community's beauty and character. The following features have been identified, without limitation, as contributing to the essential rural character of the Town even as growth and change may occur.

C. Primary Agricultural Land

As used in this Plan, “primary agricultural land” means soils which have a potential for growing food and forage crops, are sufficiently well drained to allow sowing and harvesting with mechanized equipment, are well supplied with plant nutrients or highly responsive to the use of fertilizer, and have few limitations for cultivation, or have limitations which may be overcome. In order to qualify as primary agricultural soils, the average slope of the land containing such soils cannot exceed 15%, and such land must be of a size capable of supporting or contributing to an economic agricultural operation.

Because it is already cleared, open and dry, primary agricultural land is also highly desirable for development. Preserving these lands will protect an important part of the Town's rural character and scenic beauty, provide a local food source, and encourage the continuance of farming as a local business activity.

According to the 2007 Census of Agriculture by the USDA, Royalton has a total of 72 working farms. Of these, 22 farms were located on less than 50 acres, and 50 were larger farms. There were 9 dairy farms, 34 cattle farms, 10 sheep and goat farms, and 40 crop farms (including greenhouses). Horse farms, though not listed in the census, also account for a substantial part of our town’s agricultural activity. Compared to the 2002 Census of Agriculture, the total number of farms in Royalton has increased by 9%. The number of farms on less than 50 acres remained static, but there was a 13% increase in the number of larger farms. The number of farms harvesting cropland has also increased since 2007 by nearly 43%.

D. Productive Forest Soils and Secondary Agricultural Soils

Vermont's Act 250 defines "productive forest soils" as those soils which are not primary agricultural soils but which have a reasonable potential for commercial forestry and which have not been developed. In order to qualify as productive forest soils, the land containing such soils shall be of a size and location, relative to adjoining land uses, natural condition, and ownership patterns so that those soils will be capable of supporting or contributing to a commercial forestry operation. Land use on those soils may include commercial timber harvesting and specialized forest uses, such as maple sugar or Christmas tree production.

As used in this Plan, "productive forest soils and secondary agricultural soils" means soils which are not primary agricultural soils but which have reasonable potential for commercial forestry or commercial agriculture and which have not yet been developed. If a tract of land includes other forests or agricultural soils, only the productive forest soils or secondary agricultural soils shall be affected by criteria relating to such soils.

It is recognized the forests of Royalton are an asset and important natural resource. Forests provide fuel for our homes and lumber for wood-based industries, stabilize water and soil, provide wildlife habitat, are a recreational resource, and play a vital role in providing the oxygen in the air we breathe through photosynthesis.

In 2014, available map data indicated that there were 5,205 acres identified as "woodland", which is defined in the Vermont Department of Taxes Lister's Handbook as "undeveloped land that is mostly wooded." A total of 9,419 acres of land were enrolled in the State's Current Use program in 2014. The Current Use program taxes at "use value" enrolled parcels with at least 25 contiguous acres of forest land managed according to state standards and an approved forest management plan, or at least 25 contiguous acres in active agricultural use; or smaller parcels which generate at least \$2,000 annually from the sale of farm crops; or actively used agricultural land owned by or leased to a farmer. Towns are reimbursed by the State for the reduction of property taxes caused by reduced Use Value.

E. Earth Resources

The use and management of Royalton's earth and mineral resources are matters of public good. "Earth resources" are naturally occurring materials taken from the soil or the strata beneath. In Royalton, identified earth resources are water, sand and gravel. Issues incidental to mineral extraction include creation of excessive dust and noise, increased truck traffic through residential neighborhoods, surface and groundwater contamination, degradation of the site or wildlife habitat, loss of scenic character in the immediate area, and undue deterioration on state and town roads. Steps must be taken by those using these resources to avoid or minimize any adverse impact due to noise, dust, traffic, transportation congestion, or roadway deterioration and ensure the site will be restored to an acceptable condition once work has been completed. Utilization of these resources should be as such that it does not significantly inhibit or conflict with other existing or planned land uses, or are in conflict with other stated goals in this Plan. There are two primary operating gravel pits – the Carpenter pit and the Crawford pit – as well as several other smaller pits in Royalton as of 2013. Operations should be as such to provide for the wise

and efficient use of Royalton's earth resources and to facilitate the proper restoration and preservation of the aesthetic qualities of the area.

F. Groundwater

Virtually everyone relies upon groundwater for domestic and commercial water supply. Protecting the primary water supply requires protection of the groundwater from contamination by protecting surface waters, wetlands, and watershed and recharge areas. Contamination sources of concern include old industrial and town solid waste disposal sites, leaking underground fuel storage tanks, continuing use of improper industrial floor drains, accidental fuel or chemical spills, poor agricultural practices, road salt, and failed septic systems.

The groundwater that supplies Royalton's public wells (see Water Service, described in Chapter IV, Section C) and private wells is pumped or pushed to the surface from an underground aquifer. An aquifer is an underground area of saturated sand, gravel, or fractured bedrock that is permeable enough to yield water through wells or springs. The surface area that drains into an aquifer is called a recharge area. Water tables are typically less than 10 feet below land surface, soils are thin except along valley floors, and fractured crystalline bedrock provides little in terms of filtration. Given the present level of ground water mapping in Vermont, there is little data to distinguish between the vulnerable and less than vulnerable resource.

G. Shorelands

As used in this Plan, "shorelands" means publicly owned ponds, and those lands which border rivers and the tributaries which feed into those rivers. These areas are natural extensions of these water bodies. They retain excessive amounts of water occurring as runoff during heavy rains and spring thaws, and impede the velocity of water flow during floods.

It is recognized that the White River, its tributaries and the resulting valley is a significant natural resource of Royalton. The White River, beginning in Granville, flows into Royalton from the west, where it is joined by the Second Branch at the intersection of Route 14 and Route 107, and joined by the First Branch flowing from Chelsea at the intersection of Route 14 and Route 110. From Royalton, it runs parallel to Route 14 to Sharon. Brooks which serve as tributaries to the river include Broad Brook, Sewall Brook, Lyman Brook, and Joiner Brook. These brooks are often fed by wetlands, ponds and beaver ponds near the top of the hills and ridges. The water quality of the White River has improved greatly since the installation of sewage treatment plants in upriver towns, (Bethel, in 1983, and Royalton, in 1979).

Important public access areas to the White River include Sinclair's Rocks, Pinch Rock, Foxstand, Royalton Bridge, Paine's beach, the Carpenter Land, and the Vermont Law School parking lot. The Vermont Agency of Natural Resources, and the White River Partnership are working together to encourage land use development practices that avoid or mitigate adverse impacts on the White River, its tributaries and wetlands.

H. Wetlands

The State of Vermont defines wetlands as areas inundated by surface or ground water with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands are ecologically fragile areas and how these lands are managed have a direct bearing on the quality and quantity of water resources. The Vermont Water Resources Board estimates that wetlands comprise less than 5 percent of the surface area of Vermont. In addition to being Vermont's most productive ecosystem, wetlands serve a wide variety of functions beneficial to the health, safety and welfare of the general public, including the following:

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

In 1986, Vermont adopted legislation for the protection and management of wetlands [10 V.S.A., Chapter 37]. Determination of whether a wetland merits protection is based on an evaluation of the extent to which it serves the general functions outlined in the bulleted list above.

Under the Vermont's Wetland Rules, if land development can be expected to impact a protected wetland, such activity cannot commence unless the Vermont Agency of Natural Resources first grants a Conditional Use Determination (CUD). A CUD will be granted when the proposed use will not have an undue adverse impact on the function of the wetland. In many cases, such approvals are granted with conditions to mitigate impacts and to more readily protect wetlands.

For Royalton, as well as the State, the most significant wetlands have been mapped. These wetlands have been delineated on USGS topographic maps, and by reference are made a part of this Plan (see Map 3, Natural Resources). Other smaller wetlands often do not show on these maps, so a field determination by a qualified biologist is needed for most activities that involve state permits. There are approximately 274 acres of mapped wetlands in Royalton.

I. Flood plains

Floods are inevitable and uncontrollable natural events which occur sporadically and affect lands adjacent to watercourses. It is therefore in the public interest to plan for floods, and to implement land use strategies which will protect these areas and minimize the risks to public health, safety, and property.

Floodplains, lands adjacent to watercourses (rivers, streams and brooks), are periodically inundated by heavy rains or during spring thaws. They are porous and can absorb considerable water before reaching flood stage. Floodplains make excellent agricultural land but are poorly suited for development, both because of their propensity for flooding and because of their proximity to watercourses, which creates the

potential for pollution. Approximately 772 acres in Royalton are within the mapped flood hazard area, which is 3% of the total land in the community.

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

National Flood Insurance Program (NFIP)

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

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

FEMA also administers the National Flood Insurance Program, which provides flood hazard insurance for property owners in affected areas. In order to qualify for federal insurance, towns must adopt and retain a by-law to control land development within these areas. Minimum standards must be included and approved by FEMA. Coverage is only available to landowners in town if a town elects to participate in the program. The Town of Royalton maintains a stand-alone Flood Hazard Bylaw as part of, and is recognized as a participating community in the National Flood Insurance Program. Royalton's Flood Hazard Bylaw prohibits the development of any new primary structures (residential or commercial) in the floodplain. This exceeds the minimum standard of regulation required by the NFIP.

Two Rivers-Ottawaquechee Regional Commission has determined that approximately 29 buildings (including 22 residences and 7 commercial buildings) have been identified as being located within the mapped flood hazard areas. Mortgage lending institutions require as a prerequisite to financing that flood insurance be purchased on property subject to flooding.

River Corridor Areas (Fluvial Erosion Hazards)

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

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

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

Severe Flooding Events

In 2011, Vermont was struck by Tropical Storm Irene, which inundated the region with heavy rains and severe flooding. Regional damage was severe enough to warrant a federal disaster declaration. In Royalton, significant impacts were felt throughout town. A majority of damages caused by Tropical Storm Irene took place within the White River's river corridor area, some of which is outside of the mapped floodplain. Three properties were so severely damaged that they were considered a total loss by FEMA.

The impact of Irene on Royalton has made it clear that the community must continue protect the Flood Hazard Area from new development. The devastation caused by Irene within the Flood Hazard Area (FHA) and outside the FHA in river corridor areas indicates that development in these areas carries high risk.

J. Flora, Fauna and Natural Communities

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

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

wetlands, vernal pools, and deer-wintering areas and ecotome (the edge transition zone between two cover types, such as field and forest). Development or logging in or adjacent to these areas should consider wildlife implications during the planning process. Wildlife is one of the primary attractions to the area and provides many citizens of Royalton with direct and indirect livelihoods from sports, tourism and direct harvest of wildlife.

The array of wildlife habitats in Royalton are home to a wide variety of animals, insects, and plants. There are areas in Royalton which provide critical habitats for certain animals, including white tailed deer, birds, black bear, and bobcat. Every new development in town results in an incremental loss or change to wildlife habitats. Sensitive land use planning can lessen or mitigate the impact on wildlife habitats. For example, housing development or excessive logging can have detrimental effects on deer wintering areas. If an area proposed for development encompasses a deeryard, utilizing certain planning strategies can lessen the impact on the area. Should the entire area be winter cover, clustering of homes within an area of the project site will still enable deer to retain most of their habitat. State biologists are available to work with landowners and developers interested in planning projects in ways that reduce the impact on critical wildlife habitats, rare and endangered species, and other critical natural communities.

Wintering areas are an important habitat requirement for deer during the critical winter months when snow depth and climate are limiting factors to survival. Typically these areas consist of mature softwood stands, at low elevations or along stream beds, which provide cover and limit snow depths. Southerly facing slopes are also beneficial due to good sun exposure and may be utilized even in areas of limited softwood cover. More specific factors, such as percent canopy closure, species of softwoods, and stand age, also figure into the quality of the wintering area. Royalton has approximately of 5557 acres (21% of Royalton's total acreage) of mapped deer wintering yards.

Wildlife management requires management of human activities around animals as much as management of animals around human activities. Managing for specific species is not as desirable as managing for the entire ecosystem supporting the species. Parochial wildlife management programs usually manage for one species at the expense of others, while a more ecological approach is to ensure healthy habitat for all components of the ecosystem. The Vermont Non-Game and Natural Heritage Program has identified several sites in Royalton that are habitats for rare, threatened or endangered species. Large tracts of forest land, riverines, floodplains, and cliffs are natural communities for many habitats.

There comes a point where a species cannot use seemingly adequate habitat because of adjacent development. While certain strategies may lessen the impact on habitat, planners and developers should keep in mind that almost every development will affect the ecological balance. It should be noted, however, that high density or intensive land uses are more likely to have a negative impact on the quality of wildlife habitats.

Most important when considering development and its impact on wildlife is the concept of habitat fragmentation. Forests provide habitat to a diverse population of wildlife, which are negatively impacted when forested land is fragmented through development. Forest fragmentation affects water quality and quantity, fish and wildlife populations, and the biological health and diversity of the forest itself. When many small habitat losses occur over time, the combined effect may be as dramatic as one large loss. Forest fragmentation can disrupt animal travel corridors, increase flooding, promote the invasion of exotic

vegetation, expose forest interiors, and create conflicts between people and wildlife. Habitat loss reduces the number of many wildlife species and totally eliminates others.

To help mitigate the effects of human population growth and land consumption, many scientists and conservationists urge governments to establish protected corridors, which connect patches of important wildlife habitat. These corridors, if planned correctly, allow wildlife to move between habitats and allow individual animals to move between groups, helping to restore or maintain genetic diversity that is essential both to the long-term viability of populations and to the restoration of functional ecosystems. Because of its generally low density, Royalton maintains a substantial amount of good quality wildlife habitat.

K. Natural Areas

The blend of small scale human activity among the green hills rising like waves above the White River Valley give Royalton much natural beauty which provides great satisfaction and pride to the community's citizens. The Kent's Ledge area is the most striking of these areas, but equally worthy of preservation are the Elephant, Russ Hill, Royalton Hill, the Pinnacle behind Royalton Village, and Broad Brook Mountain.

Development has occurred historically on the valley floor, along the town roads that ascend the hills, and along the town roads that traverse the ridges. This has allowed the hills and steep brook valleys to remain undeveloped and used for forestry, hunting, fishing, trapping and other outdoor recreation activities.

Macintosh Pond (33 acres) is a State natural area located within Royalton. Other publicly conserved lands in Royalton include the Sarnoff property (46.3 acres), which has been renamed the Royalton Town Forest, and several other smaller lots.

Many parcels of land are privately conserved in Royalton, using the stewardship services of organizations such as the Upper Valley Land Trust, as well as through private conservation easements.

L. Recreation Lands

In Vermont, the public has been accustomed to using privately owned lands for hunting, fishing, and hiking and, more recently, snowmobiling and skiing. In the past there was little restriction of public access to private land and, indeed, State laws on landowner liability encourage landowners to allow this access. The continued use of these lands for recreation is a matter to be settled between owners and would-be users, and should result in a pact made and honored by the users to be responsible and considerate in their transit of private lands.

Public or semi-public recreational lands include the Royalton School fields, Paine's Beach, Carpenter Land, the two village greens, and various river accesses.

M. Scenic Areas

As used in this Plan, “scenic areas” are areas which by general consensus are considered visual assets to the Town such as vistas, landscapes, sections of roads and highways, and undeveloped river frontages. These scenic areas help to define the present character of Royalton and are an asset which attracts visitors who, while they are here, provide income to Town retailers, restaurants, and inns. Specific areas recognized include:

- the White River and its branches and the valley farms along the same;
- views from Dairy Hill Road looking west,
- Russ Hill Road looking west,
- North Road looking west and north,
- Royalton Hill Road looking north,
- Johnson Hill Road looking east and north,
- and Broad Brook Mountain looking east and west;
- views of the Elephant, Kent's Ledge, and Sawtooth Mountain;
- views of and from the village greens;
- and views from the bridges across the White River and views from I-89 of the South Royalton and Royalton Villages, the White River, and the open lands in this corridor.

Development in these areas shall be in a scale, size, land use type, architectural style, and density that is consistent with the land use of the area and does not significantly diminish the scenic value of the area. The aesthetic appeal of a scene shall not be diluted or despoiled by highly visible, skyline development out of character with the surrounding areas or creating a significant view barrier.

N. Historic Resources

Historic sites and structures are the visual history of Royalton's cultural, social, and economic life. Buildings, structures, and historic settings, such as the two Town commons, roads, and cemeteries provide a source of pride, economic gain, and personal enjoyment for present and future generations.

Historic Landmarks include the Joseph Smith Birthplace, South Royalton Village (listed on the National Register of Historic Places as a historic district). Royalton Village has been declared eligible for the National Register, and Mill Village (listed on the National Register as a significant complex).

Further identification of existing historic resources can be found from books by Nash, Lovejoy, and articles on the Royalton Raid. Existing maps include Sanborn Insurance Company maps, dated 1894, located in the Town Offices in South Royalton as well as the Vermont Historical Society. Existing surveys include a 1974 Historic Sites and Structures Survey of Royalton conducted by the Vermont Division for Historic Preservation. Deeds and other land records can be found in the Town Offices in South Royalton.

Criteria for Historic Structures

When considering whether a structure or site is historic, the following will be taken into consideration:

- Age - Local buildings which predate the 1927 flood can generally be considered for designation. The National Register of Historic Places usually expects a property to be at least 50 years old.
- Historical significance - The structure or site should be tied to local, state or national trends or events. The Royalton Raid is an event; the coming of the Railroad and parallel construction is a trend.
- Architectural significance - The structure should be representative of a local, state or national architectural style. Its elements should reflect architectural details appropriate to its age and style. Significance may be attributable to engineering excellence or integrity of materials in use during a given period of time.
- Criteria applied by the National Register of Historic Places and the Vermont State Historic Sites and Structures Register may apply as well.

IV. Agriculture and Forestry

A. Goals, Policies and Recommendations

Goals

1. Encourage the conservation, wise use, and management of the town's agricultural and forestry resources, to maintain its environmental integrity, and to protect its unique and fragile natural features.
2. Protect the Town's rural agricultural character, scenic landscape, and recreational resources.
3. To encourage the economic growth of agricultural and forest operations at a scale that is appropriate for Royalton.

Policies

1. It is the policy of the Town that where contiguous areas of high-value farming or forestry exist, or have significant potential to exist, fragmentation of these areas into uses other than those incidental to agriculture or forestry should be discouraged.
2. It is the policy of the Town that where high value agricultural and forested land are identified, clustered or peripheral development is especially encouraged to protect such resources and prevent fragmentation and sprawling settlement patterns.
3. It is the policy of the Town that contiguous forest and significant agricultural areas should remain largely in non-intensive uses unless no reasonable alternative exists to provide essential residential, commercial and industrial activities for the Town's inhabitants.
4. It is the policy of the Town that farmers, loggers, and foresters should use Accepted Management Practices (AMP) and are encouraged to implement Best Management Practices (BMP) in their operations and to minimize point and non-point source pollution.

5. It is the policy of the Town to support the development of value-added farm and forestry products.
6. It is the policy of the Town to encourage the development of agritourism and other agriculturally related on-farm enterprises.
7. It is the policy of the Town to continue to support the Royalton Farmer's Market.

B. Background

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

C. Farm and Forest Land Issues

Land and Taxation

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

Current Use Taxation

For farmland and forestland conservation to be successful, the pressures posed by the market value approach to taxation must be solved for both the landowner and municipality. One means to address this issue has been the Vermont Current Use Program administered by the State which sets the valuations on farm and forest land based on their productivity values rather than their development values. There are 9419 acres of land in Royalton enrolled in the Current Use Program, this amounts to nearly 36% of all lands in Royalton.

D. Agricultural Trends

An analysis of the United States Census of Agriculture data between 2002 and 2007 (2007 being the most recent period of data collected) shows that farming in Vermont is slowly shifting away from the larger scale farm that developed as a result of trends toward consolidation. Between 2002 and 2007, the number of farms in Vermont increased by 6%. The average size of farms decreased from 189 acres to 177 acres between ag censuses. This is most likely due to the fact that 37% of Vermont's farms in 2007 were

considered “small-scale” farms that sell under \$2,500 in agricultural products per year. While the number of small-scale farms continues to grow, these farms only produce slightly less than 3% of Vermont’s agricultural income.

Despite this decrease in farm size, over the past 10 years a growing movement in sustainable agriculture—involving increased local food production and consumption, value-added processing, and diversified farms—has taken off. In 2009, the State of Vermont passed legislation that created the Farm to Plate Investment program, part of which included the creation of the Farm to Plate Strategic Plan. In 2007, USDA data indicated the estimated agricultural revenue in Vermont to be \$673 million per year. That number increased to \$2.7 billion when food product output is also considered.

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

Agricultural entrepreneurship, including agritourism and the production of farm-based value added products is a rapidly growing component of Vermont’s agricultural economy. Vermont products are increasingly recognized as representing authenticity, craftsmanship, flavor and community connections. Vermont’s farms lead the nation in per capita direct sales and food producers and manufacturers of all sizes have experienced rapid growth. Between 2009-2012 food manufacturing jobs in Vermont increased by 32%.

In Royalton, as in the rest of Vermont, the scale and style of farming has changed. The most recent Census of Agriculture (2007) reports that there are 72 farm operations in Royalton. Nearly 70% of these operations utilize more than 50 acres of land. Products grown or produced on farms in Royalton include hay, corn, maple syrup, fruit, Christmas trees, cattle, horses, chickens, pigs, sheep and goats.

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

The distinctiveness of the working landscape gives Vermont its beauty. Farms provide open space for wildlife habitat, scenic views and a connection to the land that is hard to find in other places. They also help our towns avoid sprawl and maintain small town and village settlement patterns. As such, to continue to receive the benefits farming has to offer, a community must encourage farming.

E. Forestry Trends

Three primary trends have affected the region’s forestland and its productivity. First, forests and farms have been subdivided into small lots which threaten the economic viability of forestry. Development pressure in the region has relaxed since the early 1990s, but the economy is predicted to rebound and the

trend of land moving out of forest use to other uses will continue, particularly in those areas where access and development conditions are suitable.

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

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

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

F. Sustaining Agriculture and Forestry

Planning policy and implementation efforts should be directed at sustaining agriculture and forestry pursuits and not just conservation of the resource. This is not only because it is the best way to keep the land open, but also because agriculture and forestry are critical industries in the Town and region.

Just as there are a variety of interests, there are a variety of tools than can be used to conserve these resources. Some are directed primarily at sustaining agriculture, others forestry, some are regulatory in nature, others are compensatory, and others voluntary. It is in the public interest to encourage conservation groups, landowners, local officials, and policymakers to utilize all of these tools.

Conservation Easements

Conservation easements are a common method used to ensure that the working landscape gets preserved. The Vermont Land Trust (VLT), Vermont's largest non-profit conservation organization, has conserved more than 590 parcels of land in agricultural use throughout the state, totaling 145,109 acres. Most land purchased with the intent of applying a conservation easement to it is funded, at least in part, by some

form of grant from either state or private sources. As of 2014, the State of Vermont reports that there are 1183 acres of publicly and privately conserved land in Royalton. The use of conservation easements has both pros and cons for municipalities, they include:

Pros

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

Cons

- Establishing an easement involves up-front costs, such as paying for legal counsel, biological analysis, etc.
- There are long-term expenses involved with monitoring the easement.
- The easement holder is responsible for ensuring that the restrictions placed on the easement are followed.
- Once conserved, it generally cannot be taken out of conservation.

G. Farming, Forestry and the Economy

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

There is already a growing mix of emerging entrepreneurs and long-time land-based businesses that are constantly evolving to stay competitive. They're producing biofuels, artisan cheese, specialty wood products, produce, breads, and other value-added items. It is in the best interest of Royalton to encourage the continued development of these industries and to foster local interest in these products. One way Royalton works to keep these businesses prosperous is to host a weekly farmer's market during the summer. The Royalton Farmer's Market provides opportunities for local farmers and craftspeople to sell their products and connect with local clientele. In 2014, the gross sales of the Royalton Farmer's Market were approximately \$40,000.

V. Community Facilities and Services

Community facilities are those facilities that are publicly owned and maintained structures, land, and equipment as well as any services related to them, and any facilities that are operated by private enterprise for the benefit of the whole community.

A. Goals, Policies and Recommendations

Goal:

1. To plan for, finance, and provide an efficient system of community facilities and services to meet future needs of the citizens and visitors of Royalton.

Objectives:

1. Growth and development should not exceed the capacities of local facilities and services.
2. Public facilities shall be located in South Royalton Village (sites in S. Royalton must be located within the cohesive core of the village and in Royalton Village.
3. Any expansion of infrastructure shall be made to support development in designated growth areas and to discourage strip development or sprawl.
4. Infrastructure expansion should take place with a minimum impact on the aesthetic quality of the community. Utility lines should be buried wherever feasible.

Recommendations:

1. Solid Waste: Continue educational efforts to encourage recycling by all members of the community in line with the State Universal Recycling Law, including adoption and maintenance of a Solid Waste Implementation Plan.
2. Recreational Facilities: Develop a Town recreation plan incorporating existing facilities and the newly developed Carpenter Land.

Policies:

Management of Town owned property shall comply with this Plan, in addition to any applicable Town ordinances and policies.

1. Provisions for emergency services must be considered in all development. Loop roads shall be utilized whenever possible. Culs-de-sacs or hammerheads may be used only when no other option exists.
2. ~~Enact, amend and enforce~~ Monitor and maintain local ordinances involving traffic and parking.
3. Development must be coordinated with the Town's Emergency Management Plan.
4. Development must provide for adequate storm drainage.
5. Maintain recreational land to encourage optimal use.
6. The Town should regularly assess public facility needs.
7. The Town shall maintain its web site: www.royaltonvt.com.

8. The Town shall encourage the implementation of affordable high speed internet access, such as the fiber-optic network that is being developed in the Upper Valley region.

B. Public Lands and Buildings

Publicly held properties in Royalton include cemeteries, town buildings and corresponding land, Alumni Field, and several other publicly owned parcels. According to the 2015 Town Report, approximately ~~420~~288 acres of land are held by the Town. This includes the Town Forest, which is currently being used for forestry and environmental education. Town owned buildings include the 1840 Town House, the Royalton Center Schoolhouse, the Royalton Memorial Library, the Royalton Town Offices, 250 acres of land owned by the Fire District, the Hope Property purchased for the future Town offices and fire/rescue, the historic gazebo on the town green, the Old Royalton Bank, Royalton Academy, and the Ellis Bandstand. A complete list is printed in the Town Report. The Library and Town Offices are also publicly owned buildings that require routine maintenance and that must be of adequate size to meet the needs of the Town.

On March 4, 2014, residents of Royalton approved a \$600,000 bond for the development of a new Town Office. For a number of years, there has been a great need to build a more centrally located municipal office that is more easily accessible for both residents of Royalton village and South Royalton. The current office location underneath the Royalton Memorial Library is the main location for the Town's municipal departments, but there are two additional sites throughout town. This dispersal of municipal functions has lent itself to inefficient use of resources and confusion for many residents when they seek out public offices. It is desirable to find a location for the new office that allows for the re-consolidation of departments and resources in one place.

C. Water Service

The Water Department, part of the Royalton Fire District No. 1, serves commercial, institutional and residential users in the District. There are currently 423 connections to an estimated 655 residents in Royalton, South Royalton, and areas in the town along Routes 110 and 14. The system that is currently in place can handle a capacity of up to approximately 230,000 gallons of water, which is 195,000 gallons in excess of the average daily demand of 45,000. There are two wells in the town: Carpenter Well and a gravel well from the White River. Together, these water wells provide 400 gallons of water per minute for the water supply. The treatment facility, in close proximity to the Town's main water supply at Lake John, has a 200 gallon per minute filtration capacity and was built in 1990.

While the Water Department can levy taxes, it has chosen to augment its water resources by completing the White River infiltration gallery project in 2005. In 2007-8, the District began planning for source protection and forest resources management. The final Plan will protect the District's water resources and define recreational use of the District's 230 acre parcel of land. A second initiative is a comprehensive engineering study to guide the Prudential Committee in the maintenance and enhancement of the water system. As part of this effort, the Prudential Committee is drafting a fire sprinkler system ordinance.

In order to comply with EPA regulatory standards for nitrogen discharge from waters flowing from the White River into the Connecticut River, a new water treatment facility will need to be built within the

next 20 years. In the intervening years, newer, less expensive technologies to address this issue may become available to the town. However, some necessary upgrades will be completed in this timeframe to the existing facility in accordance with requirements.

The Lake John reservoir suffered extensive damage as a result of Tropical Storm Irene. As a consequence it has to be rebuilt. Other upgrades that are needed include installing a 1,600 foot supply main on South Windsor Street in South Royalton, and a filter replacement for the system. There is also some concern over the Reservoir Dam, which may require rebuilding due to infrastructural concerns.

D. Telecommunications and Internet Access

Internet Access

Presently, the Town of Royalton has partial access to fiber optic telecommunications through EC Fiber connectivity. Charter Communications provides both DSL and cable television services to the town. Fairpoint Communications is a further company providing high speed internet to the Town. Cellular service is available through a number of providers, but Verizon Wireless and AT&T provide the most extensive coverage. Despite a marked increase in access to cellular communications and high-speed internet throughout the Town in recent years, there are still areas within Royalton that lack access to high speed internet and uninterrupted cellular coverage.

Telecommunications Towers

To fulfill many of the goals of this plan including protecting scenic vistas and natural areas, preserving the rural character and appearance of the Town, protecting undeveloped lands, protecting watersheds and assuring the health and safety of the community, it is in the interest of the Town that the proliferation of towers and antennas be minimized through the sharing or co-location of towers; and that they be encouraged to locate in non-residential areas and away from visually sensitive areas, prominent scenic areas, historic areas and the White River. The citizens of Royalton have consistently desired to maintain the rural and scenic character of our community. The undeveloped ridgelines and mountains such as Kent's Ledge and the ridge from Kent's Ledge towards Royalton village, particularly as viewed from the floor of the White River Valley, are scenic and valuable to the character of the Town. Protection of these areas from intrusive developments such as telecommunication towers are matters of public good.

The following policies for the creation of all towers shall apply:

1. In order to minimize tower proliferation, it is the policy of the Town that applicants exhaust all reasonable options for sharing space on existing towers prior to proposing new towers and related facilities. The principle of co-location is the favored alternative. In making such a determination on the feasibility of co-location, prospective developers shall conduct a duly diligent effort to evaluate space available on existing towers, the tower owners' ability to lease space, geographic service area requirements, mechanical or electrical incompatibilities, the comparative costs of co-location and new construction, and regulatory limitations. Telecommunications providers should also allocate tower space for municipal communications, particularly for emergency services.
2. It is the Policy of the Town that existing wireless service providers be required to allow other providers to co-locate on existing facilities, subject to reasonable terms and conditions.

3. One of the Town's principal scenic qualities is its ridge lines and mountainsides. These areas are significant contributors to the maintenance and enjoyment of rural character. These ridges are predominately undeveloped and provide an unbroken skyline viewed from the valley floor. It is the policy of the Town that use of ridges for telecommunication and wind towers and related facilities needs to be undertaken in a manner that will not detract or adversely affect these scenic values. Accordingly, protection of these areas from insensitive developments are matters of public good. To minimize conflict with scenic values, facility siting, design and construction shall employ the following principles:
 - a. Towers shall be sited in areas not highly visible to the public such as roads, residential areas, public use areas, shorelines or lands immediately adjunct to the White River, and public recreation areas such as hiking trails;
 - b. Towers shall be located in forested areas or be sufficiently landscaped to screen the lower portions of the towers and related fixtures from public vantage points;
 - c. Towers shall utilize materials, architectural styles, solar schemes, lighting, mass and other design elements to promote aesthetic compatibility with surrounding uses and to avoid adverse visual impacts (such as the necessity of aviation lighting);
 - d. Where prominent views of a site exist, towers shall be located below the grade of the ridge so as not to exceed the elevation of the immediate ridge, in no case shall towers be located on peaks and ridges that are locally significant or regional focal points;
 - e. Where construction of access roads are involved, these shall be situated to follow the contour of the land to avoid open fields or meadows, and to avoid disruption or damage to the watershed.
 - f. When towers no longer are used for the purposes for which originally constructed, they shall be dismantled and removed from the original site. Local and state land use permits shall incorporate removal of inactive fixtures as a condition of approval, unless an acceptable new use exists.
4. It is the policy of the Town that towers not be illuminated by artificial means and not display strobe lights.
5. It is the policy of the Town that the height for towers, antennae, and tower-related fixtures not exceed 50 feet above the average height of the tree line within the immediate vicinity of a wireless communication facility.
6. It is the policy of the Town that in planning for telecommunication facilities, due consideration be given to the environmental limitations of any given site. Impacts of the use on wildlife habitats, soil erosion, forestry and agricultural lands, and similar resources shall be carefully addressed. Projects that materially impact these resources are discouraged.
7. It is the policy of the Town that when telecommunication projects are situated on lands owned by the State, design plans be compatible with current Management Plans for Public Lands adopted by the Agency of Natural Resources.
8. It is the policy of the Town that the policies of this section serve as a clear written community standard intended to preserve the aesthetics or scenic beauty of the Town of Royalton. Accordingly, it is the intent that this section be utilized by the District Environmental Commission, the Natural Resources Board, or the Public Service Board as part of an aesthetics analysis for all wireless or other broadband telecommunications facilities, particularly those developed under Act 79. These policies shall be used, in part, to determine whether or not a

project fits the context in which it will be located, possesses acceptable visibility features, and has acceptable levels of scenic impact.

E. Sewer and Storm Drainage Facilities

The Town's three lagoon wastewater system was built in 1978, and utilizes clay and SDR pipes for waste collection. The collection system is gravity flow-based, feeding to a pump station behind the school in South Royalton. The pump station moves wastewater through a six inch force main to the Town's Pollution Abatement Facility, which is located ~~1.2~~ roughly 1.3 miles south of South Royalton Village on Dutton Road. The capacity of the system is 70,000 gallons daily, although the average daily use is 21,000 gallons per day. Billing for use of the sewer facility is based on the water meter reading. ~~There is a single rate for users.~~ Presently, some portion of the fees are contributed to a capital reserve fund.

New installation is currently accomplished by outside contract. New connections pay a one-time fee. Connection requirements are detailed in the Royalton Sewer User Ordinance.

All individual sewage disposal systems are regulated by the State of Vermont on-site wastewater & potable water supply system program, effective July 1, 2007. As a result of this new program, a state permit is needed for most repairs, upgrades, and new construction of on-site wastewater treatment and disposal facilities, on-site potable water supplies, and connections to municipal water distribution and wastewater collection systems.

In order to comply with EPA regulatory standards for nitrogen discharge from waters flowing from the White River into the Connecticut River, a new water treatment facility will need to be built within the next 20 years. In the intervening years, newer, less expensive technologies to address this issue may become available to the town. However, some necessary upgrades will be completed in this timeframe to the existing facility in accordance with requirements.

The Town anticipates a number of upgrades to the wastewater system and is in the process of developing a timeline and potential funding sources for them. Aeration is needed in lagoons 2 and 3. A new generator is required at the pump station, as are electrical upgrades. The collection system needs slip lining and pipe relocation. Lastly, the treatment facility needs a new valve structure.

F. Highway Department and Town Garage Facilities

Royalton has two town garage buildings: the town garage and a three-bay shed on Route 14 in Royalton village were built in 2003. The facility has been deemed adequate to meet current and future needs, and comes equipped with proper lighting, fan intake/outtake, and safety features (such as fire extinguishers, an eye wash station, and a shower).

Capital equipment includes various trucks and other road maintenance equipment. There is a Capital Reserve Fund for replacement of vehicles based on hourly use.

Vehicle and person-time, culverts, gravel, sand, etc. are charged to the Highway budget and charged specifically to each single road. This record enables the Department to track any roads for which annual maintenance is apparently insufficient. A culvert inventory was established in the fall of 2000 in which

culverts were located and recorded, including length, size and condition. This inventory continues to be updated to help the town with maintenance.

G. Solid Waste

In 1970, the Bethel-Royalton Solid Waste Management Facility, a recycling and transfer facility, began operations. The old landfill was formally capped in 1993. The facility was designed for the alliance of towns formed by Royalton, Bethel, Stockbridge, Pittsfield, Hancock, Rochester and Barnard, who operate under a Solid Waste Management Implementation Plan as required by the State. The Solid Waste Implementation Plan was renewed and approved by the State of Vermont on September 25, 2008. The Solid Waste Facility is certified by the State, under which its activities, estimated quantities of recyclables and solid wastes are regulated. The costs for operating the facility are entirely paid by user fees with its operating budgets published annually, with no permit required for trash or recycling drop-off. The Bethel and Royalton Selectboards jointly manage the facilities including setting user fees and borrowing for operating costs. In addition to setting the rates, Bethel and Royalton are the owners of all facilities and responsible for any bonds. Other alliance towns have a formal advisory role. The State requires that the Facility have an education component and hold household hazardous waste collection days.

The transfer station received a total of 6,095 tons of solid waste between July 1, 2012 and June 30, 2013, and a further 925 tons of recyclables. Due to the statewide Universal Recycling Law, there may be an increase in recyclable materials in coming years. Events are held each year to allow the member towns of the Solid Waste Management Facility to dispose of hazardous household wastes.

The existing Solid Waste Facility, now a few decades old, is in need of a number of repairs. Additionally, renovations or expansion of the building may be necessary to accommodate additional office space.

H. Recreation Facilities

Beyond the natural recreational opportunities afforded the Town by the White River and its tributaries, which can be accessed from several public roads, and the surrounding hills and forests, the Town has formal recreational areas at the High School and fields, with improvement on the Carpenter land. Those areas can be scheduled for public school, community, and Vermont Law School use. The Town Forest is available for recreational purposes, as are trails included as part of the greater VAST Trails network for snowmobilers. Kent's Ledge is a popular hiking destination within South Royalton, providing exceptional views along the White River Valley toward the neighboring town of Sharon and points beyond.

The Town is working with Two Rivers-Ottawaquechee Regional Commission and Dubois & King to redevelop two of the four FEMA flooded buyout sites, which were damaged from Tropical Storm Irene. The hope is to develop the Gilman Road and Royalton Hill Road sites for "passive" recreational use in a way that can withstand future flooding with minimal financial costs to the townspeople. The sites would offer such amenities as, parking, walking trails, picnic shelters, river access, etc.

Royalton has a Recreation Committee that provides social and physical activities for all ages. The summer program for children includes swimming lessons, concerts, seasonal parties for children, and various other programs.

I. Religious Institutions

There are several churches located within Royalton. Many other religious institutions meet in neighboring towns.

J. Cemeteries

The Town has thirteen cemeteries and burial lots located in various places in the Town. The elected Cemetery Commissioners oversee the maintenance and operation of the thirteen town cemeteries and burial lots. Two cemeteries have private boards. Four cemeteries (Branchview, Havens, Pleasant Hill and Riverview) still have burial lots available.

In recent years, the Town has worked diligently toward the restoration and repair of historic cemetery headstones in both the Old and New North Royalton Cemeteries. This cemetery site is located along Route 14 near the Fox Stand Inn area, and dates to the time of the Royalton Raid of 1780.

K. Libraries and Cultural Institutions

Royalton Memorial Library in South Royalton has experienced growth and has expanded hours of operation while the Royalton Branch Library in Royalton village ~~has~~ closed a number of years ago. The library currently owns 10,818 volumes, has 8,710 volumes available for circulation, and also participates in an inter-library lending program. Patron visits and circulation ~~has~~ have increased, children's services continue to expand, and outreach programs are going strong. The library continues to borrow over 400 books quarterly from the state regional library, increasing their non-fiction collection and offering a wider variety of current literatures. The library hopes to expand in the near future. The library is regularly used as a meeting place for community groups and overflow from the town office.

The Royalton Memorial Library building does not comply with federal Americans with Disabilities Act (ADA) guidelines related to site access and use. Presently, there are no means for handicap access to the building, and there are no handicap-accessible restroom facilities. The library board is currently in the early stages of discussions with an architect on designs as well as starting a capital campaign to rehabilitate and expand the existing historic library to bring it into compliance with the ADA and other life-safety codes. Once complete, these modifications to the library will provide a better library and community space for residents of Royalton and neighboring towns.

Royalton Town Band has been serenading the townspeople for more than fifty years. Currently there are about fifty members, with perhaps thirty playing in any one concert. The Town Band gives eight concerts in Town each season plus other out of Town appearances.

The Royalton Academy Building houses the South Royalton Senior Center, Central Vermont Council on Aging and offices for the Senior Center, Royalton Civic Center, Royalton Civics Club, White River Partnership, the Vermont Council on Aging, and the Royalton Academy Preschool. Organizations use the Academy for regular meetings, and the building is available for short-term rentals to individuals and organizations.

L. Health and Social Services

Royalton is served by the following health facilities: private practitioners in South Royalton Village; Gifford Family Health Center, located on Route 107; Sharon Health Center on Route 14 in Sharon; Gifford Medical Center in Randolph; Veterans Administration Hospital in Hartford, Alice Peck Day Hospital and Dartmouth-Hitchcock Medical Center in Lebanon, NH. Other care givers servicing the area include the Visiting Nurse Alliance of Vermont and New Hampshire, Mental Health Services of Southeastern Vermont, the Clara Martin Center, Safeline, Central Vermont Community Action, the Vermont Center for Independent Living, Eye Care for You, the Family Place, and Health Connections of the Upper Valley. "Health Hub," a clinic within the South Royalton School, is operated by the South Royalton School-Based Health Clinic, Inc., and provides a wide variety of services and referrals to students.

The Royalton Senior Citizens Center is run in cooperation with the Central Vermont Council on Aging from offices at the Royalton Academy Building. It offers senior advocacy, senior companions, legal and tax services, home delivered meals, community meals, and the Senior Center in Royalton Village.

VI. Health and Emergency Services

A. Goals, Policies and Recommendations

Goals

1. High quality medical care should be available to all Royalton residents.
To ensure the protection and safety of the citizens of Royalton against crime and violations of law.
2. To maintain appropriate police, fire and ambulance service.

Policies

1. It is the policy of the Town to support and encourage the development of local health care facilities and counseling services to help residents obtain health care as close to home as possible.
2. It is the policy of the Town to support programs that improve medical services for Royalton residents.

3. It is the policy of the Town to support the development of assisted living or other facilities or services dedicated to supporting the elderly in Royalton.
4. It is the policy of the Town to support efforts to provide residents with access to high quality physical and mental health care through local providers.
5. It is the policy of the Town to support efforts to decrease response times for emergency services.
6. It is the policy of the Town that road and driveway access to proposed developments for fire trucks and other emergency vehicles be evaluated as part of the permit review process.
7. It is the policy of the Town that the Selectboard maintain an up-to-date Local Emergency Operations Plan.
8. It is the policy of the Town to properly plan for hazard events.

Recommendations

1. The Selectboard should update the Local Emergency Operations Plan at least once a year or when key emergency management personnel change.
2. The Selectboard should adopt a Hazard Mitigation Plan with assistance from the Two Rivers-Ottawaquechee Regional Commission, and establish procedures for continued maintenance of the Plan.
3. Town officials who are part of Royalton's emergency management team should receive adequate training in the Incident Command System (ICS).
4. The Selectboard and Royalton Emergency Services should continue to participate in Local Emergency Planning Committee (LEPC #12) meetings).
5. The Town should consider expanding police service in Royalton as needed.

B. Fire Protection Services

The Royalton Fire District No. 1 is a municipal entity organized to provide water and fire services within the District boundaries. The District's elected Prudential Committee oversees the South Royalton Fire Department, South Royalton Rescue Squad, and Water Department. Fire and rescue operations are funded by town appropriations, user fees for the rescue service, and contributions and private donations from Royalton and Sharon.

Fire protection for the Town is provided by the South Royalton Volunteer Fire Department, an all-volunteer department, providing 24-hour coverage to the Town. The firehouse is located in South Royalton Village on Safford Street. The fire department is independently organized as Royalton Fire District No. 1, formed in 1884, and is not under the Town's jurisdiction. Currently recognized fire protection problems include: development in areas distant from the village of South Royalton, development on class 3 and 4 roads, tightly packed trailer parks, distance from water sources (rivers, hydrants and/or fire ponds), response to rail and interstate incidents, and inadequate snow removal. The Fire Department also has mutual aid agreements for back-up service with Sharon, Pomfret, Hartford, Bethel, Barnard, Tunbridge and other neighboring towns.

In 2013, the Fire Department responded to 113 calls. Volunteer fire fighters routinely receive training, including HAZMAT Awareness and Operations level trainings. As of late 2013, six fire fighters are trained to the HAZMAT Awareness level and five to the Operations level.

Fire Station

The South Royalton Fire Department is located in a station house on Safford Street, one block from the South Royalton Green. No upgrades to the South Royalton Fire Station are anticipated in the next five to ten years. The Fire Department is considering the development of a sub-station near the intersection of Routes 14 and 107.

C. Police Protection Services

Royalton maintains a part-time police force. In addition, Royalton has two elected Town Constables, and a part-time administrative assistant, with a station located off of the South Royalton Green on North Windsor Street. Policing activities are provided by the Royalton Police Department, which was established in 2005. Back up is provided by Windsor County Sheriff's Office and the Vermont State Police, Troop "D," which is located off Route 107 south of the Bethel/Royalton Town Line in Royalton. The Royalton Police Department currently has an inter-municipal policing agreement with the neighboring town of Sharon, and provides 16-20 hours of support per week on average.

In 2013, the Royalton Police Department responded to and handled a total of 768 law incidents, including criminal arrests. Given the steady increases of police activity in recent years, the Vermont State Police has recommended the department expand. The Royalton area is one of the Royalton State Police barrack's busiest towns to service.

Over \$28,000 in grant funding was provided to the Royalton Police Department in 2013. Of that, \$5,000 was awarded by the Governor's Highway Safety Program for safety equipment and upgrades to emergency lighting on police cruisers. They also awarded an additional \$2,000 for DUI and highway safety enforcement. Vermont Homeland Security awarded \$14,507 for new P25 digital compliant radios, and a further \$7,155 for one new mobile data computer, software, and mounting equipment for the Town's two cruisers.

D. Emergency Medical Services

The South Royalton Rescue Squad provides ambulance service to Royalton, Sharon, southerly portions of Tunbridge and special local events. The Squad operates as an independent component of the Fire Department. The ambulance currently is kept in the South Royalton Firehouse. Emergency services are provided by highly trained personnel. The Fire Department and the Rescue Squad function as first back up to Tunbridge Fire Department and First Branch Rescue.

South Royalton Rescue calls increased by over 10% in 2013, up to 300 calls from 273 (a little over half being from Royalton). Representatives from the Towns of Royalton, Sharon, and Tunbridge have created

an Advisory Board, which will develop a long-term plan for the future of the Rescue Squad, both strategically and financially.

Dartmouth-Hitchcock Advanced Response Team (DHART)

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

E. Emergency Management Planning

Royalton has an Emergency Management Coordinator and an Emergency Management Plans that include a Pre-Disaster Mitigation (PDM) Plan, a Local Emergency Operations Plans (EOP), and a Rapid Response Plan (RRP). The PDM Plan takes into account potential hazards on the interstate (vehicle and truck transport accidents), the railroad tracks (derailments and collisions), the river (flash floods, ice jams), and bulk fuel storage situations, in addition to more normal events. The RRP outlines mutual aid, coordination, and communication protocols with other neighboring towns. Emergency management efforts are complicated by the large percentage of transient residents.

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

- Preparedness includes emergency personnel acquiring suitable equipment, and conducting training and exercises. Preparedness is also a responsibility of residents, business and government. Simple preparedness measures, like having disaster supplies on hand, installing smoke detectors and generators, having emergency fuel for generators and vehicles and knowing basic first aid will all help to lessen the impact of a disaster. Preparing emergency plans is also a preparedness activity.
- Response is the initial emergency response to save life and property during and immediately after the disaster, and is initiated by local emergency crews and then followed up by outside forces if necessary. Response operations are greatly enhanced by proper preparedness. Most emergencies of any scale will require towns to work together, and often to work with state or federal agencies. Practicing with all of these partners before an actual emergency is critical to smooth emergency operations.
- Recovery is the more long-term process of putting life back to normal, and includes many state and federal agencies, especially the Federal Emergency Management Agency (FEMA) in large disasters. As events like Tropical Storm Irene showed, recovery can take a long time and is

hindered if a disaster is severe or widespread. Royalton's experience with Tropical Storm Irene showed that there is less state and federal assistance than was expected, and what assistance is available requires a substantial effort at the municipal level.

- Hazard mitigation means any sustained action that reduces or eliminates long-term risk to people and property from natural or human-caused hazards and their effects. Mitigation planning begins with an assessment of likely hazards, and then targets activities to reduce the effects of these hazards. Given that the largest threat in Vermont is flood related, good mitigation measures include proper road and drainage construction, as well as limiting development in flood prone areas.

Local Emergency Operations Plan

Royalton, like every town in Vermont, maintains a Local Emergency Operations Plan (LEOP). This plan contains contact information that is available to authorized users, but is not available to the public. The Selectboard should continue to keep the LEOP up-to-date and ensure that all parts of municipal government that are active during a hazard event are aware of what is in it. This includes the Selectboard, Fire and Rescue, Road Crew, and Shelter coordinators.

The LEOP covers the procedures for Royalton's response to a disaster. In the event of a disaster, the Selectboard will formally declare a state of emergency if the Board feels it exceeds the Town's emergency management capacity. This declaration will be faxed to Vermont Emergency Management, and a local emergency operation center will be set up in the Royalton Fire Station and/or the Royalton Town Offices. The Fire Station is equipped with backup power so that they it function during an emergency. Several people have been identified in the LEOP as Points of Contact for coordinating the Town's response to a disaster, including the current Selectboard Chair, Fire Chief, and the Town's Emergency Coordinators. The LEOP is updated on a continual consistent basis to ensure that personnel and roles remain accurate.

In the event that emergency shelter is needed, the South Royalton School, Royalton Academy Building, and Church of Jesus Christ of the Latter Day Saints will serve as shelter sites. Of these, the Royalton Academy Building has been certified by the Red Cross. Both the Royalton Fire Academy Building and Church of Jesus Christ of the Latter Day Saints are equipped with backup generators and are designated as warming shelters in the event of a disaster.

In order to avoid disasters as much as possible, the Local Emergency Planning Committee and the Regional Planning Commission have developed an all-hazards plan which addresses mitigation and education needs.

Hazard Mitigation Plan

Disaster mitigation covers actions done to reduce the effects of a disaster. For Royalton, the primary hazard is flooding (often the result of severe weather patterns that include thunder, lightning, high winds, and hail), with a variety of other hazards, including structure fires, water supply contamination, and hazardous material spills. All hazards have been reviewed in the town's Mitigation Plan. There are many

ways that the town can reduce damages, and, since a disaster does not always result in state or federal assistance, the town should take sensible steps that can reduce disaster costs, damage to property and loss of life.

Emergency Access

Any new property development in Royalton should be designed to allow safe access for emergency services. Poorly designed driveways that are too steep or too narrow can limit access, particularly in the winter, and may represent a safety hazard for the emergency responder.

In new subdivisions, the design of such drives or similar facilities should be done in consultation with the South Royalton Fire Department. On major subdivisions, the Selectboard could require the provision of storage ponds and dry hydrants necessary for adequate fire protection.

VII. Economic Development

A. Goals, Policies and Recommendations

Goals

1. To encourage a strong and diverse local economy that provides satisfying and rewarding employment opportunities for residents while maintaining the community's rural character.
2. To encourage the development of a sustainable economy in Royalton.
3. To increase the commercial tax base.

Policies

1. The town should work to attract diverse and sustainable businesses in Royalton which create jobs and contribute to the local year-round economy.
2. The town should continue to encourage mixed-use commercial development within designated commercial areas.
3. New commercial development (excluding primary retail) should be encouraged in appropriate locations outside of the Village Center and Hamlet areas where services such as roads, fire protection and power supply are available or planned.

Recommendations

1. The Town should encourage and support the responsible development of information technology and communication infrastructure necessary for new economic growth.

B. Introduction

A local economy is comprised of several elements - activities that occur within the town and regional economic activities in which the town's residents are involved. While Royalton does contain a significant employer (Vermont Law School), Royalton is still considered a bedroom community, and the data continues to support this concept. While it is likely that many residents will continue to seek employment

Establishments, Employees and Wages				
	<u>Local Businesses¹</u>	<u>Employed¹</u>	<u>Unemployed</u>	<u>Average Wage</u>
<u>2013</u>	<u>76</u>	<u>1055</u>	<u>3.60%</u>	<u>\$44,014</u>
<u>2012</u>	<u>72</u>	<u>996</u>	<u>3.90%</u>	<u>\$45,391</u>
<u>2011</u>	<u>73</u>	<u>990</u>	<u>5.00%</u>	<u>\$43,338</u>
<u>2010</u>	<u>75</u>	<u>974</u>	<u>5.40%</u>	<u>\$41,575</u>
<u>2009</u>	<u>77</u>	<u>916</u>	<u>5.80%</u>	<u>\$42,291</u>
<u>2008</u>	<u>81</u>	<u>942</u>	<u>3.20%</u>	<u>\$40,942</u>
<u>2007</u>	<u>84</u>	<u>959</u>	<u>3.40%</u>	<u>\$38,629</u>
<u>2006</u>	<u>87</u>	<u>1032</u>	<u>2.50%</u>	<u>\$37,369</u>
<u>2005</u>	<u>89</u>	<u>1033</u>	<u>2.50%</u>	<u>\$35,405</u>
<u>2004</u>	<u>93</u>	<u>957</u>	<u>3.10%</u>	<u>\$33,991</u>
<u>2003</u>	<u>88</u>	<u>907</u>	<u>2.80%</u>	<u>\$33,299</u>
<u>2002</u>	<u>90</u>	<u>900</u>	<u>2.40%</u>	<u>\$32,565</u>
<u>2001</u>	<u>91</u>	<u>857</u>	<u>2.50%</u>	<u>\$31,299</u>
<u>2000</u>	<u>92</u>	<u>833</u>	<u>2.20%</u>	<u>\$31,346</u>

Figure 4: Establishments, Employees and Wages (Source: VT DLI)

outside of Royalton, it is one of the key goals of this plan to see economic growth occur within the town.

Data from the Vermont Department of Labor and Industry indicates that the number of establishments (employers) in Royalton has declined for over a decade. While the number of employers in Royalton is healthy, businesses appear to come and go and no trend of gains or losses exists beyond this natural fluctuation. The challenge faced by communities such as Royalton, where many residents seek employment out of town, is creating a viable method for encouraging economic growth.

Initially, a community seeking to encourage economic growth must inventory its assets. Royalton has several unique advantages that other communities do not, they include:

- Direct access to the rail system - The Vermont Rail System follows Route 14 along the White River, passing through South Royalton village. This travel corridor has the potential to serve light industry as well as future travelers should rail ever become a viable method of public transit. The potential offered by rail transportation could effectively allow populations from major metropolitan areas such as Boston, MA, to take advantage of Royalton's rural setting and outdoor recreational opportunities.

- Direct Access to the Interstate - The Interstate is a resource that offers Royalton's economy direct access to travelers, freight and commerce. To protect the existing local economy, the community must guide the type and scale of development that would utilize the interchange in a manner that maintains the economic viability of South Royalton village and protects rural character.
- Village Center – The Village of South Royalton is a well-defined community center with solid mixed-use commercial core. It is a location where residents and visitors can do business, utilize services and participate in community events.
- Vermont Law School - Royalton is the home of Vermont Law School (VLS), Vermont's only accredited legal college. The community benefits greatly by hosting VLS because its students live in the community; utilize services and shop in the area. In addition, the school is a leader in environmental law and policy, which benefits the community in other ways. VLS is vital to the continued health of the town and the surrounding area.
- Diverse Community Setting – Royalton's history is based heavily on a working landscape. With the addition of the Law School in 1970's the community's diversity of residents broadened, which continues to make Royalton an appealing place to live and work.
- Joseph Smith Birthplace Memorial – Royalton is home to one of the more significant attractions in the Mormon community. On a yearly basis over 40,000 travelers come to Royalton to visit the Memorial.
- Agricultural Enterprises – Royalton has a greater percentage of working farms than much of the surrounding area. These operations provide locally grown food and stimulate the local economy. In addition, their constant maintenance of Royalton's landscape are a greatly appreciated and an essential part of the community's rural character.

C. The Village Economy

While the value of the Law School as part of Royalton’s local economy is undeniable, it is clear that the community could benefit from a more diverse economy. An economy that is not dependent on a single population will be more sustainable.

To encourage economic growth, it is the intent of this Plan to focus on the Village Center and Hamlet Areas as the most logical location to direct a substantial portion of future economic development. As such, it is important to recognize the need for village improvements. There are locations within the Village Center that could be revitalized, most obviously, the former grain mill on Pleasant Street or the former Crawford property.

Royalton strives to have its local economy grow at a pace that benefits the community, but does not put a strain on municipal services. To encourage new growth and to improve the vitality of the South Royalton and Royalton Villages, Royalton has been part of the Vermont Village Center Designation Program. Businesses within the area identified by the Vermont Village Designation Program as a Village Center are eligible for various tax credits, and the municipality is given priority for specific state and federal grant programs (see sidebar).

While there are opportunities for infill development within the Village Center Area, Royalton's topography makes continued growth within the village a challenge. Steep slopes on the Southwestern side of the Village, coupled with the White River and Flood Hazard Area to the northeast limit areas for expanded growth. During the severe flooding from Tropical Storm Irene in 2011, a number of the homes businesses which are located adjacent to the Village Center Area were inundated with water.

In order to ensure that areas for commercial development can exist outside of the villages in a pattern that is consistent with State Planning Goals, the Planning Commission has designated a number of commercial development areas which are designed to allow for further economic growth while keeping the Village Center Areas vital. The Land Use chapter of this plan provides a more detailed description of each land use area, but for the purpose of this chapter the following land use areas encourage economic development:

- **Village Area** – Encourages mixed use economic development of all kinds (including primary retail) excluding those that would unnecessarily use large areas of land or those uses that would negatively impact the character of the villages.
- **Commercial/Industrial Area** – Encourages commercial (excluding primary retail) and industrial development.

Village Designation Benefits

Because of its participation in the Vermont Village Designation Program, Royalton Village has the following benefits available to it:

- 10% Historic Tax Credits
- 25% Facade Improvement Tax Credits
- 50% Code Improvement Tax credit
- Priority consideration for Municipal Planning Grants and funding from Vermont’s Community Development Program.
- Priority Consideration by State Building and General Services (BGS)
- Special Assessment Districts

- **Low Density Service/Office** – Encourages a diverse range of commercial (including secondary retail like the Veterinarian’s office or Eye Care for You).
- **Waterman Rd. Industrial** – Encourages mixed use commercial, with a focus on light industrial.
- **Intermodal Industrial** – Encourages industrial uses that will take advantage of rail service.
- **Industrial** – Encourages industrial uses.
- **Foxville Hamlet** – Encourages mixed use economic development of all kinds, at a smaller scale than the Village Areas.

The types and scale of commercial and industrial development within these areas varies by area based on factors like transportation access, rural character and consistency with state planning goals. For more details see chapter X, Land Use.

D. The Town Economy

This Plan’s focus on economic growth in specific commercial areas should not be taken as ignoring the benefits of commerce in the more rural areas of Town. In fact, this Plan recognizes that small businesses (many of which are home-based businesses) are in many ways the most essential type of business in Royalton. Most commercial development in Royalton that is located outside of the villages is of a scale that is appropriate in the rural countryside, and is consistent with this plan. Through sensible planning these enterprises should continue to be promoted throughout Royalton. The Plan seeks to expand opportunities for small businesses by encouraging improvements to communication infrastructure such as affordable high-speed internet. It is hoped that such improvement may allow residents who are currently commuting to telecommute. Any opportunity to improve these services would have the support of the town.

The community will continue to encourage the development of small businesses as long as they do not negatively impact the rural character of Royalton and are at a size and scale that live harmoniously with surrounding homes and other businesses. Businesses located outside of the village should not put an undue burden on community services, in particular roads. Commercial development that is consistent with "strip development" or "sprawl" is not consistent with the character of the community.

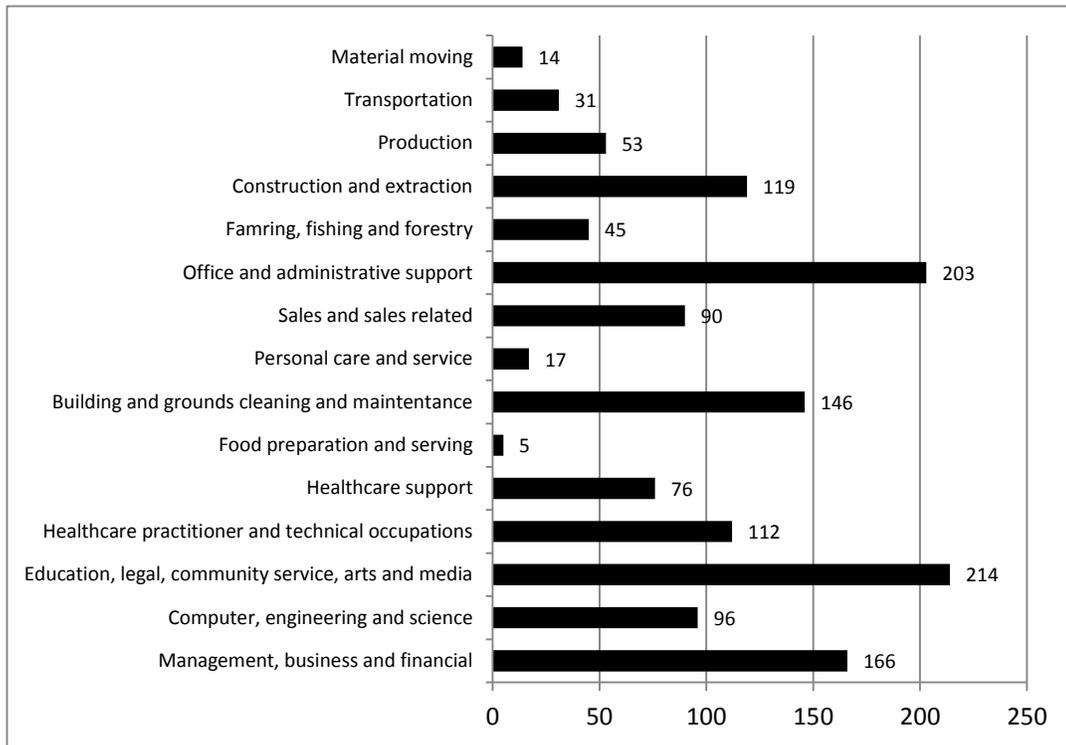


Figure 5: Occupations in Royalton (Source: 2010 U.S. Census)

E. Promoting Economic Growth

Leadership is essential to this process as economic growth cannot be willed. Only through a consensus can the town form a coordinated economic development effort. This is, of course, where the citizens of Royalton have the most to offer. Key figures in the community, including small business owners, representatives of town government and Realtors can join forces with active citizens to help create a vision for the economic future of Royalton. But, because economic development takes time, all who participate in the process must be committed to a common vision of what the town wants to be. In order to begin the process of economic development planning, citizens will have to determine what and who the town's assets are (in addition to those listed above). Likewise, they will need to identify what the key needs in town are and whether or not they can be realistically offered locally. Using this information, the town should develop a mission that will help guide those involved toward the ultimate goal of encouraging economic development in Royalton.

Royalton does not have a local organization such as a business association or local chamber of commerce. The White River Valley Chamber of Commerce includes Royalton as part of its region, and some efforts by the Chamber have been directed at the community. However, it would be beneficial to the businesses located within Royalton to have another local business association which could represent their interests, provide information and training and create a forum at which business owners could communicate with each other regularly. A Royalton Business association could work with the Town to create initiatives that would increase interest in the Village Center or to conduct studies that would help guide future investments in the Village. A 2012 study by the Urban Land Institute indicated that on a national level,

businesses are making their location decisions based substantially on sense of place. Likewise, young adults have indicated that their primary motivation for moving to Vermont is the lifestyle associated with the working landscape. A small community’s best method of encouraging new business is to recognize its best assets, protect those assets, and support any efforts to promote those assets. Royalton’s rural, natural, recreational and historical resources are its greatest assets, and should be prudently managed.

F. Employment and Wages

The number of employed residents in Royalton has changed over time (see figure 1) in a manner consistent with the State of Vermont. Between 2000 and 2010, the unemployment rate rose 3.2%, reflecting the impacts of the “Great Recession” on Royalton’s job stability. Since 2010, Royalton’s unemployment rate has decreased slightly which is consistent with changes Vermont’s unemployment rate over the same period but, in 2012, Royalton’s unemployment rate of 3.6% was lower than either Windsor County (4.0%) or Vermont (4.4%).

Royalton’s workforce has been consistently below the County and State average annual wage levels for more than a decade. In 2011, Royalton’s median family income (A family consists of two or more people related by birth, marriage, or adoption residing in the same housing unit) was \$50,694, which was 13% less than the county median (\$58,082) and 15% less than the state (\$59,315). Family income is an important factor to consider when analyzing the affordability of housing within a community. For more data relating to housing, go to Chapter VII.

In addition to encouraging additional commerce in Royalton, it is a goal of this Plan to ensure that residents are paid a livable wage— one that is equal to or more than the state average.

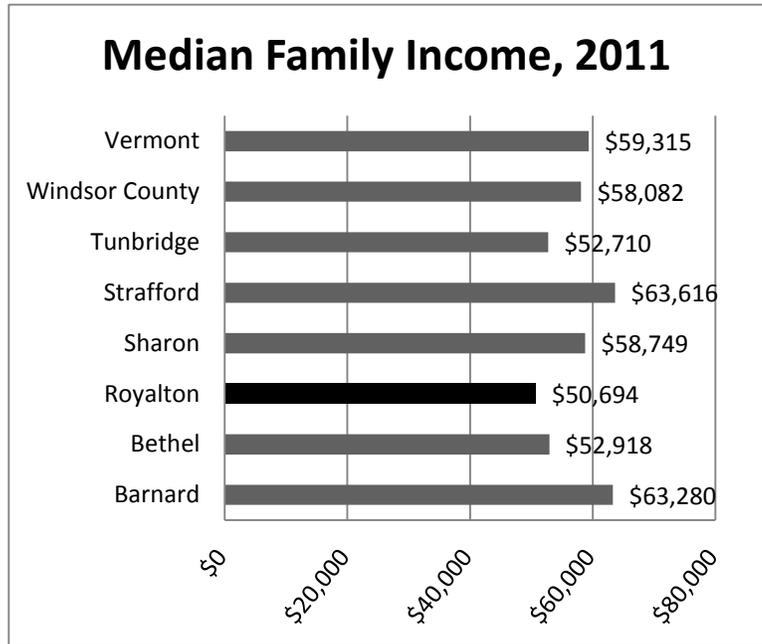


Figure 6 - Median Family Income, 2011 (Source: VT Dept. Taxes)

G. Taxes

When surveyed in 2014, the most common theme in the “open answer” section of the survey were comments about high taxes. Education taxes make up a substantial portion of Royalton’s residential tax rate, which means that the bulk of residents’ total tax burden is controlled at the state level.

Royalton’s legislative body strives to the municipal portion of the tax rate low. However, unforeseen expenses (such as damage from severe weather, or high fuel prices) can make this challenging. Encouraging additional commercial development in Royalton may help keep municipal rates down. Over the past decade, roughly 2% of Royalton’s taxable property has been commercial. Commercial properties generally use fewer services than residential homes, resulting in a net gain in taxes for the community.

	Homestead Education Tax	Municipal Tax	Total Tax Rate (per \$100)
2012	1.3836	0.6083	1.9919
2011	1.2202	0.5921	1.8123
2009	1.133	0.5035	1.6365
2008	2.0062	0.8558	2.862
2007	1.8232	0.8409	2.6641
2006	1.6789	0.818	2.4969
2005	1.5196	0.755	2.2746
2004	1.4715	0.7444	2.2159

Figure 7: Royalton Tax Rates, 2004-2012
(Source: Vermont Department of Taxes)

H. Economic Development and Land Use

The Town of Royalton has no approved land use regulation (zoning or subdivision). Arguments have been made both in support and against the adoption of these types of regulations. Many residents are uncomfortable with the concept of having decisions made regarding the development of their land. On the other hand, commercial developers indicate that they seek consistency in terms of permitting. At present, commercial development on over one-acre of land is subject to review under Act 250. One advantage to adopting zoning and subdivision regulations is that the ceiling for Act 250 is raised to 10 acres, which may be appealing to potential commercial developers considering Royalton as a location.

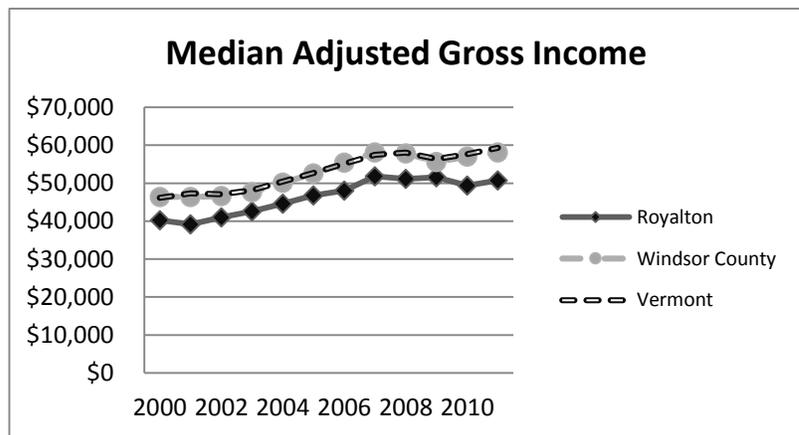


Figure 8: Median Adjusted Gross Income
(Source: Vermont Department of Taxes)

I. Energy

A. Goals, Policies and Recommendations

Goals

1. To promote the development of renewable energy resources and facilities in the Town of Royalton to meet the energy needs of the community.
2. To reduce energy costs, and lessen the community's reliance on fossil fuels that cause greenhouse gas emissions.
3. To encourage a continued pattern of settlement and land use that is energy efficient.
4. To promote the construction of energy efficient residential and commercial buildings.
5. To increase awareness and use of energy conservation practices through educational outreach to the public.
6. To increase public transportation opportunities throughout the community, including park-and-ride access, bus service, biking paths, and sidewalks.
7. To promote greater use of existing public transportation services by community members.

Policies

1. Town officials should participate in the Public Service Board's review of new and expanded generation and transmission facilities in the community to ensure that local energy, resource conservation, and development objectives are identified and considered in future utility development.
2. Any commercial energy generation facility proposed in Royalton should be developed so as to avoid negative impacts on the rural character of the surrounding area. Developers should make all possible efforts to minimize damage to important natural areas as identified in the Natural Resource section of this Town Plan. Additionally, such facilities should be located as close to existing roads as possible to avoid any increase in the services provided by the town.
3. Royalton supports the development and use of renewable energy resources – including, but not limited to, wind, solar, biomass, micro-hydro and biofuels – at an appropriate scale; that enhances energy system capacity and security; that promotes cleaner, more affordable energy technologies; that increases the energy options available locally; and that avoids undue adverse impacts of energy development on the local community and environment.
4. Town officials should support efforts to educate homeowners about what resources are available to them for energy efficiency improvements.
5. It is the policy of the Town that energy generation, transmission, and distribution facilities or service areas should be encouraged only when they complement the recommended land use patterns set forth in this plan.
6. It is the policy of the Town that new, significant public investments (including schools, public recreational areas, municipal facilities, and major commercial or residential developments) should be located within or in close proximity to the village areas, and shall utilize existing roads whenever possible.

7. It is the policy of the Town to encourage the use of broadband services to support energy efficient, small-scale home businesses.
8. It is the policy of the Town to promote energy efficient travel by residents by encouraging carpooling, increased use of public transportation, telecommuting, home businesses, and safe bike routes.

Recommendations

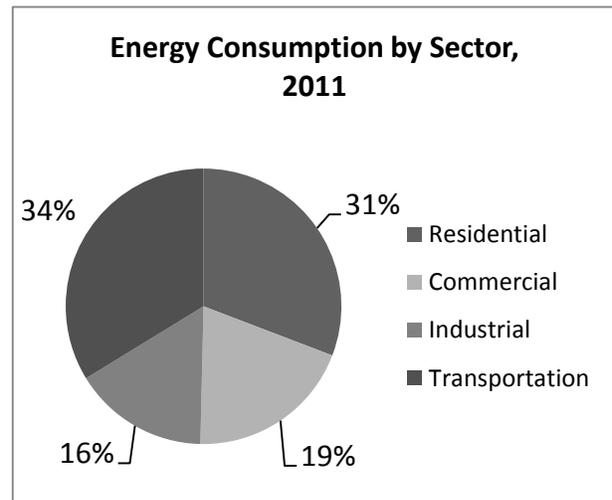
1. Town officials and volunteers should work to increase public awareness and use of energy conservation practices, energy-efficient products and efficiency and weatherization programs through educational efforts aimed at local residents and businesses.

B. Background

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

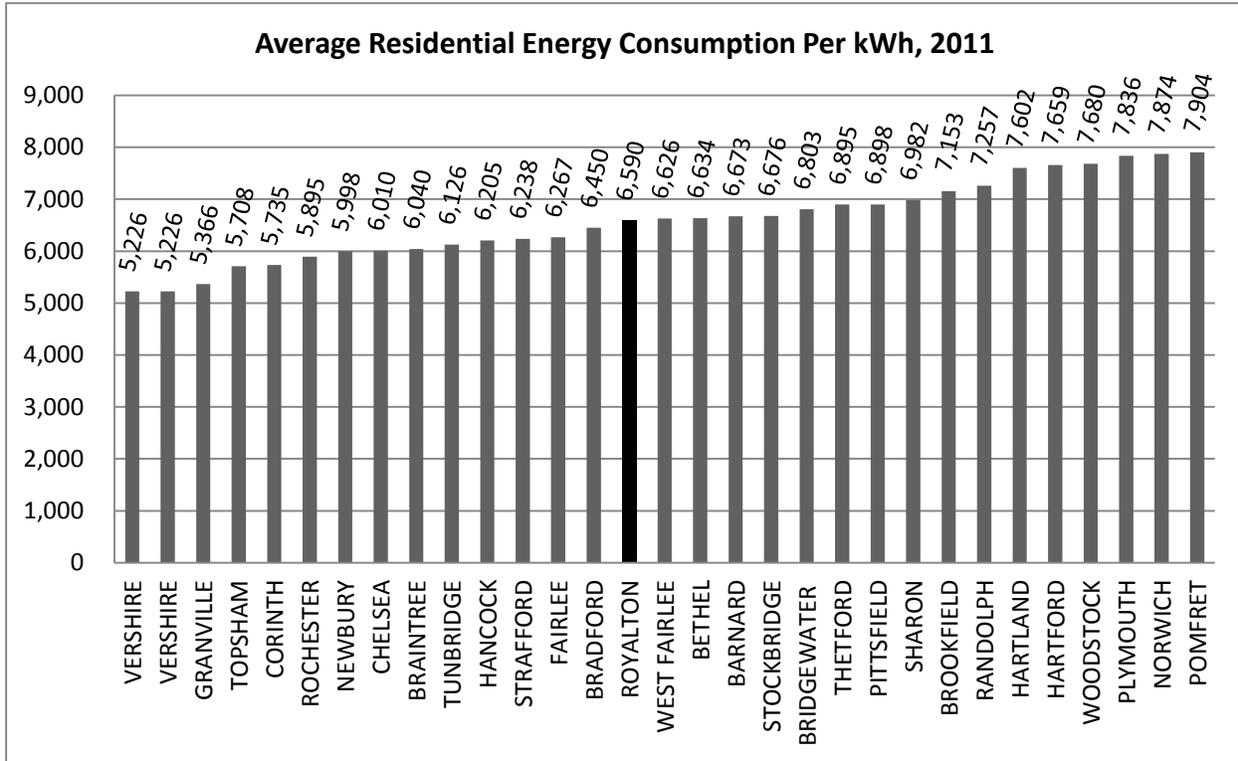
While the Planning Commission recognizes that energy supply and demand are directed largely by economic forces at the state, federal, and international levels, the manner in which Royalton plans for future growth can have an impact on how much energy is needed and used in this community. For example,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

Theories, such as the Hubbert Peak Theory (a.k.a. Peak Oil), suggest that the worldwide consumption of oil will have outpaced the existing supply. Although new technologies may enable energy providers to extract oil from locations that were previously impossible to reach, there is a finite amount of oil, which means that Royalton, like the rest of the world, should prepare for a much less oil-dependent future.



9 - Energy Consumption by Sector
 (Source: US Energy Information Administration, 2011)

C. Energy Demands



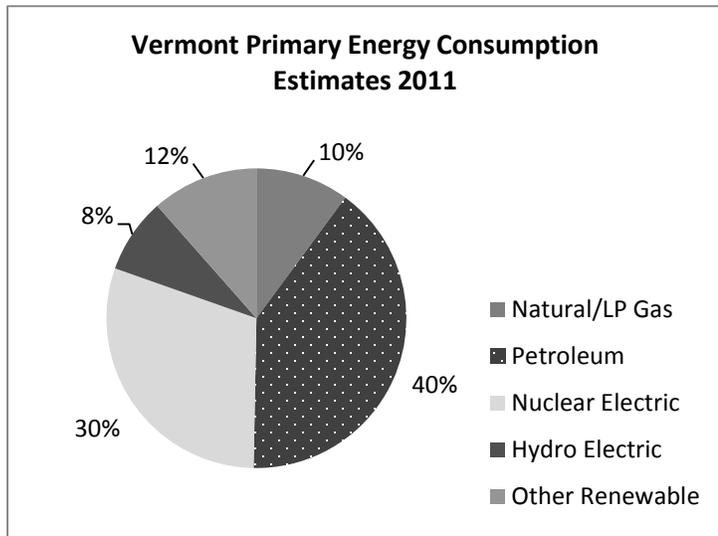
10– Average Residential Electricity Consumption (kWh)
 (Source: Vermont Energy Atlas and Efficiency Vermont, 2011)

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

Per capita energy consumption for residential and other uses in the Northeast is similar to that in rest of the United States. In Vermont, almost 80% of residential energy is dedicated to space heating and domestic hot water. Approximately 34% of Vermont’s total energy usage goes toward transportation.

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

According to 2011 data collected by Efficiency Vermont, the town of Royalton is 15th out of 30 towns in terms of average annual energy use levels in the Two Rivers-Ottawaquechee Region. In 2011, this data (limited only to residential energy use) determined that Royalton the average household used 6590 kWh of energy, which is equivalent to the average household electricity usage of all the towns in the Two Rivers-Ottawaquechee Region.



11 - Vermont Primary Energy Consumption Estimates
(Source: US Energy Information Association, 2011)

D. Current Energy Sources

Fossil Fuels

Royalton, like most other towns in Vermont, depends primarily on fossil fuels for heating and transportation. As shown in the chart above, fossil fuels account for 50% of all energy consumed in Vermont, much of which is used in transportation and heating.

Nearly three out of five Vermont households use fuel oil, which means a substantial portion of Vermonters are subject to the price and availability instabilities of a reliance on oil. Of the total \$885 million spent on residential energy in the state of Vermont, just over half (\$445.8 million) was spent on fuel oil, kerosene or light propane gas. Vermont’s economic system is so closely tied to the availability of fossil fuels that even modest price increases can lead to inflation, a slowdown in economic growth, and destabilized economy. This can have unanticipated adverse impacts at the municipal and residential level in all communities, including Royalton. For example, increasing fuel prices make it more expensive for a town government to provide traditional public services and maintain existing facilities. Additionally,

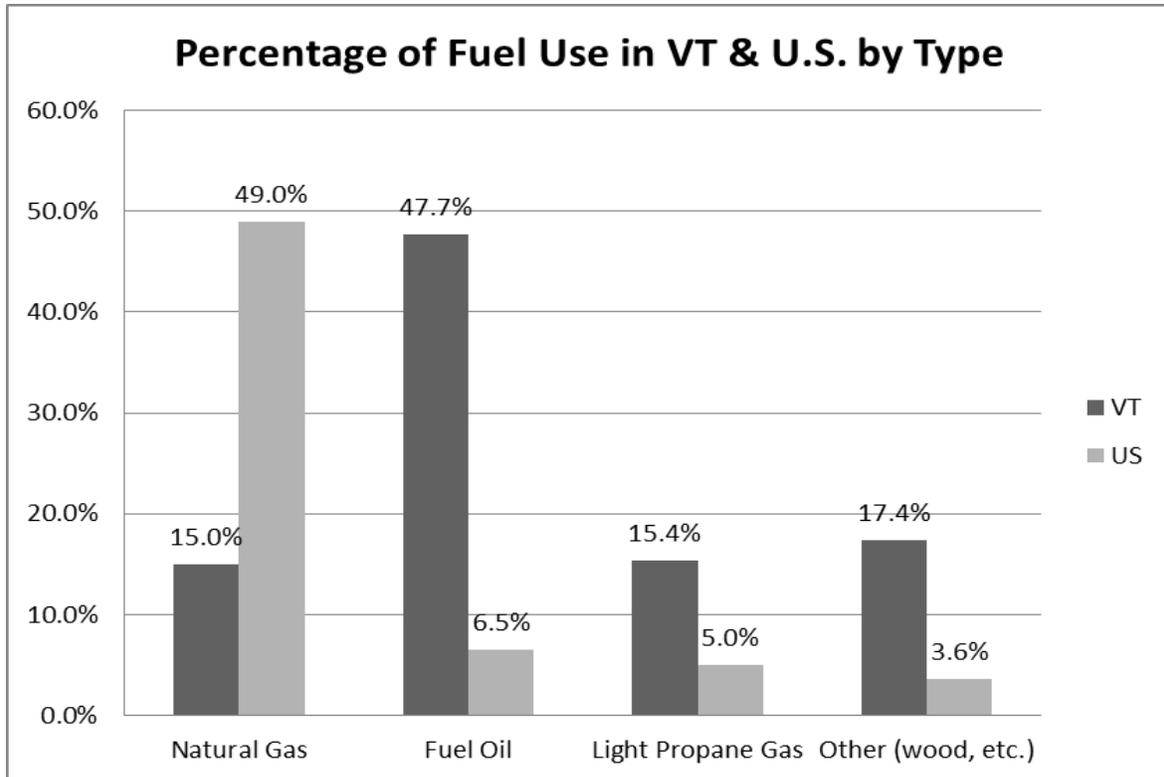


Figure 12: Vermont Energy Profile, U.S. Energy Information Administration, 2011

rising prices can also make it difficult for residents to heat their homes and put enough food on the table (the price and availability of food is usually influenced by fuel prices).

Nuclear Energy

Vermont Yankee Nuclear Power Station has been generating electricity since 1971, but is scheduled to close in 2014. The power from Vermont Yankee accounted for about 70% of electricity generated in Vermont in 2013, a higher share than any other State. The loss of this power producer forces the state to find other sources of local production or buy additional energy on the open market.

Renewable Energy

Seventy percent (70%) of Vermont’s energy comes from renewable resources, a larger percentage than most other states in the U.S. Although the majority of Vermont’s renewable energy is generated through

Hydro-Quebec (see below), some hydroelectric power is generated in Vermont. Additional sources of renewable energy include several utility owned commercial-scale wind and solar farms, and landfill and on-farm methane projects.

E. Renewable Energy Resources

The 2012 Vermont Comprehensive Energy Plan recommends that Vermont obtain 90% of our total energy from renewable sources by 2050. This is a lofty goal, but one that will benefit all Vermonters if achieved. The term “renewable energy” refers to the production of electricity and fuels from energy sources that are naturally and continually replenished, such as wind, solar power, geothermal (using the earth’s heat to create power), hydropower, and various forms of biomass (trees, crops, manure, etc.).

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

Commercial scale renewable energy generation systems are a growing business in Vermont, increasing the percentage of locally generated power. However, the energy generated commercially is deposited into the national grid system, which means that the power generated here may not be utilized locally.

Residential scale renewable energy generation systems are generally regulated through the State of Vermont, requiring a Certificate of Public Good from the Department of Public Service. State statute forbids the creation of land use regulations that prohibit renewable energy generation.

Residential energy systems can take advantage of net metering. Net metering allows residential and commercial customers who generate their own electricity from solar power to feed electricity they do not use back into the grid, providing the solar system owner with a credit for the unused electricity generated. Customers are only billed for their “net” energy use. The Vermont legislature updated net metering laws in 2014 with HB 702, with the provision that net metering is available until the cumulative capacity of net-metered systems equals 15% of a utility’s peak demand during 1996 or the peak demand during the most recent full calendar year, whichever is greater. Net-metered systems are overseen by the Public Service Board and are not required to get a local permit.

The types of renewable energy found in Vermont are:

Solar Energy

Solar energy has the potential to provide clean, reliable, and safe energy, even in Vermont's climate. Most areas in Vermont have the potential for some solar energy production, at least at the residential scale.

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

Water Heating – Solar water heating is the most common form of residential-scale solar use in Vermont. Solar hot water (SHW) systems generally consist of a collector, a liquid medium, and a holding tank. These systems rely on the sun's energy to heat the liquid medium, which in turn heats water, supplementing or supplying the hot water needs of the home. Solar hot water offers the fastest payback on investment of any type of solar.

Electricity Generation – Decreasing costs of equipment have made solar electric generation systems more prevalent in Vermont and across the U.S. Photovoltaic, or PV panels can be seen on roofs and arrays around Vermont. The sun's energy creates an electrical charge in the silicon-based solar cells in the PV panel, creating electricity that powers homes, businesses or whole communities. Residential or commercial PV panels are typically tied into a house or building's

Potential Wind Development Areas in Royalton (Acres)							
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
	(10-11 mph)	(12-13 mph)	(13-14 mph)	(15-16 mph)	(16-17 mph)	(17-18 mph)	(19-25 mph)
Residential <i>(30-meter)</i>	6,710	167	0	0	0	0	0
Small Commercial <i>(50-meter)</i>	1215	275	0	0	0	0	0
Large Commercial <i>(70-meter)</i>	0	0	15	19	0	0	0

13 - Potential Wind Development Areas in Royalton (Source: Vermont Energy Atlas, 2012)

electrical supply in an arrangement called net metering, which feeds any excess power generated back to the local utilities.

Solar arrays are almost always more desirable than wind towers. Solar arrays do not need to be located on high ground and are therefore less visually prominent. In addition, these facilities can be located in already developed areas, requiring fewer access roads, requiring less infrastructure and reducing adverse impacts on wild lands.

Wind Energy

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

There are multiple levels of potential wind energy generation, ranging from Class 1 (10-11 mph) to Class 7 (19-25 mph). Royalton's topography does not make it a desirable location for large-scale wind energy generation. Instead, it is better suited to small-scale residential wind energy generation.

Biomass & Biogas Energy Generation

The term 'biomass' refers to biologically-based materials such as algae, food or vegetable wastes, grass, wood, and methane. Biomass can be converted into an energy source to fuel vehicles (e.g. biodiesel), heat homes, or even generate electricity.

According to the 2011 Vermont Comprehensive Energy Plan, in 2007-2008 Vermonters using wood for primary heating source consumed about 5.4 cords, while those using wood as a supplementary source used 2.25 cords. In that same year, Vermont households with primary-heat-source consumers burned 3.8 tons and supplementary-heat-source consumers burned 1.2 tons for the season.

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

Biofuels

In addition to using biomass for heating, the use of biofuels, particularly biodiesel, is becoming an increasingly popular option for municipalities attempting to cut costs and reduce the environmental impacts associated with vehicle emissions. The Town of Royalton could revisit the possibility of using biofuels in their road crew fleet.

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

Growing biomass to use in biofuels may be a viable way to encourage farming or forestry in Royalton as well; however, balance should be sought for land used for energy demands vs. human and animal consumption.

Hydropower

Many locations in Vermont, including Royalton, once depended on hydropower to grind grain, run mills and even supply electricity to homes. But, with the onset of centralized power, most of these small-scale power generation facilities have been replaced by massive hydro facilities, such as those owned by Hydro Quebec. There is one “in-service” hydropower facility in Royalton which could (if operational), actively produce roughly 6 kilowatts of electrical energy.

F. Permitting Considerations

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

Section 248

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

For all commercial energy generation facilities, the following policies should apply:

- 1. Preferred Locations:** New generation and transmission facilities should be sited in locations that reinforce Royalton’s traditional patterns of growth - compact village centers surrounded by a rural countryside, including farm and forest land.

- 2. Prohibited Locations:** Because of their distinctive natural, historic or scenic value, energy facility development shall be excluded from the following areas:
 - Floodways shown on FEMA Flood Insurance Rate Maps;
 - Fluvial erosion hazard areas shown on Fluvial Erosion Hazard Area maps;
 - Wetlands as indicated on Vermont State Wetlands Inventory maps or identified through site analysis; and
 - Rare, threatened or endangered species habitat or communities.
 - The Royalton Town Forests

3. **Significant Areas:** All new generation, transmission, and distribution facilities should be sited and designed to avoid or, if no other reasonable alternative exists, to otherwise minimize and mitigate adverse impacts to the following:
 - Historic districts, landmarks, sites and structures listed, or eligible for listing, on state or national registers.
 - Public parks and recreation areas, including state and municipal parks, forests and trail networks.
 - Municipally designated scenic roads and viewsheds (see chapter III, Natural Resources).
 - Special flood hazard areas identified by National Flood Insurance Program maps.
 - Public and private drinking water supplies, including mapped source protection areas.
 - Necessary wildlife habitat identified by the state or through analysis, including core habitat areas, migration and travel corridors.
4. **Natural Resource Protection:** New generation and transmission facilities should be sited to avoid the fragmentation of, and undue adverse impacts to, the town's working landscape, including large tracts of undeveloped forestland and core forest habitat areas, open farm land, and primary agricultural soils mapped by the U.S. Natural Resource Conservation Service.
5. **Protection of Wildlife:** Designers must gather information about natural and wildlife habitats that exist in the project area and take measures to avoid any undue adverse impact on the resource. Consideration shall be given to the effects of the project on: natural communities, wildlife residing in the area and their migratory routes; the impacts of human activities at or near habitat areas; and any loss of vegetative cover or food sources for critical habitats.
6. **Site Selection:** Site selection should not be limited to generation facilities alone; other elements of the facility need to be considered as well. These include access roads, site clearing, onsite power lines, substations, lighting, and off-site power lines. Development of these elements shall be done in such a way as to minimize negative impacts. Site clearing and roadways can have greater visual impacts than the energy generation facility itself. In planning for facilities, designers should take steps to mitigate the project's impact on natural, scenic and historic resources and improve its harmony with the surroundings.

G. Residential Energy Efficiency

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

Decreasing Energy Use by Changing Behavior

Raising awareness to replace wasteful energy behaviors with energy saving ones can reduce energy use and help residents and businesses save money.

Examples include:

- Turning off lights when you leave a room.
- Using a programmable thermostat.
- Use a clothes line to dry clothes.
- Use a cold-water laundry wash.
- Reduce driving.
- Don't make multiple car trips for errands.
- Turn down the thermostat in winter and up in summer.

Decreasing Energy Use by Implementing Energy Efficiency

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

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

New residential development in the State of Vermont is required to comply with Vermont Residential Building Energy Standards (RBES). Commercial development is subject to similar code regulations. Some examples of the types of development the RBES applies to include detached one- and two-family dwellings, multi-family and other residential buildings three stories or fewer in height, additions, alterations, renovations and repairs and factory-built modular homes (not including mobile homes).

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

Residents may also take advantage of the energy efficiency programs offered by Efficiency Vermont, a non-profit organization funded through the State of Vermont. Efficiency Vermont can provide opportunities for rebates on energy efficiency improvements as well as information and guidance on how to reduce energy.

H. Municipal Role in Energy Efficiency

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

Energy Committee

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

Auditing Municipally Owned Buildings

Many towns in Vermont own buildings that are old and inefficient in many respects. For instance, older buildings often have insufficient insulation, wasteful heating and cooling systems, and out-of-date lighting. These kinds of infrastructure problems result in higher energy use with the resulting cost passed onto taxpayers. Municipal officials should consider conducting audits on town buildings in order to determine what improvements are necessary, and which projects would have the highest cost-benefit ratio in terms of energy and financial savings.

Capital Budget Planning

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

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

Policy Making for Change

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

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

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

I. Energy and Land Use Policy

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

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

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

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

J. Energy and Transportation Policy

It is important that communities recognize the clear connection between land use patterns, transportation and energy use. Most communities encourage the development of residences in rural areas, but this rural development requires most of our population to drive to reach schools, work, and services.

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

VIII. Housing

A. Goals, Objectives, Policies and Recommendations

Goal:

To promote opportunities for Royalton residents to have access to safe and affordable housing at all income levels.

Objectives:

1. To encourage planning and building of public facilities and expansion of services, compatible with town growth, that supports affordable housing.
2. To ensure that any development of new dwelling units be compatible with existing neighborhoods, agriculture and forestry patterns.
3. To encourage the preservation of historic structures in ways that appropriately serve the need for housing.
4. To encourage development of housing that meets the needs of Royalton's senior population.

Recommendations:

1. adopt regulations compatible with the goal set forth in this section.
2. The Town should thoroughly examine whether adequate Senior Citizen housing exists within Royalton.
3. The Town should coordinate with the Vermont Law School to address student housing needs.

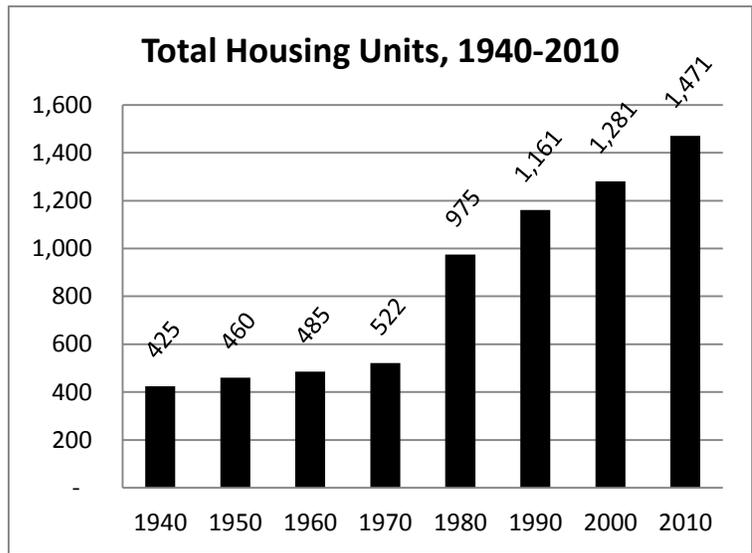
Policies:

It is the policy of the Town:

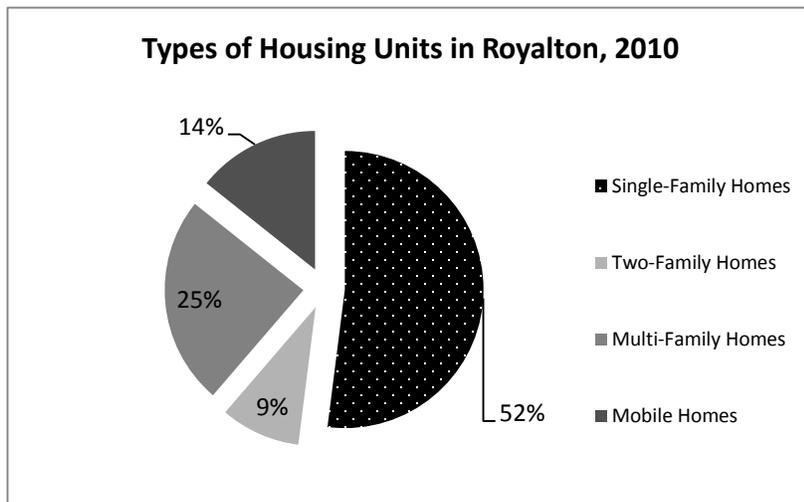
1. To ensure that the timing and rate of new housing construction or rehabilitation does not exceed the community's ability to provide adequate public facilities (e.g., schools and municipal services);
2. To consider affordable housing by structuring appropriately sized lots, accessory apartments, and clustered developments;
3. To encourage providing housing for all segments of the community.

B. Background

A major function of local housing planning is to meet two community objectives – first, safe and affordable housing for its present and future population, and second, suitable density and distribution of housing throughout the community. Growth in housing affects the Town’s capacity to provide facilities and services to our townspeople and the character of the area. Housing built without adequate planning for schools, roads, and other public services can overburden the ability of the taxpayers to pay for these services, and also can lower adjacent property values and negatively affect the rural character of the Town.



15 - Total Housing Units in Royalton, 1940-2010
Source: US Census, 2010



14 - Types of Housing Units, 2010
Source: US Census, 2010

Royalton’s total number of housing units has been increasing since the 1940s. 1980 saw a drastic increase of 46% in the number of housing units from the 1970 Census, compared to the 28% increase in the Windsor County. The Vermont Law School was started in 1972, however, accounting for much of the additional housing stock. Since 1980, housing units in Royalton have continued to steadily increase by 10-20% every ten years.

The U.S. Census defines a “housing unit” to include conventional houses, apartments, mobile homes, and rooms for occupancy. According to the 2000 Census, Royalton has a total of 1,471 housing units. Like most of the units in towns throughout Vermont, they are predominantly single-family homes, as illustrated in Figure 15. However, compared with other area towns, Royalton has more multi-family and two family units.

As indicated by Figure 16, 51% of the housing stock are owner-occupied while 39% of all units are rented. The distribution of resident homeowners to non-resident homeowners is about even in Royalton and most of the other surrounding towns. At the time of the last Census (2010), most communities had the same amount of vacant housing stock. Of its neighbors, Royalton

	Royalton	Bethel	Sharon	Tunbridge
Owned	51%	64%	64%	64%
Rented	39%	22%	22%	12%
Seasonal	7%	11%	10%	22%
Vacant	3%	3%	3%	3%

16 - Housing Ownership, Royalton and Surrounding Towns.
Source: US Census, 2010

had the lowest percentage of housing stock that is considered “seasonal or vacant for occasional use.” It is these homes that are designated as “second homes.” There are advantages and disadvantages to having an abundance of second homes in your community. Second homes are taxed at a higher rate and tend to put less of a burden on municipal services. But, they can also drive up property values and having fewer year-round residents means fewer people to be active in the community. This is particularly noticeable with volunteer fire departments, which seek volunteers for the community.

It should be noted that Royalton has a substantially higher percentage of rental housing units than any of the surrounding communities. The presence of Vermont Law School in South Royalton Village has led building owners to convert their buildings into multi-unit apartments.

C. Housing Affordability

Affordable housing is defined as housing that costs no more than 30% of the household’s income. For homeowners, housing costs include payments for principal and interest on a mortgage, as well as taxes and other related expenses. For renters, housing costs include rent and utilities.

According to the Vermont Housing Finance Agency (VHFA), the median price in Windsor County during 2014 to rent a 1 Bedroom apartment was \$729. At that rate, renters would need to make an hourly wage of \$13.12 in order to pay only 30% of income toward housing. This translates to an annual salary of about \$27,280. Royalton is fortunate, however, to have the Brightwood apartments that offers 15 affordable single bedroom rental units, and Riverbend Mobile Home park with 9 units in service since 1993.

The cost of housing in Royalton has decreased over the past several years. The median price of primary residences sold in Royalton between 1988-2013 was at its highest in 2008 (\$212,500). Since 2008, the median sale price of primary residences has dropped about 28% (\$152,950 in 2013). It is likely that the decline in home sales values is directly related to the impacts of the national recession which began in 2008. When home sales stalled during the recession, sellers were forced to ask less for their homes in order to sell them.

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

The location of housing plays an important factor in housing affordability. Living near employment or other daily destinations can reduce costs substantially. The VHFA suggests that for a household 10 miles from locations of employment, driving is likely to cost \$122 less per month than a household 25 miles away. A reduction in an expense of this nature would allow a household to better afford rent or a mortgage. In addition, a household with a shorter commute is likely to have a more stable future because it is less vulnerable to increases in vehicle fuel prices. In order to ensure the availability of affordable housing in Royalton, the community encourages multi-family housing to be developed within or adjacent to the village center in areas served by infrastructure.

D. Elderly Housing

“Baby Boomers,” people born between 1946 and 1964, are beginning to retire, and the oldest ones will be 84 in 2030. This shift in demographics will put added pressure on an already tight housing market. Expanding healthcare costs may leave seniors with even less money to spend on housing.

Town	Nursing Care (II)	Residential Care (III)	Residential Care (IV)
Barnard	0	0	0
Bethel	0	0	0
Pomfret	0	0	0
Randolph	1	2	2
Royalton	0	0	0
Sharon	0	0	0
Stockbridge	0	0	0
Strafford	0	0	0
Tunbridge	0	0	0

As the elderly (citizens aged 65 or older) become less comfortable with the tasks involved in managing their own home, they often turn to some sort of elder housing. If health is an issue and some form of constant care is required, seniors will need to enter a nursing home or a residential care facility. Figure 17 indicates that there are no options in Royalton and very few in the surrounding area for this type of care. Elderly Royalton residents in need of full-time care are forced to move away from their community. This is a statewide problem, not just a local issue.

17 - Elderly Care Facilities, Royalton and Surrounding Areas
 (Source: Vermont Department of Aging and Independent Living)

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

provide nursing home level of care to residents under certain conditions. Daily rates at residential care homes are usually less than rates at nursing homes.

In looking at housing options for elders residing in Royalton one particular option that could be a possibility is “The Green House Project.” The Green House project offers a model for long-term care designed to look and feel like a real home. These models of home living have been around for about a decade and offer a set standard for quality care that has been both proven and practical. These evidence-based housing models, through independent research, have been found to be effective, feasible and sustainable.

The Green House Project offers elders a housing option that returns control, dignity and a sense of well-being to not only the elder but their families and direct care staff. Elders live in small, self-contained homes where individuality and choice are honored, quality care is a priority and people have more satisfying and meaningful lives, work and relationships.

An integral part of the Green House model is creating community within each home and the surrounding neighborhood. Through the creation of community living for the elders, interdependence and collaboration of generations will occur. Visitors of any age will help alleviate the loneliness and boredom that can be a part of many elders’ lives. There can also be congregate areas for gardening, entertainment as well as areas where one-on-one conversations can take place to share one’s life histories and stories. In order to build community support, Royalton residents need to be committed and willing to work towards providing such a housing option where Royalton elders will continue to not only live a life that matters, but remain in the community they call home.

Home sharing is also another housing option. Shared housing is an arrangement in which non-related people live together as a family. They may home share in an individual’s home or live in a non-profit owned shared housing arrangement. Elders who would like to remain in their own homes might turn to home sharing for economic reasons as well as for companionship. Or older adults seeking housing may prefer to be in a home setting rather than an apartment. In Vermont there are two non-profit organizations that offer support in matching people to homes, Home Share Vermont (www.homesharevermont.org) and Home Share Now (www.homesharenow.org). They conduct extensive interviewing and background searches before making any matches and will work with these individuals after the match is made to make sure it is a success.

E. Taxes

When surveyed by the Planning Commission in 2014, many residents commented that taxes were too high, making living in Royalton more difficult. Property taxes reached a peak in 2008 and dropped off in 2009 when the municipal tax rate in Royalton dropped. However, since that drop, tax rates have risen dramatically, particularly the homestead education tax rate which rose by 22% between 2009-2012. The homestead education tax rate is determined on a statewide basis using the Common Level of Appraisal.

	Homestead Education Tax	Municipal Tax	Total Tax Rate (per \$100)
2004	1.4715	0.7444	2.2159
2005	1.5196	0.755	2.2746
2006	1.6789	0.818	2.4969
2007	1.8232	0.8409	2.6641
2008	2.0062	0.8558	2.862
2009	1.133	0.5035	1.6365
2011	1.2202	0.5921	1.8123
2012	1.3836	0.6083	1.9919

18 - Royalton Tax Rates, 2004-2012 (Source: VT Dept. of Taxes)

By comparing the data from the Chapter on the Economy, Royalton has more households with low to moderate incomes than it has housing with low to moderate prices, regardless of whether a family wants to rent or buy a home. Municipal officials and community volunteers must consider these facts as they work with builders and developers to meet the community's housing needs.

IX. Education

A. Goals, Objectives, Recommendations

Goals:

1. To provide quality educational offerings without undue taxpayer burden.
2. To provide high grade physical facilities at all levels to enhance the quality of education.
3. To encourage and broaden community access to educational and vocational training opportunities.

Objective:

1. To provide appropriate facilities and infrastructure for a variety of academic, athletic, social, cultural and community activities.

Recommendations:

1. Continue to encourage the use of the school for adult education and other community activities.

2. Continue to encourage an educational and professional planning relationship between the Town of Royalton, the Royalton School District and Vermont Law School.
3. Develop plans and financing recommendations for development of efficient school facilities and operations that will meet the town’s needs.

B. Royalton School

The South Royalton School houses both elementary (K-6) and junior/senior high school (7-12) students in the same building complex on South Windsor Street in South Royalton Village. The present South Royalton School was built in 1950 and has had four major renovations/additions. The school is noted as being in adequate physical condition. A new gym and other improvements were approved by voters in 2007. The school continues, within its existing budget, to modify facilities to make the building more accessible to those citizens with disabilities, and bus transportation for students is provided by private contractor. In the last seven years facility managers removed most of the school’s asbestos, installed sprinklers, added fire hydrants, updated electrical service, control wiring and replaced boilers. The school’s basement was flooded during Tropical Storm Irene in 2011, as a result the entire basement level was rebuilt with very little out of pocket dollars. This included upgrading the design + layout, ADA compliance improvements, framing, insulating, replacing wiring, shop equipment and boilers. Athletic fields were also rebuilt. The School Board has been developing a strategic plan looking at the long-ranges of the building using a more comprehensive approach. The town has approved a healthy building reserve. Royalton School also serves general community needs. It provides cafeteria and gymnasium space, and is used by the Town recreation program and other non-profit groups.

C. Enrollment

According to the Vermont Department of Education, there were 176 students enrolled in grades 1-8 and 139 in grades 9-12. Since the 2003-2004 school year, total enrollment has decreased by 28%. In 2013-2014 an additional 47 students were enrolled at the Royalton Academy pre-school and Royalton Kindergarten. A significant number of students attend the Randolph Technical Career Center at Randolph High School, using Town tuition funding.

Year	PK/K	Grades 1-8	Grades 9-12	Total Enrollment
2013-2014	47	176	139	362
2012-2013	30	178	147	355
2011-2012	42	189	134	365
2010-2011	49	176	139	364
2009-2010	44	183	144	371
2008-2009	50	187	151	388
2007-2008	44	197	186	427
2006-2007	42	190	186	418
2005-2006	33	219	188	440
2004-2005	50	233	195	478
2003-2004	47	249	198	503

Figure 19: Enrollment 2003-2014
(Source: Vermont Department of Education)

Declining enrollments are a state-wide trend. An aging building, increasing diversity in the needs and interests of students and their families, and higher expectations for public education, are all contributing to larger conversations about how Royalton can best educate its children while managing the costs associated with education. As pressure to consolidate school districts and merge schools continues to grow, Royalton seeks to work with its

neighbors to provide opportunities for improved education for its children, while maintaining the school as an important community center.

D. Carpenter Recreation Park

Royalton schools and the community as a whole have benefited by the addition of Carpenter Recreation Park for public use. The Town purchased property has been developed into sports playing fields, which are enjoyed by the Royalton School, Vermont Law School, and community groups.

E. Adult Education

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

- Vermont Law School - Vermont Law School (VLS) was chartered in 1972 as a private, independent law school. The school is accredited by the American Bar Association and by the New England Association of Schools and Colleges and is a member of the Association of American Law Schools. The only law school in the state of Vermont, it awards the degrees Juris Doctor and Master of Studies in Law. Enrollment at the Law School, as of 2014, is 635 students. VLS has struggled to keep enrollment numbers up since the 2008 recession. VLS, the Selectboard, and the South Royalton High School have an agreement, which offers one qualified South Royalton graduate a full scholarship every three years.
- Vermont Technical College (VTC) - Vermont Technical College is located in Randolph Center. VTC is part of the Vermont State College system and offers full and part time educational opportunities that range from computer technology, to agriculture, to health services. Attendees may choose a two-year program that leads to an Associate's Degree, a four-year program that leads to a Bachelor's Degree, or the college's one-year program that leads to a Practical Nursing certificate.
- Randolph Technical Career Center (RTCC) – Located in Randolph village, the RTCC is part of Randolph Union High School. RTCC offers adult education courses that range from the traditional tech center focuses of mechanical and woodworking, to computer technology, small business management, bookkeeping, as well as arts, crafts, and languages. RTCC's adult education classes are open to all for a fee.
- Vermont Academy of Science and Technology (VAST) program - South Royalton High School seniors have the opportunity to apply for admission to the Vermont Academy of Science and Technology (VAST) at the Vermont Technical College. Admission to this one year program allows a student to attend the first year of college, tuition free, while simultaneously completing high school requirements

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

F. Childcare

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

- Registered Family Child Care Home:** A child care program approved only in the provider's residence, which is limited to a small number of children based on specific criteria.
- Licensed Program:** A child care program providing care to children in any approved location. The number and ages of children served are based on available approved space and staffing qualifications, as well as play and learning equipment. A Licensed program must be inspected by the Department of Labor and Industry's Fire Safety Inspectors and must obtain a Water and Wastewater Disposal Permit from the Agency of Environmental Conservation. A Licensed program is considered a public building under Vermont Law. Types of licensed programs include: early childhood programs, school-age care, family homes and non-recurring care programs.

Childcare Providers by Town (2014)		
	Registered	Licensed
Bethel	2	2
Pomfret	2	0
Sharon	0	2
Randolph	6	6
Royalton	3	2

20: Childcare providers by type, by town 2014
(Source: VT Bright Futures)

There are currently only two licensed childcare services in Royalton and three registered childcare providers. Most residents currently arrange for care with relatives or take their children to childcare facilities beyond the borders of Royalton to neighboring towns like Randolph or Bethel.

X. Transportation

A. Goals, Objectives, Policies and Recommendations

Goals:

- To maintain and improve the quality of Royalton's transportation and road systems in order to promote safety, and to preserve the scenic quality of roads wherever possible.
- To minimize transportation energy consumption.
- To ensure that people can travel to work, shopping and other destinations, safely and efficiently.
- To mitigate the negative impacts of transportation to our businesses, homes, and the greater environment.

Objectives:

- To reduce congestion in South Royalton Village.
- To encourage ride sharing for commuters to neighboring employment areas.
- To provide alternatives to the heavy reliance on individual automobiles.

4. To encourage speed and traffic law enforcement.
5. To create commuter parking lot at I-89, Exit 3.
6. To seek establishment of a regular Amtrak stop in South Royalton.
7. To support transportation of the Elderly & Disabled.
8. To support access management initiatives to preserve the safe flow of traffic.

Recommendations:

1. Develop creative solutions to the parking problems being experienced in South Royalton Village. The "South Royalton Downtown Parking, Traffic & Pedestrian Plan" should be considered in the development of solutions.
2. Review the Town highway policy and access ordinance and revise as necessary.
3. In keeping with the Town's desire to maintain its rural and scenic character (see Chapter III), the Town should investigate the feasibility of conducting an objective scenic road survey and designate any such roadways as scenic in accordance with Vermont statutes.
4. The Town should actively support and participate in the Regional Transportation Planning Initiative at TRORC, and stay in close contact with state agencies involved in transportation planning and private sector service providers.
5. Enforce existing parking by-laws, speed limits and other traffic laws.
6. The Town Planning Commission and Vermont Law School should jointly study the impact of students on Town parking facilities and recommend solutions. Any future expansion of the Law School should include additional parking to comply with their existing parking generation rates.
7. The Town should encourage development and maintenance of safe walkways and bicycle paths to support pedestrian access to the downtown area.

Policies:

1. In considering major capital transportation projects, policy makers shall weigh reasonable alternatives focusing on environmental, energy, social and investment costs, and the extent to which each meets the goals and policies of this Plan.
2. It is in the public interest to maintain the Town's current highways, bridges, and related facilities as necessary to ensure an acceptable level of service.
3. The Town has no legal responsibility to maintain or improve Class 4 roads. Affected property owners seeking to improve Class 4 roads shall be responsible for meeting all costs incidental to their improvement.
4. An integral scenic element of the rural countryside is the Town's back roads and highway system. If improvements are needed to accommodate increased traffic, it is important to consider the relationship of the road to the surrounding features of the landscape.
5. Strip development is not considered an appropriate land use pattern. Such development occurs in a linear path along a right-of-way and often restricts visual and physical access to interior lands as well as highway access.
6. Developers shall be required to pay for all new roadways to access their developments and other infrastructure upgrades necessary to accommodate any traffic increases.

B. Public Highway System

Map 4 attached to this Plan shows transportation infrastructure in Royalton. The State uses four classification formulas to distribute financial aid to towns for road repair and maintenance. Classifications are jointly determined by the Vermont Agency of Transportation and the Selectboard. Criteria used for the classifications include traffic volumes, road conditions, and function. State aid to the Town decreases on a per mile basis from Class 1 to Class 3. No state aid is available for Class 4 roads. Total aid, therefore, depends on the number of miles of road a town has in each class. In fiscal year 2012 - 2013, Royalton received \$148,578 from the State for all roads.

Class of Roadway	Length in Class	Maintenance Jurisdiction
Class 2	15.41	Town
Class 3	55.59	Town
Class 4	9.51	Town
TOWN TOTAL	80.51	
State Highway	13.97	State
Interstate	8.99	State
STATE TOTAL	22.96	

Figure 21: Miles of Roads in Royalton
(Source: VTrans)

Class 1 includes the most heavily traveled town roads usually located in densely settled areas. Class 1 roads are extensions of State Highways and are usually assigned a State number. There are no Class 1 roads in Royalton.

Class 2 includes those major town highways selected as the most important highways in town. Class 2 roads serve the purpose of linking towns and high traffic areas such as village settlements and State highways. Class 2 roads are generally paved. Class 2 roads include South Windsor/Chelsea Street, Broad Brook Road, Dairy Hill Road, the North Road, North Windsor Street, and the Stage Road or Royalton Hill Road. Class 2 roads total ~~15.37~~ 15.41 miles.

Class 3 includes all town roads not Class 1 or 2 that can be driven under normal conditions all seasons of the year by a standard car. In Royalton, Class 3 roads include all other town roads such as Gee Hill Road, Happy Hollow Road, Johnson Hill Road, and Ducker Road. Class 3 roads amount to a total of ~~54.78~~ 55.59 miles.

Class 4 highways represent the lowest order of importance to the Town. Public use is limited and as such the Town receives no financial aid from the State.

Apart from education costs, public roads have been and will continue to be Royalton's largest town asset requiring significant financial investments paid through municipal taxes. Transportation funding sources come from numerous combinations of the local tax base, state and federal gas tax receipts, state and federal allocations and registration fees. The most significant funding resource comes from the federal transportation bill which passes through the State of Vermont and is distributed to towns by the Agency of Transportation. The federal and state government pays a percentage of project costs and the community pays the remainder. This funding applies only to Class 1-3 roads. Maintenance of Class 4 roads is funded exclusively by the community. The Two Rivers-Ottawaquechee Regional Commission has compared programs throughout the region and recommends a program of early intervention using preventative maintenance, because such a program has proven to be 75-85% less costly than larger reconstruction work after significant deterioration has occurred. Such a program should be a part of an adopted Transportation Capital Budget and Transportation Program.

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

C. Class 4 & Trails

Class 4 roads and trails primarily offer access to Town and conservation resources and provide unique insights into a working landscape long abandoned. Many Class 4 roads have been incorporated into the natural landscape whereby very little development has occurred along these roads. Class 4 roads are not maintained except for some culvert and bridge work to ensure access for emergency vehicles. The town also does not plow these roads during the winter. Public utility services or other municipal infrastructure that typically accompany roads are nearly nonexistent. Often these roads are scenic travel corridors for hikers and bicyclists and provide limited access to hunting and conservation lands.

Trails are used exclusively for recreational purposes and are not intended for vehicle access, therefore they are not maintained. According to the Vermont Agency of Transportation in 2014, Royalton had no publicly owned trails.

D. Transportation Access

~~The road system consists of three state highways:~~ There are three state highways in Royalton: Route 14, Route 110, and Route 107. The Town is bisected by both the railroad tracks and Interstate 89. Both these roads and the rail line have had and will have a significant long-term impact on the Town's development patterns.

Interstate 89 is the major highway to and from the Town. Royalton has direct access to Interstate 89 (Exit 3) at its intersection with Route 107 on the west end of town. Indirect access is provided through Sharon to the east (Exit 2) from Route 14. The completion of the Interstate in the 1970's brought the White River Junction/ Lebanon/ Hanover area and the Montpelier/Barre employment area closer to Royalton in driving time. A high-speed road makes Royalton a target for bedroom community development, with its attendant loss of community self-sufficiency.

Future development along Route 14 should be carried out in a way that does not result in increased truck traffic through Royalton village. Route 14 has two railroad overpasses that constrain truck traffic.

Driveways to access new developments shall incorporate loop roads whenever the drive will serve three or more housing or commercial units. Culs-de-sacs and hammerheads may not be used unless no other alternative exists. Dead end roads longer than 2,000 feet should be strongly discouraged.

E. Route 107 Corridor

The Route 107 corridor is significant for a number of reasons. It is a very heavily traveled arterial highway, and forms part of a major transportation corridor between I-89 and Rutland as well as other points west. Multi-modal planning, access management, speed reduction, and infrastructure improvements will have a role in preventing conflicts between land development and through-traffic that have impacted other communities.

Existing Conditions - Route 107 was built in the 1960s as a rural modern highway. The wide shoulders and lack of sharp curves allow cars and trucks to travel comfortably at high speeds. These high speeds are acceptable for roads with minimal development, but create unsafe and uncomfortable environments as more development occurs. The speed difference between vehicles already on the road and new vehicles entering the roadway may create traffic safety problems. Average daily traffic volume for this segment of Route 107 in 2013 was between 5500 and 6400 vehicles per day.

Access Management - Access management is essential for the Route 107 commercial area. This is an opportunity for planners to balance land use and traffic growth to maximize land development potential while preserving traffic safety and mobility. Before development occurs, a number of tools should be used which can help minimize this impact:

1. Limit the total size of the Commercial/Industrial Area by identifying portions of the Route 107 corridor that are priorities for agriculture or residential use. The actual commercial frontage along the highway can be limited. Intermodal/industrial uses can occur along the railroad corridor, limiting the number of access points onto Route 107.
2. At the time of subdivision, a single access point for the entire parcel shall be identified, at the safest location, promoting orderly traffic flow.
3. Identify locations for possible new roads, allowing for more integrated, orderly development of lands, and minimize curb cuts on Route 107.
4. Encourage driveways to be located opposite existing driveways, creating four-way intersections rather than offset intersections.

5. For adjacent developments, consider connections between sites, shared parking and shared access, wherever physically feasible.

Speed Reduction - As Route 107 becomes more developed, a lower speed limit would be appropriate. As changes are made to the road, these should be designed to encourage lower speeds. Lower speeds would actually increase the capacity of the road because of reduced safe following distances. A speed reduction would also make the corridor safer for many of the road's users, especially traffic turning into and out of developments.

Multi-modal Use on Corridor - Facilities should be developed which encourage the use of multiple modes of transportation at appropriate locations, including public transit, ridesharing, bicycling, walking, and rail. Use of these modes may offset some growth in traffic demand, save energy, and could lessen the need for future road improvements.

Infrastructure Improvements - Despite efforts to manage traffic flow on this corridor through access management and speed limit reduction, there will always be a need to ensure the safety of the corridor's key intersections such as with Route 14, I-89, and Waterman Road. These improvements could take a number of forms, such as turning lanes.

F. Waterman Road

The Waterman Road Industrial Area is an area with primary access to and egress from the intersection of Waterman Road and Route 107. The primary purpose of this area is to provide a location for light industrial development that has nearby access to Interstate 89. While it is the intent of this plan to encourage well-planned commercial/industrial growth in this area, it should be acknowledged that existing access to Route 107 is unsafe. The current alignment of this junction is poorly suited to the heavy truck traffic and ~~will not~~ may be unable to support further industrial development. As the amount of light industrial and commercial development in the Waterman Road Industrial Area, it will be necessary to modify the access to accommodate the greater amount of truck traffic.

G. Road and Culvert Management

The town of Royalton inventoried and assessed every road mile and culvert in 2006. The culvert conditions in Royalton are consistent with, and in some cases better than, other towns in the region. The Road Surface Management System and culvert inventory gives the town a better local match rate on state grants and helps town officials manage their system. These are important assets of the local transportation system and should be maintained consistently with municipal policies.

H. Other Modes of Travel

Bicycles and Pedestrians

Many residents bike or walk on town roads in Royalton. The Town maintains a network of sidewalks within parts of the Village Area year-round to allow pedestrian travel to and from the core of the Village

as well as to provide schoolchildren with a safe route to walk to school. Not all areas of the village are served by sidewalks. In the more rural areas of town bicycle and pedestrian travel is reasonably safe. Routes 14 and 107 are a good location for bicycle travel. In some areas, travel along Routes 14 and 107 is less safe due to higher traffic volume and speed, lack of available shoulders and poor pavement quality.

Additional recreational opportunities can be found using trails maintained by VAST and VASA.

Public Transportation

Royalton is served by Stagecoach, Inc., a private non-profit organization that provides public transportation services to the elderly, persons with disabilities, and the general public in Orange and northern Windsor Counties of Vermont. In 2013 alone, Royalton residents utilized 874 one-way bus trips using Stagecoach services (not including the “89er” and “89er North” services that do not track town of residence for commuters). The 89er commuter route runs from Randolph Village to Dartmouth Hitchcock Medical Center and Dartmouth College and West Lebanon, stopping in Bethel. The Town of Royalton supports establishment of a stop in Royalton. Stagecoach also offers Elderly and Disabled service for residents who call and schedule rides. This E&D service is a growing need. The community should continue to support public transportation in the future, consistent with resident’s desire to “age in place.”

Rail Facilities

Royalton is traversed by the New England Central railroad (NECR) which goes from New London, Connecticut, through White River Junction to East Alberg, VT. The NECR line serves both freight and Amtrak passenger traffic. The nearest passenger station is in Randolph. The NECR has approximately four (4) miles of single track within the Town’s boundaries with two customer tracks. There are four trains per day through Royalton: southbound freight, southbound Amtrak, northbound freight and northbound Amtrak. NECR still plans to add another daily northbound and southbound freight train in the future. New England Central’s (NECR) major business is in pulp/paper and lumber,

Air Facilities

The closest airport offering regularly scheduled service is in Lebanon, NH, which is about a half hour drive. Burlington International Airport is about one hour north. Manchester, NH airport is approximately two hours away, and Logan International Airport in Boston is located about 3 hours away.

I. Park & Ride

Private automobiles are still heavily depended upon by Royalton residents, as in most other Vermont communities. The development of carpools or vanpools, either by private arrangements or through Rideshare programs, would have the benefit of decreasing dependence on private autos. Currently, there is one commuter lot on Route 14 at the junction of Route 110 in South Royalton has been discussed for more than a decade, but the Agency of Transportation has chosen not to implement it, despite having gone through the Design & Engineering phase of development. With increasing fuel costs, municipal officials and residents are concerned that people will not be able to afford their commutes to work. Demand for Park and Ride and Rideshare programs will likely increase for most Vermonters. The Town

supports increased availability of Rideshare programs so that demand for parking does not outstrip availability.

XI. Land Use

A. Goals, Objectives, Recommendations and Policies

Goal:

1. To maintain the rural/village character of Royalton, preserving scenic beauty, natural resources and the cultural assets of the Town while encouraging acceptable growth in appropriate locations.

Objectives:

1. To manage growth and development in a manner that protects Royalton's natural resources and the environment, preserves the area's historic and cultural assets, and does not strain municipal facilities and services.
2. To allow for a diversity of low impact uses within the Town.
3. To encourage the conservation of undeveloped land and the sustainable use of farms and forests.
4. To maintain the character and vitality of the Town villages as commercial and service hubs.

Recommendations:

1. Establish procedures for preserving the integrity of historic sites within the Town.
2. Develop regulations to control growth, development and traffic so as to maintain the historic settlement pattern of compact village separated by rural countryside.
3. Consider future adoption of limited land use regulations as necessary to preserve community values, and to ensure that growth will not outstrip the Town's ability to provide services or infrastructure at an affordable tax rate.
4. Promote the preservation of desirable existing land uses by interacting with land trusts and other conservation groups, the use of conservation easements, transfer of development rights or other innovative techniques to compensate the landowner while preserving desirable uses.

Policies:

1. Any actions taken to implement Recommendations in this Plan shall be done in a manner consistent with existing uses and the future land use patterns proposed in this Plan.
2. Customary uses of land--residences, farms, public uses, and home occupations-- shall be permitted throughout the Town. Toxic, noxious or overly noisy uses are discouraged in all areas. However, agricultural uses employing normal and customary agricultural practices shall be deemed compatible with other uses wherever located.
3. Public facilities shall be located in South Royalton Village and in Royalton Village, if suitable sites can be found.
4. Preservation of the agricultural aspects of the Town shall be encouraged.

5. Strip development is not supported. Commercial development should be located in designated land use areas (See below), re-using existing sites where possible, or in other locations specifically recommended in this plan and its amendments.
6. Principle retail development should only be located in Village or Hamlet areas.
7. Except in the Commercial/Industrial Areas, Village Areas, and Exit 3 Development Areas, any new development shall be designed, whenever possible, to protect specific portions of land that contain special resources such as prime agricultural soils, marshes, deer wintering areas, or other unique wildlife areas.
8. Development shall be discouraged where emergency services access and public access is difficult, or where water sufficient for fire suppression is unavailable.
9. Development shall mitigate all traffic conditions that could overburden existing highway infrastructure or create traffic safety problems.

B. Existing and Historical Land Use

As shown on the attached Maps 1 and 2, Royalton is roughly divided in half by the White River and further partitioned by the First and Second Branches of the White River. Railroad tracks parallel the White River, as does Interstate 89, and Route 14; and Vermont Route 110 runs parallel to the First Branch as a thoroughfare to Tunbridge and Chelsea. While there is beautiful alluvial land, the Town also has much land that is hilly, ledge, or practically inaccessible. Public activity, commercial development and residential settlement are still concentrated in the White River Valley.

Historically, Royalton's land use pattern has been one of compact villages and diffuse residential development, linked by agricultural land use. South Royalton and Royalton Villages both have Village Designations, populated densely with Vermont Law School students and town residents. Many of Royalton's other residents, however, are spread throughout the town, living along the network of mostly unpaved "back roads." It is the small, compact villages and the open, working landscapes that define Royalton. Maintaining the balance between Royalton's villages and the residential and agricultural development of the areas surrounding them is essential to maintaining the Town's rural character. Home businesses, light industry and developments that can contribute to the rural character within an area like Royalton are not only welcome, but encouraged.

C. Land Use Regulations and Act 250

Historically, the citizens of Royalton have generally taken a "no regulation" stance when zoning has been considered. ~~However, during Planning Commission workshops held in 2006 and 2007, some residents acknowledged a growing need to discuss the idea of land use regulations.~~ However, when surveyed in 2014, nearly 63% of responses indicated that Royalton should have some sort of land use regulation, particularly for commercial or industrial development.

Towns without land use regulations are always at risk when a large-scale development is proposed. Because of this, State regulators have designated all towns without land use regulation as "1 Acre Towns" for the purposes of review under Act 250. This designation means the following:

- Any commercial or industrial developments of over one acre of property shall trigger a review under Act 250.
- The subdivision of land into six or more lots within a continuous period of five years shall trigger review under Act 250.
- Under Criterion 10 of Act 250, any proposed project must conform to all duly adopted local and regional plans. It seeks to ensure that new development respects the wishes of Vermont citizens about the future of their town and region.
- The Environmental Court has often found it difficult to interpret town plans in a regulatory proceeding because of their inherently vague and non-specific language. Town plans are generally considered visionary documents, and though not intended to be the word of law, will be used by the Environmental Board for direction if zoning laws do not exist. Considering that Royalton does not have land use regulations at this time, the town must specify the standards it expects a developer to meet if it wants the Town Plan to have controlling weight under Act 250. We have chosen strong language below to ensure that the Town Plan gives a clear message to an environmental board if the need arises.

All projects requiring an Act 250 permit should conform to the following rules **Guidelines.**

Conformance with these requirements is necessary to be in conformance with the Royalton Town Plan under Criterion 10 of Act 250.

i. Lot Layout (Applies to all Uses)

- Avoid monotonous lot layout of equally sized and shaped lots, especially along a road frontage.
- The amount of frontage and building position will be varied from lot to lot to avoid a suburban pattern of repeated houses or other buildings situated at or near the middle of adjacent lots one after another.
- Creating more than one adjacent lot with a depth greater than four times its frontage (“spaghetti lots”) is prohibited.
- Buildings shall be located at the edges of woodlands and fields, relatively close to roads, along hedgerows, etc., in an effort to preserve tillable units, whether or not in the same ownership.
- Lay out lots to take advantage of and preserve desirable features, such as stone walls, hedgerows, fields, natural clearings, and land contours.
- Locating buildings at the top of ridgelines or at the brows of hills where land is open and sites would be highly visible from nearby public roads is prohibited.
- Excavation for roads or buildings where excessive erosion will be likely is prohibited.
- Locate buildings and other construction such that they will not detract from natural or scenic features, such as bodies of water or historic resources.
- In the case of multiple unit projects, buildings shall be clustered.
- On developments involving adjacent buildings or lots, driveways must be shared.
- Locate or screen light industrial and commercial uses in a way that minimizes visual impact and preserves the character of the surrounding area.
- Locate any noisy, toxic, or noxious uses where they will not be detected from public roads or neighboring uses (especially housing), and/or take all reasonable means to screen or lessen any detrimental impacts of such uses. This provision does not apply to agricultural uses.

ii. Uses in Village or Hamlet Areas

- Construct buildings that are of the size and scale of other buildings in the Villages or Hamlets.
- Use traditional building massing, forms and materials within these two settled areas.
- Where alteration of “contributing structures” (structures that are deemed architecturally or culturally significant to a historic district) within the Village Area is contemplated, such alterations shall maintain the original character.
- Within settled areas, home businesses are deemed to be a use compatible with existing uses.
- Any development within the Village Areas may have an impact on the existing water supply due to the limited space. Developers must prove that their development will not have any negative effects on public or private water supplies within this area.

iii. Commercial Development (Applies everywhere)

- Development shall be located in clusters set back from State or Town roads.
- Existing buildings or parts thereof shall be reused for commercial development.
- Do not locate large parking or delivery areas in front of commercial buildings. Large parking areas shall be located at the sides or rear of such buildings. Where feasible, share parking areas between adjacent uses.
- Commercial signs shall be illuminated from above.
- Maintain trees and existing vegetation adjacent to State or Town roads. A generously landscaped buffer (using native plants and trees) shall be part of any new construction adjacent to State or Town roads.
- Share all curb cuts to State or Town roads. Minimize paved or impermeable areas.

iv. Uses at Exit 3 Interchange

Parking and Parking Lots

- promote parking behind commercial and industrial buildings to screen parking along Routes 14 and 107;
- encourage the consolidation and sharing of parking lots to save land and to minimize haphazard distribution of unconnected parking area serving adjacent premises.
- create new roads and interconnected parking lots behind commercial and industrial buildings to reduce traffic congestion.
- consolidate scattered, disorganized curb cuts into a smaller number of clearly defined entrances for safety.

Landscape and Site Planning

- consider locating new buildings or additions with parking and service areas screened to the rear or to the side.
- use fences and other traditional devices to define a property’s relationship to the road.

- encourage the planting of substantial trees along the roadside to help shade and give definition to the road.
- consider new building designs that do not result in large, bulky, box-like masses, and control the scale of large buildings by grouping them into a series of smaller, attached structures.
- design new buildings that complement the traditional buildings already in this area. Incorporate design elements that fit the context of the area through scale, massing, roof shape, orientation, shape, spacing, and exterior materials.
- promote building height of at least two stories to enable more efficient use of land and multiple uses.
- minimize alteration of natural site features.
- design projects to preserve existing fence lines, tree lines, hedgerows and stone walls, whenever possible.
- design interior and access roads with the scale of the project to help discourage excessive speeds.
- in areas of public view, screen outdoor storage of trash.

Signage and Lighting

- observe good design practices to provide light levels and distribution appropriate to the use of the site and compatible with the character of the neighborhood.
- minimize glare and light beyond the boundaries of the site.
- utilize fixtures to reduce glare; consider the use of cut-off fixtures or shielded fixtures to direct light downward.
- design signs and advertising features which are compatible with the surroundings, enhance the visual environment, are harmonious in color, material and lighting with the use to which it relates, and are non-distracting to motorists and neighboring land uses.
- discourage excessively large signs or numerous signs for a single or related land uses.

D. Future Land Use

One of the primary considerations of this Plan continues to be how land is used and will be used in the future. Many decisions about land use, once made, cannot practically be reversed. Farm fields turned into housing units, development of scenic areas, and construction practices which result in long term erosion or ecological damage are examples which should be evaluated and approved by the Town prior to any change in land use or construction. Any development plan must consider the impact of proposed change in land use on the preservation of land for this generation and for future generations. Development proposals must promote the public benefit.

The Town presently and in the future has need for land for public buildings, parking areas, recreational areas, schools, access routes, town forest land protecting water resources, and for various other facilities. The Town must regularly assess public land needs and, when necessary, recommend purchases or acquisition to the voters. Town investments in infrastructure shall not be made to the detriment of viable agricultural, conservation or recreation lands.

It is a goal of the Town Plan to maintain the rural/village character of Royalton, preserving scenic beauty, natural resources and the cultural assets of the Town while allowing for acceptable growth in appropriate locations. To encourage growth in a manner that does not overburden the town's ability to provide services or negatively impact the vitality of the village center, the Planning Commission is creating the following Land Use Areas:

- Village Area
- Resource Conservation Area
- Flood Hazard/Shoreland Area
- Agricultural/Residential Area
- Commercial/Industrial Area
- Low Density Service/Office
- Waterman Rd. Industrial
- Intermodal Industrial
- Industrial
- Farmland Conservation/Limited Development
- Residential
- Low-Density Residential
- Foxville Hamlet
- Exit 3 Access
- Flood Hazard Area

In 1999 and 2000 the Planning Commission conducted a study of development alternatives for the Exit 3 Area. The study resulted in the development of a report that was included as an appendix to previous version of the Royalton Town Plan. In an effort to streamline the Town Plan, a majority of the land use areas and land use policies contained within the Exit 3 Study have been incorporated into this Plan. Areas of redundancy have been removed.

Village Areas

The Village Areas are intended to be the cohesive core of Royalton's community. Their purpose is to support and maintain the role of the Village as the focus of many social and economic activities in the community and provide for residential, commercial, municipal, and other compatible development that serves the needs of the Town as a whole. Development should preserve the traditional social and physical character of the village, including its historic and scenic resources, and should not tax the capability of the lands, waters, services, and facilities

In South Royalton Village, where there is access to municipal sewer and water, density should be highest. It would be appropriate for developments that are on town sewer and water to be as dense as under ¼ acre (10,000sqft). High-density multi-family residential development that is in character with the village should be encouraged to locate in this area. In Royalton Village, development should be as dense as onsite water and sewer will allow.

Development in Royalton's Village Areas should remain mixed use, with appropriately scaled commercial (including primary retail) and civic uses existing with high density residential. Light

industrial development may be appropriate for the village area provided that it is able to fit into the village in such a fashion that it does not have an undue impact on the surrounding neighborhood.

Goals

1. To encourage the growth of Royalton's Village Centers in keeping with the rural character of the community.
2. To provide a location for higher density residential and commercial development at a scale that does not negatively impact Royalton's ability to provide services or the rural and natural character of the area.

Policies

1. Commercial uses and higher density multi-family housing are encouraged in the Village Center Areas.
2. All development within the village areas must be consistent with the existing character of the neighborhood.
3. Primary retail establishments (excluding those retail establishments that require substantial area for storage of materials, such as lumberyards and nurseries) must be located within the Village Center Areas or Foxville Hamlet Area.

Foxville Hamlet

Historically, this area has served as the location of several homes, and small businesses. The purpose of this land use area is to continue to encourage small-scale mixed-use development in a concentrated area. Some areas along the White River are subject to flooding. Land east of Route 14 has the greatest potential for new development.

The types of uses appropriate in this area include small-scale primary retail, service establishments and housing. All development within the Foxville Hamlet Area should be designed so as to fit with the historic character of the area. Density within this area should be as high as is possible with onsite septic.

Goal

1. To retain the traditional character of Foxville, allowing for the development of a variety of village uses.

Policies

1. The density of development should reflect the existing settlement pattern and physical land capability. Densely settled development should be encouraged, where practical.
2. Design features which contribute to the amenity values should be employed. These could include provision of sidewalks, trees, public open spaces, traffic calming measures, and the identification of historic landmarks.
3. Mixed uses, including small-scale primary retail and service establishments and housing, should be encouraged.

Resource Conservation Area

The purpose of the resource conservation area is to protect the natural resource value of lands that are essentially undeveloped; lack direct access to arterial and collector roads; are important for wildlife and wildlife habitat; have high potential for commercial forestry use; are unsuitable for land development; or include irreplaceable, limited, or significant natural, recreational, or scenic resources. Its further purpose is to protect higher elevations that have shallow soils and fragile vegetation and that provide significant recharge to the ground and surface water supplies of the Town and the region. No public sewer and water facilities are planned for these areas. Density of development in this area should be disperse, generally not less than twenty acres per lot.

Due to the limited facilities and services proposed for the area and the critical resources located within it, only certain uses ~~may be~~ are allowed. These are: low-density residential development, limited outdoor recreation uses, conservation uses, and forestry practices that are compatible with the area purposes and do not require additional facilities and services. Development that generates high traffic or requires trucking is not appropriate in the Resource Conservation Area.

Goal

1. To maintain and preserve the rural areas of Royalton by limiting the density and scale of development.

Policies

1. Land development or subdivision in this Area should be planned to minimize reduction of the resource value of such areas for forestry by providing reasonable population densities, use of cluster development, and new community planning designed to economize on the costs of roads, utilities, and land usage.
2. In locations defined as exhibiting significant wildlife habitats, planning for land development or subdivision should be sensitive to the economic, social, cultural, recreational, or other benefits to the public of the habitat. Where loss to the public of the resource is imminent by a development or subdivision, all feasible and reasonable means to prevent significant loss or imperilment of the resource should be employed.
3. Commercial development that is not associated with a home occupation, recreational, agriculture or forestry businesses is not appropriate in this area.

Flood Hazard/Shoreland Area

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

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

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

The purpose of the flood hazard/shoreland area is to: prevent increases in flooding caused by undue development of lands in flood hazard areas; minimize losses due to floods in Royalton or in downstream towns, preserve and enhance high quality waters; provide for the beneficial use of public waters by the general public; protect shorelands of waters; maintain a low density of development; and to promote high standards of quality for permitted development.

Permitted development within this area shall protect public access to the rivers or ponds, be compatible with the visual quality of the area, protect existing vegetation, and not cause any water pollution problems. Building on land that has been elevated above the flood hazard level in the flood hazard area shall be discouraged. Outdoor recreational or agricultural uses are encouraged. ~~Expansion of new commercial development shall not be permitted.~~ New residential, commercial or industrial development within the Flood Hazard Area is prohibited.

Goal

1. To protect the citizens of Royalton and the quality of our waterways as natural and recreational resources by using sound planning practices within designated Flood Hazard Areas.

Policies

1. Only agriculture, recreational and open space uses should be allowed in floodplains.
2. New development within the 100-year floodplain is prohibited excluding properly designed outbuildings and renovations that meet the requirements for Flood Hazard regulation as stipulated by the Federal Emergency Management Agency.

Recommendations

1. The Planning Commission should regularly review the Flood Hazard section of the Royalton Flood Hazard Regulations to ensure that it remains up-to-date with the requirements of FEMA and the NFIP.

2. The Planning Commission should examine additional protections for the Flood Hazard Area, and areas outside the FHA (Including the River Corridor Area) that are prone to flooding or flood damage. These should be incorporated into the Royalton Flood Hazard Regulations.
3. The Planning Commission should consider creating an additional buffer zone around mapped Flood Hazard Area to protect lands immediately adjacent to these areas from flood damage.
4. The Planning Commission should consider adopting stream buffers around upland brooks and streams to protect the river corridor areas from erosion damage.

Agricultural/Residential Area

The purpose of the agricultural/residential area is to protect lands with an economic capability for agriculture that are now predominately undeveloped except for uses associated with agriculture or forestry, and to ensure that residential and other compatible uses are placed at densities appropriate with the physical capability of the land, and available municipal services. Planned residential developments and land uses that do not remove the potential of the land for agricultural production such as open space, conservation, certain forms of outdoor recreation, and other uses which preserve the rural character of these areas are encouraged.

The extension of public water supply and sewage disposal systems are not planned for this area. Therefore, only low-density residential and recreational development that utilizes existing facilities, which can adequately dispose of its sewage, and that is compatible with the area purposes should be permitted. Any proposed Development should not harm any irreplaceable, unique, or scarce resources or any natural areas. Density within this land use area should remain disperse, particularly in areas that are not served by existing roads.

Goal

1. To maintain and preserve the rural areas of Royalton and encourage the continued vitality of the working landscape while allowing appropriate residential growth.

Policies

1. To encourage a mix of residential, agricultural, forestry and recreational uses in this area.
2. Commercial development may be appropriate in this area provided that the type of development does not require heavy trucking or generate an amount of traffic that is inappropriate for the area. Such development must be designed so as to fit in with the surrounding area.

Commercial/Industrial Area

The purpose of the commercial/industrial areas are to provide commercial, industrial, and institutional uses to serve the Town and the region. The character of the areas will be protected and enhanced by uses providing adequate parking facilities and suitable landscaping and screening. All uses will be located and designed so as to enhance the existing structures in the area and provide for a smooth traffic flow. The area must be serviced by good transportation facilities and public utilities. Junk and salvage yards and similar uses are discouraged.

Royalton's Commercial/Industrial Areas include locations that have direct access to Route 14. The Commercial/Industrial area located near the Foxville Hamlet area also has potential access to the New England Central Railroad. Because both Commercial/Industrial Areas are located adjacent to Villages or Hamlet Areas, the types of commercial and industrial development allowed in these areas must be limited to those uses that will not have an adverse impact on the character of the area.

The density of development within the Commercial/Industrial Areas shall be as high as onsite septic and water suitability allows. Allowed density should not unduly increase traffic.

Goals

1. To provide land for industrial activity in an area that has potential use of rail facilities for freight.
2. To ensure that a safe and efficient access road is maintained in its current location on Route 14 to Route 14 is maintained.
3. To promote the retention of active agricultural land and to maintain the character of Royalton's two historic villages.
4. To evaluate the impact of any future use on the historic character of the immediate area.

Policies

1. Industrial uses dependent on rail freight should be allowed and encouraged in this area, provided that access for heavy trucks is from Route 14 north of the underpass in Foxville.
2. Projects that generate excessive amounts of vehicular traffic, noise, dust, vibration, or similar interference with the Foxville Hamlet or Village Areas should be discouraged.

Route 107 Low Density Service/Office

This area includes those properties on both sides of Route 107 extending generally from McCullough's Quick Stop property and Lucky's Trailer Sales. Development in this area is primarily service oriented. Several buildings in the area represent notable examples of vernacular design appropriate for the area.

Uses that are appropriate in this area include service establishments and office uses. Density of development in this area should be moderately dense, which is consistent with existing development. Density could possibly be increased if the entire area were served by a shared onsite sewer and water system, but only if the increased density maintained the current character of the area.

Goals

1. To maintain and promote to medium scale non-residential service and office development that reflects quality site and building design standards.
2. To incorporate access management techniques to minimize new access points, combine existing points where possible, and develop safe intersection nodes so that the function of Route 107 as a minor arterial road is not compromised.
3. To encourage development that does not compromise the viability of Royalton's two villages or downtown Bethel.

Policies

1. Appropriate uses for this area are service establishments and office uses. Examples of such uses might include self-storage facilities, equipment rental, medical facilities, health clinics, community care homes, and insurance offices.
2. Primary retail, and municipal uses are not appropriate in this land use area—unless such activities are subordinate to a service or office use. Additional gas stations are inconsistent with the planning goals for this area.
3. Future development that unduly harms the economic viability of Royalton, South Royalton, and Bethel villages as economic centers for the Town is discouraged. Superstores and fast food establishments are inappropriate uses for this area.
4. Planned unit developments such as office parks, professional offices, and similar uses are appropriate uses, but should incorporate access management, service roads, and high quality New England vernacular architectural design. Notwithstanding the above, projects that cause, or contribute to unsafe conditions or unreasonable congestion, with respect to Route 107 and related roads, are discouraged.
5. Future developments should be planned with access management techniques to maintain or reduce traffic conflicts, avoid costly highway improvements, and preserve public investment in Route 107 as a minor arterial road.

Waterman Road Industrial Area

The purpose of the Waterman Road Industrial Area is to encourage the light industrial development in a location that has primary access to and egress from the intersection of Waterman Road and Route 107. Most existing development in this area is not visible from the rest of town, Interstate 89 and Route 107. A few single family residences and farmsteads are located in the area. Much of the land comprising the area is formerly farmland, or wooded. Slope gradient ranges from slight to moderate. Much of the land has been converted to industrial uses since the opening of Interstate 89. It has been acknowledged that the junction of Waterman Rd. and Route 107 is not well suited to heavy truck traffic due to the poor access design. To address this problem, the first 1,000 feet of Waterman Road and its intersection with Route 107 should be re-aligned to reduce traffic hazards.

Uses that are appropriate in this area include light industrial uses that are compatible with the surrounding area. Density of development in this area should be moderately dense, which is consistent with existing development. Density could possibly be increased if the entire area were served by a shared onsite sewer and water system, but only if the increased density maintained the current character of the area.

Goals

1. To provide for light industrial uses of a scale and design that complements the character and style of existing industrial/research facilities within the area.
2. To encourage appropriate road and intersection improvements to maintain safe and efficient access and egress for large trucks from this area.

3. To ensure that new growth in the area does not unnecessarily or unreasonably endanger public investment in Waterman Road, Route 107 or Route 14.
4. To encourage the development of a park-and-ride lot in an appropriate, safe, and visible location as close to the interchange as possible.

Policies

1. Industrial uses are the preferred land uses for this area. Examples might be: low impact machine tool facilities, warehousing including self-storage, commercial recycling (including commercial junk yards), research and development labs, manufacturing facilities, and small business Incubators. All development should be designed and operated so as to conform to applicable health and environmental regulations. Efforts should be made to adequately address visual impacts on the surrounding area.
2. Commercial uses, such as retail sales, gas stations, motor vehicle dealerships, stores, or uses predominately used by the general public are ~~discouraged~~ not appropriate in this area.
3. Future non-residential land use development should be planned and constructed to minimize adverse effects on existing residential uses within the area.
4. No land use should create or contribute to unsafe or hazardous conditions at the intersection of Waterman Road and Route 107. Where development is determined to create such a condition, the Town and the State of Vermont should seek a financial pro rata share or contribution from perspective permittees to cover costs for improvements.
5. Through truck traffic is discouraged from using Waterman Road as a short cut between Route 14 north and Route 107. Developments that increase truck traffic on the upper end of Waterman Road are also discouraged.

Intermodal Industrial

This area generally represents the low-lying area between Route 107 Low Density Service Area and the White River. The area is subdivided by the New England Central Railroad, with some areas subject to periodic flooding. The State of Vermont Highway Garage complex covers a portion of the area. Road access is limited to Route 107. Visibility from Route 107 and Interstate 89 is limited due to intervening land uses, elevations, and land cover.

Rail freight transportation is growing, both nationwide and in New England. This trend is likely to continue. Growth of this industry can reduce long-distance truck traffic, reduce wear and tear on heavily traveled highways, and move goods more efficiently. Planning should allow for rail dependent industries to locate to this area. The ~~proposed~~ purpose of the Intermodal Industrial Area ~~may be~~ is to provide future development with an area that is ideally suited to the intermodal freight industry. The area has few serious development constraints, is under-utilized, and any truck traffic generated from this location would have relatively short and easy access to Interstate 89. To accomplish such future development, a cooperative master planning effort between the Town, the State of Vermont, affected landowners, and New England Central Railroad will be necessary. As a part of this process, a review of alternatives and costs for rail siding/transfer facilities and a safe and single access should be included.

Uses that are appropriate in this area include industrial development that requires rail access. Such uses must be compatible with the surrounding area and may not represent a potential health hazard or nuisance to the community. Density of development in this area should be moderately dense, which is consistent with existing development. Density could possibly be increased if the entire area were served by a shared onsite sewer and water system, but only if the increased density maintained the current character of the area.

Goals

1. To provide for industrial uses benefiting from or dependent on rail facilities, particularly where increased rail freight will reduce truck traffic on the region's roads.
2. Create a detailed intermodal transportation plan for the area through a collaborative process.

Policies

1. Industrial uses which require rail access and intermodal transfer to trucks are the preferred land uses for this area and should be encouraged to locate here.
2. A single access road or a common interior loop road should be encouraged to provide safer access to and reduce loss of valuable land in this area.
3. Uses should be planned that do not create excessive noise or lighting levels which unreasonably impact neighboring land uses.
4. Uses which would create uneconomic or costly repair and maintenance of Route 107 and related roads are discouraged.
5. No industry should be promoted which creates or handles hazardous wastes or similar materials.

Farmland Conservation /Limited Development

This area is the gateway to Royalton and Bethel from Interstate 89. The scenery is exceptional as viewed from Routes 14 and 107, and Interstate 89. Intensive structural development of any type could significantly diminish scenic values. Land use policy should be directed at conservation of key areas. Compensation to landowners for the purchase of lands or interests is critically necessary if the overall goals for this area are to be accomplished. Purchase of development rights or other means to conserve these lands by the State or non-profit conservation land trusts should be a high priority. Project planning and site design should be carefully evaluated to ensure that goals and policies for this area could be achieved.

This area covers active farmland, farm complexes, and land subject to flooding immediate to the interchange. Much of the area contains primary agricultural soils. A sizable portion of this area is located within the flood plain of the White River. Public policy at the national and state levels clearly discourages using active farmland for non-agricultural uses. Vermont's Act 250 statutes generally prohibit large-scale developments or subdivisions from reducing the value of primary agricultural soils, unless no reasonable alternative exists.

Density in this area should be low – consistent with more rural areas in town, with uses such as agriculture and non-commercial outdoor recreation being the primary focus. Commercial or industrial

development that is not related to agriculture is inappropriate for this area. Residential development, particularly in areas adjacent to the Flood Hazard Area, is discouraged.

Goals

1. To promote the conservation of primary and secondary agricultural land, soils, and other farm related resources.
2. To manage future land use in a manner that maintains or enhances rural agricultural character, scenic amenities, and recreational resources.
3. To advance development of a protected gateway to the villages of Royalton with consideration of open space surrounded by historic and new compatible development.
4. To sustain agriculture where conditions enable these farms to remain viable.

Policies

1. The preferred land uses are agriculture, non-commercial outdoor recreation, and accessory uses or structures related to these uses.
2. Where high value agricultural conditions are identified, only limited small-scale clustered or peripheral development should be encouraged, to protect such resources and to prevent unnecessary land fragmentation.
3. Construction of new homes or businesses within the limits of or immediately adjacent to the 100 year flood plain is an inappropriate land use.
4. Construction of utilities, roads, or other physical modifications which reduce the productivity of agricultural activities should be discouraged.
5. Utilization of the Vermont Housing and Conservation Program (VHCP) or similar programs to acquire interests or easements on land should be pursued by the Town, in cooperation with landowners and conservation land trusts. Such easements are perpetual voluntary agreements between landowners and land trust where landowners receive compensation. As an alternative to conservation easements, rights of first refusal and fee simple purchase should be considered.
6. To ensure a balanced use of land, project designers are encouraged to concentrate new development within a portion of a parcel offset by retention of open space or agricultural land.

XII. Flood Resilience

A. Goals, Policies and Recommendations

Goals

1. The citizens, property and economy of Royalton and the quality of the Town's rivers as natural and recreational resources are protected by using sound planning practices to address flood risks.

2. Royalton is able to recover from flooding quickly and in a manner that improves flood resilience.
3. The creation of impervious surfaces and development in wetlands or upland forests in Royalton is lessened, and where it does occur, is done in a manner that does not worsen flooding.

Policies

**Mapped areas, unless corrected by FEMA.*

1. All new fill and construction of buildings in Royalton's mapped flood zones* outside of river corridors increases flood risk and is prohibited, and accessory structures at a minimum must comply with the standards set forth in the Royalton Flood Hazard Bylaw.
2. Natural areas, non-structural outdoor recreational and agricultural uses are the preferred land uses within Royalton's river corridor areas due to the dangerous erosive nature of these areas.
3. Commercial, industrial, and residential uses within ANR's mapped river corridor areas are strongly discouraged outside of Royalton's village and town centers.
4. New buildings within Royalton's mapped floodways* shall be prohibited.
5. In order to lessen the conflict between roads and streams, Royalton supports moving or abandoning roads when there are more cost effective solutions or other routes.
6. Royalton should only rebuild/install culverts and bridges that are designed at least to VTrans Hydraulics Manual and ANR Stream Alteration Standards.
7. Royalton's emergency services, wastewater treatment plants, power substations, and municipal buildings shall not be built in the Special Flood Hazard Areas unless flood-proofed or elevated to at least 2 feet above the base flood elevation and designed to withstand erosion risk.
8. Vegetated buffer strips should be maintained in riparian zones surrounding streams and rivers. Rock rip-rap and retaining walls should only be used to the extent necessary and when bioengineering techniques may not be adequate to prevent significant loss of land or property.
9. Royalton's upland forests and watersheds should be maintained predominately in forest use to ensure high quality valley streams and to ensure that flood flows are absorbed.
10. Outside of areas of existing compact development, new development must preserve vegetated riparian buffer zones that are consistent with state riparian buffer guidelines.
11. All wetlands which provide flood storage functions shall remain undeveloped or have compensatory storage constructed so as to achieve no net loss of such wetland function. In the long term, restoration and enhancement of additional wetlands should be pursued in order to

improve Royalton's flood resilience.

12. Structural development or intensive land uses shall not occur in Class I and Class II wetlands unless there is an overriding public interest.

13. Emergency planning for flood response and recovery is encouraged.

Recommendations

1. Royalton should work with the Regional Planning Commission to strengthen the Town's Flood Hazard Bylaws in order to mitigate risks to public safety, critical infrastructure, historic structures and municipal investments from inundation and erosion.
2. Royalton should work with VTrans and the Regional Planning Commission on advocating for and improving the flood capabilities of state or Town-owned transportation infrastructure.
3. Royalton should continue working to develop mitigation plans, and emergency preparedness and recovery procedures from flooding.
4. Existing homes and businesses at serious risk of flood damage in Royalton should be identified and prioritized in concert with the ANR River Management Section and the Regional Planning Commission for mitigation actions such as elevation/relocation or purchase and demolition.
5. Areas not designated in either FEMA's maps or in VT ANR's maps, but which are flooded during a weather event should be added to local flood regulations.
6. Watershed-level planning should be done by towns with assistance from the Regional Commission to evaluate natural and constructed flood storage options upstream of existing areas of concentrated development that are at risk of flooding.
7. Royalton will work with ANR, the Regional Planning Commission and landowners to lessen flood risk by restoring natural channel functions through berm or dam removal or intentional lowering of streambanks.
8. Royalton should adopt road and bridge standards to the 50 or 100 year storm level for identified critical transportation routes.
9. The Planning Commission should revise the Flood Hazard Bylaw to include restrictions on development in mapped River Corridor Areas as well as 50 feet within unmapped upland streams.

B. Background

Following the devastating impact of Tropical Storm Irene in 2011, the Vermont Legislature added a requirement that all communities address flood resilience as part of their municipal plans. Interpreted very broadly, “resilience” means that an entity—a person, neighborhood, town, state, region or society—when faced with a particular situation or event, has the ability to effectively return to its previous state or adapt to change(s) resulting from the situation or event without undue strain. As such, “resilience” is not necessarily an action that is taken, but an overall enhanced state of being in relation to an ongoing or future specific situation or event.

When applying the term to hazards, it is important to further articulate the meaning of “resilience.” In this context, “resilience” is often discussed in terms of being resistant to the effect(s) of one or multiple hazards that could reasonably be expected to occur in a specific area. For the purposes of this chapter, flood resilience will mean the ability of Royalton to effectively understand, plan for, resist, manage and, in a timely manner, recover from flooding.

Types of Flooding

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

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

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

Causes of Flooding

Flooding is caused by a small number of distinctive types of weather, and also by the cumulative impact of a weather event and the conditions on the land at the time the flooding occurs. By far the most common type of weather event to occur in the region is a severe storm. Severe storms may include thunder, lightning, hail, high winds, and precipitation with varying degrees of intensity. Severe storms with particularly heavy precipitation have the ability to create flash flood conditions. However, over an extended period of time, severe storms may cause inundation flooding due to the cumulative effects of continuous rain, saturated soils and a high water table/high aquifer levels. As with any weather system, pockets of a severe storm may be more severe than others, leading to variability of observed impacts across the region.

The main hazards associated with hurricanes and tropical storms are high winds and flooding. By the time most hurricanes reach Vermont, they have been downgraded to tropical storms, but that is not to say they are less dangerous. Due to the steep slopes and narrow valleys in the region, heavy precipitation from a hurricane or tropical storm tends to cause severe flash flooding and widespread destruction. The speed that the hurricane or tropical storm is moving across the area and the pockets of varying severity both have an impact on the rainfall totals observed from town to town. Storm impacts can be greatly magnified by previous rains.

Both severe storms and hurricanes/tropical storms occur during the summer and into the fall months, but ice jams and the combination of melting snow and rain leave the region vulnerable to the impacts of flooding in the winter and early spring. Ice jams typically occur during the spring when river ice begins to break up and move downstream, but may occur during a thaw period in the winter months. Sheets of ice become hung up on a narrow portion of the stream or river, such as under a bridge, culvert or another obstruction, creating a “dam” and additional ice and water begin to back up behind the hung-up ice sheets. This creates inundation flooding immediately adjacent to the site of the “dam,” and additional inundation flooding upstream. Once the “dam” breaks free, flash flooding may occur downstream as well. Ice jams in the region typically cause minimal damage, but they can damage road infrastructure, and flood homes and businesses.

Finally, the combination of melting snow and rain, can lead to flooding in Royalton. Flooding is worsened by land uses that create hard surfaces that lead to faster runoff, and past stream modifications that have straightened or dredged channels, creating channel instability.

Historic Flood Events

There have been at least 12 flooding events in Windsor County, a number of which negatively impacted Royalton. Perhaps the worst flood disaster to hit the Town of Royalton, as well as the overarching region and the State of Vermont, occurred on November 3, 1927. This event was caused by nearly 10 inches of heavy rain from the remnants of a tropical storm that fell on frozen ground. Eighty-four Vermonters, including the Lieutenant Governor, were killed. The flooding in the White River valley was particularly violent, with the river flowing at an estimated 900,000 gallons per second on the morning of the 4th. Like many towns in the region, the Town of Royalton received heavy precipitation.

A more recent flood that devastated the region and the state was the result of Tropical Storm Irene, which occurred on August 28, 2011. Record flooding was reported across the state and was responsible for several deaths, and millions of dollars of home, road and infrastructure damage. Due to the strong winds, 50,000 Vermont residents were initially without power, and many did not have electricity restored to their homes and businesses for over one week. Despite the damage wrought, the flooding caused by Tropical Storm Irene is considered to be the second greatest natural disaster in 20th and 21st century Vermont, second only to the Flood of 1927.

The Town of Royalton suffered major damage to property and infrastructure during Tropical Storm Irene, although no lives were lost. It is estimated that Tropical Storm Irene dropped 4-5 inches in the Town of Royalton in a very short span of time, and 4-7 inches across the county. Many of Royalton's roads and culverts were damaged by the storm, including parts of: Bridge Street, Broad Brook Road, Gilman Road, Happy Hollow Road, Mill Road, North and South Windsor Streets, Oxbow Road, Parkhurst Road (Hwy 55), Royalton Hill Road, and Russ Hill Road. Approximately 90 properties were damaged including; 25 homes, 12 other structures, 13 businesses and the remaining properties damaged were land damage to fields, lawns and driveways. The Royalton Listers adjusted about \$3 million in building damage. Twenty of the properties damaged were being used for farm land (corn, hay, vegetable and pasture), and 3 were working farms. Crop damage in the White River valley in Royalton was estimated between \$120,000 to \$150,000.

C. Flood Hazard and Fluvial Erosion Hazard Areas in Town

Flood Hazard Areas

There are two sets of official maps which can govern development in the floodplain in Vermont. They are the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs) and VT Agency of Natural Resource's river corridor area maps. The FIRMs show the floodplain that FEMA has calculated which 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. Royalton has areas of mapped flood risk by FEMA.

Recent studies have shown that a significant portion of flood damages in Vermont occur outside of the FEMA mapped areas along smaller upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. Since FEMA maps are only concerned with inundation, and these other areas are at risk from flash flooding and erosion, these areas are often not recognized as being flood-prone. Property owners in such areas outside of SFHAs are not required to have flood insurance. Flash flooding in these reaches can be extremely erosive, causing damage to road infrastructure and to topographic features including stream beds and the sides of hills and mountains, and also creating landslide risk. The presence of undersized or blocked culverts can lead to further erosion and stream bank/mountainside undercutting. Change in these areas may be gradual or sudden. Furthermore, precipitation trend analyses suggest that intense, local storms are occurring more frequently.

Vermont ANR's river corridor maps will show the area needed to address these erosion hazard areas, which may be inside of FEMA-mapped areas, or extend outside of this area. In these areas, the lateral movement of the river and the associated erosion is 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 structure. Vermont ANR is set to issue statewide river corridor maps in the latter part of 2014.

Flood Hazard Regulations

The Town of Royalton Flood Hazard Area Regulations prohibits new structures in the floodplain and fluvial erosion/stream buffer zones and places restrictions on other types of activities within the Special Flood Hazard Area. It also specifies land, area and structural requirements in the Special Flood Hazard Area and Fluvial Erosion Hazard zones. While the Town of Royalton lacks zoning regulations that extend beyond flood hazard areas, the Town Plan does state that all development that is not essential to the running of agriculture, forestry, recreation and wildlife protection is to be restricted in floodways. Additionally, expansion of commercial development in the designated Flood Hazard/Shoreland area shall not be permitted, and restrictions are to be placed on other newly built properties. The Plan states that construction of new properties within the 100-year floodplain is not an appropriate use of the land.

There are 58 residential (eighteen mobile homes, thirty-nine single-family dwellings and one seasonal home) and 8 commercial structures (including at least two commercial farms and commercially important agricultural lands) in the 500 year floodplain, which equal \$11,387,610 if all properties were damaged/destroyed in a severe flooding event. The 500 year floodplain was chosen as a basis for this analysis to demonstrate the number of Royalton properties that are or may be vulnerable to flooding. In addition, the flooding that occurred as a result of Tropical Storm Irene is considered to be greater than a 100-year flood. Therefore, in order to be more forward-looking, the damage to structures in the 500-year floodplain is documented in this plan.

Due to the development restrictions mountainous terrain places on an area, "at-risk populations," such as children or the elderly, low-income housing and critical infrastructure may be located in flood hazard areas. Across Vermont, most child and elder care facilities are not registered with the State. Much of the child day care is likely private and in-home in Royalton, but there are three licensed facilities within the Town: Magic Mountain Children's Center, the South Royalton Preschool, and the South Royalton Afterschool Program. None of these facilities are located in a FEMA designated floodplain. There are two elder care or elder housing facilities in the Town of Royalton: Gifford Adult Day Program and Brightwood House. Neither of these facilities are located in the floodplain. Finally, low-income housing is not registered with the State, and there are three mobile home parks in Royalton: Eaton's Mobile Home Park, Jacobs Park and Riverbend Park. Eaton's Mobile Home Park is located in the 100-year floodplain.

Recent studies have shown that the majority of flood damage in Vermont is occurring along upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. These areas are often not recognized as being flood prone and property owners in these areas are not typically required to have flood insurance (DHCA, 1998). It should be noted that although small, mountainous streams may not be mapped by FEMA in NFIP FIRMs (Flood Insurance Rate Map),

flooding along these streams is possible, and should be expected and planned for. Flash flooding in these reaches can be very erosive, causing damage to road infrastructure and to topographic features including stream beds and the sides of hills and mountains. The presence of undersized or blocked culverts can lead to further erosion and stream bank/mountain side undercutting. Furthermore, precipitation trend analysis suggests that intense, local storms are occurring more frequently. In the Town of Royalton, there no structures located in the mapped Fluvial Erosion Hazard Area.

D. Promoting Flood Resilience

Flood Hazard Regulation

As previously mentioned, Royalton's adopted flood hazard regulations exceed minimum development standards allowed by the National Flood Insurance Program (NFIP). They do not include protections for river corridors.

Any updates to Royalton's Flood Hazard Regulations that are intended to increase flood resiliency in Royalton will need to include language that protects the River Corridor Area (also know as the Fluvial Erosion Hazard Area). Additionally, such revisions to the regulations could include mandatory stream buffers for upland streams. If these steps were taken, existing development would be grandfathered and could continue to operate within the area, until it suffers major damage or is substantially improved, at which point it has to come into compliance with flood regulations. Potential strategies to protect these areas could cover a wide range of options, including:

- **Prohibition on New Development** – Most planners would suggest that a complete prohibition on new development within River Corridor Area (RCAS) and upland stream buffer areas that are potentially subject to flooding is prudent; however this option may not have community support.

It is also important to consider exactly what the definition of “new development” will include. The Planning Commission could include adding smaller additions and minor renovations to existing structures over a certain size. This is not a commonly used methodology in most communities, as it impacts grandfathered uses and can be challenging to implement. However, some additions and any redevelopment over 50% of a structure’s value must be done according to NFIP standards.

- **Prohibition of Specific Types of Development** – An alternative to an outright prohibition on development is to identify specific types of development that should be kept from developing within RCA or stream buffer areas. In some communities, new residential and commercial development has been prohibited from developing in these locations. In others, only residential has been prohibited. Decisions on which types of uses to prohibit are generally made with substantial citizen input with considerations for what will most substantially reduce risks to life and property.

- **Increasing Standards** – Communities can choose to increase the requirements for new developments in the floodplain while still allowing all or most forms of development. Increased standards could include a requirement that structures be elevated higher than the minimum standards required by the NFIP. Such standards could also include more specific requirements for tying down structures, elevating utilities so that flood are less damaging, and making structures more capable of allowing floodwaters to pass through them (such as using piers instead of fill to elevate).

Future revisions to Royalton's flood hazard regulations will require input from the community regarding the level of regulation they believe is necessary to protect citizens and their buildings from severe flood hazard events. Provided that all parts of the flood hazard regulations continue to meet the minimum requirements of the NFIP, communities have a broad range of flexibility in which to regulate the flood hazard area.

Non-regulatory approaches

Easements

Royalton could pursue riparian easements as a way to protect floodplain from development and preserve flood storage.

Home/Property Buyouts

Following the flood damage caused by the 2011 spring flooding and Tropical Storm Irene, a number of property owners in Vermont applied for property buyouts, which were funded by FEMA's Hazard Mitigation Grant Program (HMGP) and HUD's Community Development Block Grants for Disaster Recovery (CDBG-DR). Over the course of this process, over 130 damaged or destroyed residential properties in the state of Vermont will be/have been bought out with this grant funding. As a stipulation of the HMGP funding, FEMA requires that the structure(s) on each buyout property be demolished, and ownership of the empty parcel of land then be transferred to the town/municipality. Future development on these sites will be restricted.

The home/property buyout process has both positive and negative impacts on a town and the community at large. The TRORC region was particularly hard hit by the flooding caused by Tropical Storm Irene, and had the greatest number of property buyout applicants in Vermont. As of early 2014, there were 60 properties in the TRORC region involved in the buyout process. The towns in our region with buyout properties include; Bethel, Braintree, Bridgewater, Granville, Hartford, Pittsfield, Plymouth, Rochester, Royalton, Sharon, and Stockbridge. Most of these towns are located on the White River and its tributaries. As of early 2014, 21 residential properties spread across these towns were purchased with FEMA's HMGP funds. Because the properties eligible for a buyout were heavily damaged by flooding, the buyout process is an effective way to reduce a community's vulnerability to flooding and therefore improve the community's overall resilience to flooding. As a result, a number of communities in the region have been made safer.

However, while the buyout process of an at-risk home makes a community less vulnerable to flooding, there is an inherent conflict between home buyouts and the tax and housing base of a town. For many towns in the region, a fiscal issue may arise with the loss of a few homes or properties from their tax base.

As a result, some towns may need to raise taxes for the remaining landowners in order to maintain the town's level of service provided to the community. Higher taxes may make a specific town less attractive to some potential home buyers.

Another consequence of home buyouts is the loss of a town's housing base. Many towns in Vermont and in the region are located in valleys surrounded by steep slopes. Some homes are built on the hillsides, but due to topographic constraints, many homes are built in the valleys, near rivers and streams. This location places the structure and inhabitants at risk of flooding damage or injury caused by either inundation flooding or by fluvial erosion. Often times, affordable or low-income housing is located in these higher risk areas. So, during a major flooding event, these homes have a higher probability of being damaged or destroyed, and therefore may be good candidates for a home buyout. However, when the structure is razed as part of the buyout process, it is removed from a town's housing base and in addition, may be removed from a town's affordable housing base. This situation may present challenges to the town in the future.

Generally speaking, the buyout of homes at high-risk of flood damage is an important step in improving the resilience of a town and community to flood damage. If a town's home buyouts have significantly impacted the housing base, it is important that the town have a thoughtful and creative approach to rebuilding its housing base that will maintain its improved flood resilience and conform to the town's future land use visions or settlement patterns.

Culvert Maintenance

The town continues to upgrade and maintain culverts.

The last official culvert inventory completed for the Town of Royalton was in 2013. Royalton routinely updates their culvert inventory with newly created and repaired culvert listings. The process of upgrading culverts is ongoing, and there were four culvert updates in 2013.

XIII. Relationship to Other Plans

A. Relationship to Municipal Plans

The Municipal Plan focuses primarily on development and policy within the community's boundaries. However, it is important to recognize that how a community grows and changes can be directly impacted by development that takes place outside of the community. For example, many places had large and vibrant villages that were negatively impacted by the location of the railroad in outside areas.

In order to analyze the potential for outside impacts on Royalton, the Planning Commission has reviewed the Municipal Plans and, if available, the land use regulations of surrounding towns for consistency with this Plan. These communities include:

- Barnard – The Town of Barnard has had an adopted plan since 1971, which has been revised regularly, as well as a recently adopted Unified Bylaw (zoning and subdivision). The pattern of development promoted by the Barnard Town Plan along Royalton's border is very similar to the

diffuse pattern outlined in the Land Use chapter of this plan. Uses encouraged in Barnard are likewise similar. There are no potential conflicts between these plans.

- Bethel – The Town of Bethel has had land use regulations for decades. Their Municipal Plan was most recently adopted in 2014, with substantial updates to the pattern of land uses. The shared border between Bethel and Royalton represents the most diverse mix of land use patterns. Bethel’s Village Area, which represents the highest density and broadest mix of uses, abuts the area designated as Agricultural/Residential in this plan, which is lower density and primarily residential in nature. While this could potentially represent an area of conflict between the two land use plans, the topography is such that it is highly unlikely that new development will occur along Route 107 where the two towns meet. In all other locations, the land uses in each community are generally compatible, being primarily residential in nature. Conflicts between these plans are unlikely.
- Pomfret – Pomfret has a tradition of planning and zoning that focuses primarily on rural residential, agricultural and home occupations. Uses within the limited area of shared border between Pomfret and Royalton are similar and therefore compatible. No conflicts are foreseen.
- Sharon – Sharon maintains a Municipal Plan, Subdivision regulations and an aggressive Flood Hazard Bylaw, but no zoning ordinance. Sharon’s Flood Hazard bylaw is very similar in nature to Royalton’s, prohibiting new development in the floodplain. Nearly all of Sharon is designated as Forest Conservation or Rural Residential, including much of the area along the shared border with Royalton. The only area of exception is Sharon’s “Commerce Park” area, which is home to a small industrial park. This area abuts a portion of Royalton’s Resource Conservation area, which is intended to be low density residential with limited uses. It is possible that a future industrial use could conflict with Royalton’s land use, but it should be noted that the majority of Commerce Park is now occupied by a solar farm – which is an extremely low impact neighbor. For the life of the solar farm, it is unlikely that conflicts will arise between these two areas.
- Strafford – Strafford has a regularly updated Municipal Plan as well as Zoning, Subdivision and Flood Hazard Bylaws. The shared border between Royalton and Strafford is very small. Within this area, both communities stress a pattern of rural residential development that favors natural resource protection. There are no conflicts between these plans.
- Tunbridge – The town of Tunbridge has no land use regulations, only a Municipal Plan. With the exception of Tunbridge’s Village Areas, the bulk of the community is the type of rural residential common Royalton and its neighboring towns – low density, primarily residential with an eye toward protecting natural resources and encouraging agricultural & silvicultural activities. Tunbridge has designated the Route 110 corridor as an area that deserves additional protections for aesthetics and viewsheds. There are no conflicts between these plans.

B. Relationship to the Regional Plan

Royalton is a member of the Two Rivers-Ottawquechee Regional Commission (TRORC). It is one of

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

The Regional Commission adopted its Regional Plan in June, 2014. It will remain in effect for a period of eight years. This Plan was developed to reflect the general planning goals and policies expressed in the local plans. It is an official policy statement on growth and development of the Region. The Regional Plan contains several hundred policies to guide future public and private development in the Region. Policies for land use settlement are identified. These areas are: Town Centers, Village Settlement Areas, Hamlet Areas, Rural Area, and Conservation and Resource Areas. Delineation of each land use area is mapped or charted.

C. Goals, Policies and Recommendations

Goal

1. To work with neighboring towns and the region to encourage good land use and environmental policy that benefits the citizens of Royalton.

Policies

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

XIV. Town Plan Implementation

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

Implementation can be approached in multiple ways some regulatory and some non-regulatory, they include (but are not limited to) the following:

Regulatory

Non-Regulatory

Zoning & Subdivision Bylaws	Design a Capital Budget & Program
Strengthening Town Plan language to clearly influence Act 250 proceedings (use of direct language, such as "shall")	Advisory Committees (i.e. Conservation Commissions or Energy Committees)
Official Map	Education/Outreach on important issues
Access Permits - Town Highways Only (Selectboard)	Purchase or acceptance of development rights
Flood Regulations & National Flood Insurance Program	Follow-up on recommendations for action in Plan

A. Tools for Regulatory Implementation

Regulation of land use and development through rules adopted by the Town is one possible method of Plan implementation. Well recognized and utilized means include, but are not limited to, Zoning Bylaws and subdivision regulations. Examples of potential implementation tools include:

Zoning Bylaws

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

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

Royalton's land use regulations are limited to a Flood Hazard Area Bylaw, there is no other form of Zoning Bylaws which establishes districts or zones that have a different set of uses, densities, and other standards for development. Were the community to adopt zoning, all districts would need to be reasonably consistent with the Town Plan.

Subdivision Regulations

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

One noted advantage to adopting Zoning and Subdivision regulations is that the trigger for Act 250 (see below) review is raised from 1 acre to 10 acres, essentially giving the town ultimate control over most development under 10 acres.

Flood Hazard Bylaws

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

Act 250

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

Prior to these activities being commenced, a permit must first be granted by the District Environmental Commission. In determining whether to grant a permit, the Commission shall evaluate the project in relation to ten specific review criteria.

These criteria relate to the environmental, economic, and social impacts of the proposed project on the community and region. Parties to Act 250 proceedings include Royalton, through the Planning Commission and Selectboard, the State, and the Regional Commission. One criterion that needs to be addressed is whether the project is in conformance with the Royalton Town Plan. If a project were determined not to be in conformance with the plan, the District Environmental Commission would have a basis to deny a permit. As such, Act 250 reviews can take into consideration protection of those types of resources considered important to the well-being of the community. Accordingly, it is in the interest of the Town to evaluate Act 250 projects affecting Royalton and to offer testimony, as appropriate.

For a Town Plan to be given serious weight under Act 250, the Plan must contain specific and unambiguous language. If a community is serious that a policy be recognized by the District Environmental Commission during Act 250 review, it must use firm language such as "shall" or "must" instead of "should" or "could". The Planning Commission has been selective about where strong language is used in policy throughout this document, as it is important to recognize that the Town Plan should have some flexibility. In instances where flexibility was not wanted, the Planning Commission wrote policy with appropriately strong language.

Highway Ordinances

Royalton has in effect a Highway Ordinance setting forth the standards and conditions for the maintenance, improvement, discontinuance, laying out and acceptance of Town highways. In addition, the ordinance includes provisions related to the reclassification of town highways (Classes 2, 3 and 4).

Lastly, Royalton does have, through its Selectboard, the ability to regulate private access to municipal roads through the issuance of "curb cut" permits to landowners. "Curb cuts" are places where a private driveway or road connects to a town highway. In granting a cut onto town roads, the Selectboard can give consideration to safety issues such as adequacy of sight distance and proximity to intersections as well as conformance with this Plan.

B. Tools for Non-Regulatory Implementation

Capital Budget & Program

The creation of a capital budget and program has been discussed in several chapters of this Plan. A capital budget and program is a financing approach that benefits the town greatly in the selection, prioritization, timing and costing of capital projects. Under the capital budget, a project is selected (e.g. bridge refurbishment), a funding source determined (e.g. general taxes, and general obligation bonds) and a priority year given for each activity. Collectively these capital projects make clear when public facilities will be placed to accommodate projected growth.

In addition, it is noted that under Vermont's Act 250 law, in granting a Land Use Permit for a major development or subdivision, the District Environmental Commission must first find that the project is in conformance with the town's capital budget. [See 10 V.S.A., Section 6086(a)(10).] Accordingly, this mechanism gives the town an indirect method of implementing its policies and priorities as set forth in the Plan.

While both Royalton has an informal system of capital programming, it is recommended that a Capital Budget Committee be established to work with the Select Board and Planning Commission in the development of a list of capital needs and expenditures, and to formally present a Capital Budget and Program for adoption.

Advisory Committees

State statute authorizes a community, by vote of the Selectboard, to create advisory committees. These committees can have differing roles, some provide advice to the Planning Commission or Development Review Board regarding development (for example, a historic review committee as part of a design review district), but more often advisory committees are created to focus on a specific topic in the Plan. The most common advisory committees are the Conservation Commission and the Energy Committee. These groups (outlined in the Natural Resources and Energy chapters respectively) can assist the Selectboard and/or Planning Commission with the creation of policy, but they can also act as the primary source of outreach and education relating to their primary focus point. Royalton has an Energy

Committee but does not have a Conservation Commission. The Planning Commission has identified specific roles a Conservation Commission might have if created by the voters.

Coordination of Private Actions

Citizens and private enterprise have a vested interest in the well-being of Royalton. The actions of the private sector, such as the construction of homes and businesses, land conservation, and the use of land for recreation and agriculture, should relate positively to the goals and policies as set forth in this Plan.

It is in the interest of Royalton, through the Planning Commission and Selectboard, to develop a cooperative relationship with private investment activities that may have a significant impact on the community values and policies set forth in the Plan. By working together in a cooperative venture early in the process of planning for a project, an adversarial relationship can be avoided. Contacts that should be maintained include the following:

- Green Mountain Economic Development Corporation
- Vermont Land Trust and Upper Valley Land Trust
- Twin Pines Housing Trust
- Owners of significant properties of high resource or development value, and
- Major employers in Royalton.

Conservation Activities

Conservation programs are an effective means of securing protection of valuable farm and forestland or significant natural resources. Techniques available involve voluntary direct work between non-profit conservation organizations and affected landowners such as donation of conservation easements, bargain sales of land, and limited development schemes.

The land trust movement has grown immensely during the past twenty years, particularly in Vermont. Land trusts offer viable means of bringing together the needs of property owners with the community interests. The Vermont Land Trust and the Nature Conservancy are particularly well-recognized organizations. Several organizations are also involved in water quality protection. It is the intent of this Plan to implement its policies through coordination and the involvement of these organizations and others dedicated to public purposes.

Vermont Community Development Program

Since the mid-1970's, the Vermont Community Development Program (VCDP) has made grant funds available to towns for community projects. Historically, the major focus of the program has been on housing rehabilitation and affordable housing projects benefiting low and moderate-income families, but the program also offers funding for municipal infrastructure investments.

Royalton should investigate the Vermont Community Development Program and its potential to assist the community in addressing its housing and infrastructure needs. The Regional Commission and the Vermont Agency of Commerce and Community Development are resources available to assist.

Vermont Local Roads

The Vermont Local Roads program offers technical assistance to communities which focuses on transportation infrastructure and maintenance.

C. Responsibility for Implementation

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

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