

To: Department of Housing and Community Affairs

From: Town of Orange Planning Commission

Date: May 11, 2018

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Department of Housing  
and Community Development

**Orange Planning Commission Public Hearing on the Proposed 2018 Town Plan  
Summary Report & Notice of Public Hearing**

Enclosed is the draft Orange Town Plan for your review and approval in accordance with 24 V.S.A. §§ 4350 and 4384(e). The Orange Planning Commission's public hearing is scheduled for **June 13, 2018** at the Orange Town Hall, 392 U.S. Route 302, East Barre, Vermont 05649. The warning will appear in the May 16, 2018 issue of The Washington World.

The Orange Planning Commission has been working to update the Town Plan for the past year with assistance from the Central Vermont Regional Planning Commission. The draft is generally a rewrite of the 2013 Town Plan and includes updated information and reorganization for clarity.

The Town Plan is consistent with the goals established in 24 V.S.A. §4302, and the revisions do not alter the designation of any land area. The proposed Orange Town Plan includes all of the required elements set forth in the Act [§4382].

The majority of changes to the Town Plan are technical and grammatical in nature. Data and information related to the town, its residents, housing, and economy have been updated when information was available. The Tables reflect the best available data from the U.S. Census, Town records, Central Vermont Regional Planning Commission, or other sources as identified. The plan focuses priority actions in an implementation table and identifies less critical needs for the Town in the appendices. This allows the plan to focus on short-term needs while not losing sight of the longer-term goals of the Town.

Highlights of this plan update include:

Section 3: Implementation and Interpretation

This section includes a table of the high priority implementation actions for the Town including references to the specific goals, objectives, and actions. This list identifies the highest priority actions for the Town and includes information on the responsible party and anticipated outcome as a way to measure progress towards implementation.

Section 5: Town Profile

Updated information, where available is included to reflect current conditions of the Town. Since this update is occurring between U.S. Census cycles, the information may need to be revisited in the future for accuracy.

Section 6: Education

A significant update to this section includes the merger of schools between the Towns of Orange and Washington. The merger will take full effect starting with the 2018/2019 school year, however the organizational structure including make-up of the new board of school directors is included.



### Section 8: Natural Resources

The natural resources section was updated to reflect the recent discovery of the Emerald Ash Borer (EAB). This section includes information on invasive species in general and discusses ways to limit the spread of non-native species. While it may be too early in the process adequately gauge the impact of the EAB, the Town expects the potential for this to effect the economic and natural resources of the Town. Updates to this section may be needed in the future as conditions are assessed and reevaluated.

### Section 11: Land Use

The land use section has been updated to include information on forest integrity and protection of high-priority forest blocks consistent with Act 171 of 2016. Mapping has also been added related to land use that includes a future land use map and high priority forest blocks.

### Section 12: Energy

This section has seen some of the most significant updates. The passage of Act 174 of 2016 provides municipalities with an avenue to have more say before the Public Utility Commission and pursue “substantial deference” with their planning. While the Town did not choose to fully address the standards of Act 174, information was included to bolster this section including analysis and targets of existing and future energy demands, as well as resource mapping. This information was provided by the Central Vermont Regional Planning Commission as part of their energy planning efforts. The Town may consider amendments in the future to fully comply with Act 174, which would include discussions of implementation actions to address the remaining standards.

Copies of the full text of the proposed Orange Town Plan and accompanying maps are available for examination at the Orange Town Office during regular office hours or can be viewed online at: [www.orangevt.org](http://www.orangevt.org)

If you have any questions or comments, please contact:  
Lee Cattaneo at [cattaneo241@msn.com](mailto:cattaneo241@msn.com)

Thank you.



# ORANGE TOWN PLAN

**PUBLIC HEARING DRAFT**

**June 13, 2018**

**Planning Commission Members:**

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## **SECTION 1: INTRODUCTION TO ORANGE TOWN PLAN**

### **Preface**

The following document shall be known as the Orange Town Plan, as enabled by the authority of Title 24 of the Vermont Statutes Annotated, Chapter 117 (The Vermont Municipal and Regional Planning Act). The Orange Town Plan shall serve as the legal foundation for any bylaws duly adopted by the Town of Orange. In conformity with the Act, approval by a majority of the Town's Board of Selectmen is required to adopt the Plan and to adopt any amendments thereto. Such adoption must be preceded by a properly executed public hearing as set forth in state law.

### **Purpose**

The Orange Town Plan attempts to provide a clear picture of Orange; its past, its present, and guidelines for future growth and development. It exists to provide guidance regarding the development of land, the provision of public utilities, transportation, and the conservation of natural resources in the Town of Orange. As such, the Orange Town Plan shall serve as an information base; an educational resource for all interested parties; and the basis for the town's control of its future development, growth, and Act 250 (or other regulatory) participation.

An Orange Planning Commission determination with the Orange Town Selectmen's concurrence shall provide the definitive interpretation of the town's wishes as expressed in this Plan. Such joint concurrence favoring, opposing or conditioning a proposed development shall represent the Town's position on such development.

### **Hazard Mitigation Plan**

The Orange Local Hazard Mitigation Plan Update of November 2017 as adopted and all subsequent adopted hazard mitigation plans are and shall be incorporated by reference and shall become a part of the Orange Town Plan.

### **Distribution**

Upon adoption of the Plan, the Plan will be readily available on the Town's website. Each prospective purchaser of property and each person conducting a title search on property in the Town should be informed that the Plan is available on the Town's website; given the web address; and advised that it is in their interest to read it.

### **Compatibility Statement**

During the process to update this plan, the Town of Orange reviewed the plans of the adjacent municipalities including the Towns of Barre, Plainfield, and Washington in the Central Vermont Region. Orange is also boarded by the Town of Groton in the Northeastern Vermont Development Association region, and the Towns of Corinth and Topsham in the Two Rivers-Ottawaquechee Regional Commission service area. The plans for these communities were also reviewed to ensure compatibility. Based on information contained in the municipal plans for the adjacent municipalities, there are no current or proposed uses that would be in conflict from the Town of Orange or against the Town of Orange and all plans appear to be compatible.

Due to the rural nature of this portion of Orange County, the goals, objectives, and actions outlined in this plan are compatible with the Central Vermont Regional Plan, and the plans of the adjacent municipalities. If, over time, if actions are proposed that could conflict with these other plans, the Town of Orange will make every effort to ensure consistency can be maintained.

One area that may require future coordination among the municipalities that are adjacent to the Town of Orange involves the village center designation program. Specifically, the Village of East Orange is located in the extreme southeastern part of the Town. As such, the village is also located in adjacent municipalities. If the Town of Orange were to pursue Village Center Designation for East Orange, it would require consultation and coordination with the Town of Corinth and possibly Topsham.

## **SECTION 2: ORANGE PLANNING GOALS**

### **Overall Goals, Objectives, and Actions**

The people of Orange desire to maintain the rural character of the community as much as possible while encouraging the economic well-being of its residents. The rural character is exemplified by the many attributes of the Town, such as the vast amount of wooded and undeveloped areas, streams, ponds, and abundant wildlife; the absence of bright lights in the outer reaches of the town; the low volume of traffic; and the lack of objectionable noise. The Town's character is exemplified by a mixture of residential, agricultural, and small business uses. As development and population pressures increasingly impact the Town, it is vital that the unique characteristics of Town be preserved. The typical suburban pattern does not conform to the goal of maintaining the rural atmosphere. This includes incompatible uses, visually obtrusive manmade elements, and excessive artificial lighting levels.

Most residents live in Orange by choice, thereby indicating a preference for this rural character rather than an urban or suburban community. They want growth to occur at a pace and in a manner that does not destroy the rural character or result in rising taxes. Growth that is good for the Town enhances the social, environmental, cultural, and economic values of our rural community. Growth and development shall not create a burden on the taxpayers' ability to support the Town. The following goals and objectives provide a general overview of the direction in which the residents of Orange desire to see development occur in the town. Most sections of the Plan provide specific objectives and recommendations, or action steps, to achieve these objectives.

The goals, objectives, and actions included in Appendix A are intended to address the statewide goals related to municipal development plans as outlined in Title 24 V.S.A. Chapter 117 §4302. These goals, objectives, and actions make up the implementation program for the Town of Orange's Municipal Development Plan. The specific implementation program that will inform the actions to be initiated by the Town over the next eight years and will serve as the priority implementation actions can be found in Section 3 of this plan.

Successful implementation of the goals, objectives, and actions outlined in this Plan depend on the combined efforts of Town residents and local officials, as well as the resources of the Central Vermont Regional Planning Commission, and other regional, state, federal and private entities involved in land use planning activities.

At the state and federal levels, the Plan can be used to justify and prioritize the use of federal funds for community development, transportation improvements, natural resource protection and management, hazard mitigation, and other investments. In addition, Act 250 requires that developers shall show that projects conform to local and regional plans.

At the regional level, the Regional Planning Commission can review the Town Plan for compliance with the requirements of Act 200. Act 200 approval makes the Town eligible to apply for implementation funding from the State in the form of Municipal Planning Grants.

### **SECTION 3: PLAN IMPLEMENTATION & INTERPRETATION**

This Town Plan sets forth the direction and the policies that the residents of Orange, through its Select Board, have adopted under which their Town shall grow and develop. The implementation of this Plan shall be guided by the future actions of the residents and Town bodies, public and private.

Upon the adoption of this Plan by the Orange Select Board and during the Plan's eight year term, the Planning Commission shall, at the direction of the Select Board, prepare and present for approval bylaws and other regulations necessary for the implementation of this Plan. The Planning Commission shall meet annually in April with the Select Board, and at other times as may be necessary, to discuss the implementation of the Plan.

Based on the Goals, Objectives, and Actions listed in Appendix A, a specific implementation table has been established to highlight the highest priority actions. Table 1 outlines the general tasks that will need to be accomplished over the next eight years to ensure the Town of Orange is actively implementing this plan. This table lists general actions that will implement the highest priorities identified by the Planning Commission and includes the specific goals that will be supported by the actions.

The Orange Planning Commission recognizes that the Town Plan has regulatory effect only for projects which require an Act 250 permit (commercial or industrial projects on more than an acre, subdivisions of six or more lots, ten or more housing units, local state or municipal projects which disturb 10 or more acres of land, oil and gas drilling, and development over 2,500 feet in elevation). For purposes of Act 250 review, plan language that contains the words "shall," "must," "will," "ensure," "protect," "insure," "maintain," "improve," and "preserve" is mandatory language. The Town Plan maps are an integral part of the Town Plan.

**TABLE 1 - HIGH PRIORITY  
IMPLEMENTATION PROGRAM**

Action		Description	In support of	
			Goal	Action
1	Pursue Village Center Designation	Village Center Designation can provide opportunities to support community revitalization in locations that are appropriate and consistent with historic development patterns	1 12	1 3
2	Form committees	In order to support efforts to implement this plan, forming committees to focus on specific aspects such as conservation and energy will help increase community involvement and support for the identified programs	1 7 8 11	4 2 4 2
3	Provide information to the community	Identifying locations within the community where information can be posted will help increase the awareness of community issues that are important to the Town of Orange's residents.	3	1, 2
4	Support, protect, and encourage the responsible use of the natural environment	Many residents were attracted to the Town of Orange by its rural character. This provides significant resource opportunities that should be identified, protected, managed, and enjoyed by the residents and visitors to the Town. Proper management and identification of the existing natural resources can ensure the continued use and provide a possible economic benefit to the Town.	5 6 8 10	2, 3 4 1, 2, 3 1
5	Establish guidelines for development in sensitive areas	Like most communities in Central Vermont, the Town of Orange has sensitive environmental areas such as steep slopes, floodplains, and animal habitats. Establishing guidelines for development in these areas will help protect the property owner, the environment, and the Town from possible negative future impacts.	6 14	3 1

## SECTION 4: THE TOWN

### Historical Overview

The charter for the Town of Orange was granted by the State as of the date of August 11, 1781. The original charter is framed under glass, and in safekeeping at the Orange Town Clerk's office.

According to the account of "Orange" written in 1868 by Carlos Carpenter, a native of Orange but living in Barre at that time, the first settlement in the Town was made by Ensign Joseph Williams in September 1793 on the South line of the Town. Prior to this time only hunters, trappers, soldiers, and captives had passed through this land, which was then a wilderness and uninhabited by permanent settlers. However, following the first settlement, in the next two or three years there were others who arrived, including Major Joseph Thayer, Christopher Carey, Humphrey and Ephraim Hunt, Gould Camp, John and Matthew Sloane, Ezra Paine, Ezra Goodale, Abel Skinner, Jabez Rodgers, and Porter Lord. The Town was organized as of March 9, 1796 at a meeting, warned by Abel Skinner, Justice of the Peace, and "held at the house of Joseph Williams." The first check list of voters who took the freeman's oath was made on September 2, 1800 and contained 30 names of men living in the Town.

The early records of the Town show that all the governing or overseeing of land grants and changes were decided by the proprietors of the Township evidently before many people had even settled in the area. The first hundred acre divisions for land grants in the Town consisted of 67 original rights and were recorded in the accounts from the proprietors' Records of Orange, found in the first book of the Property Records of Orange. These were all dated at Thetford as of January 5, 1785. Included were grants for College Right, Grammar School Number 1, English School, Minister Right, and Parsonage.

The second hundred-acre division included 65 individual rights with five additional for College, Grammar School, English School, Minister, and Parsonage Rights. These rights were all dated at Hartford, Windsor County, as of March 6, 1786. All grants were made for 100 acres of land with five percent allowance for highway. The entire Township was chartered to "Contain (or comprehend) the Contents Six Miles Square (6 Miles Square)."

In the book "Vermont Place Names" by Esther Munroe Swift, she describes Orange as "largely a farming town," that the top population was reached in 1830 with about 1,000 people and over 5,000 sheep grazing on the hillsides. Also, "located almost in the middle of town, the village of Orange had a post office from 1823 until 1921. East Orange, in the extreme southern corner, had a post office from 1850 until 1908." She also states in her book that according to U.S. Coast and Geodetic Survey Maps the tallest peaks in town are Knox Mountain and Butterfield Mountain both over 3,000 feet tall.

According to Census Bureau figures, the population in Orange was 348 in 1800, so there was an influx of people up until 1830. The population dropped more or less continuously from 1860 to 1960. It then began to climb upward to 752 in 1980 and 915 in 1990, 965 in 2000, and an estimated 1101 in 2010. Currently there is a great deal of activity in the sale of real estate. New homes are being built continually, but the school population has dropped every year. Interestingly the overall current population is not growing at the same rate, as new home construction would suggest.

It seems that one reason for the decline in population was that the western United States was made more accessible by means of rivers, roads and railroads, and with open land available for grazing or farming,

many people from the east left the hilly farmland, such as in Vermont, for more prolific opportunities in the west.

In Perry Merrill's book, "Vermont Under Four Flags", he states that by 1840 about 4,000,000 acres of land had been cleared for agricultural use in this state. However, from that date until the present time, the forest area has been increasing, and the picture reversed, as there are about 4,000,000 acres of forestland in Vermont with much less open land for farming purposes. The situation is apparent in the Town of Orange, as there are two working dairy farms remaining as of 2018.

Much of the land, which formerly made up the acreage for operating a farm, has been sold off in smaller pieces for building of private homes.

According to Town records, the meetings of the town people took place in private homes or at a schoolhouse until 1824 when the meeting was held at "the meeting house in Orange." The records indicate that a meetinghouse was built by the religious Society sometime between 1800 and 1824, and that it was used as a common town meeting house for public meetings for several years. This was located on the village green, which was in the area near where the Orange Center Cemetery is situated. It was purchased by the Town in 1861 and moved to the Market Road (now Route 302), where it has been located ever since. It was, however, moved further back from the highway in 1981 and an addition was built in 2005 to accommodate the space needed resulting from the town's increased population.

In the early years of the Town, schoolhouses were built in different districts of the town and families could be changed from one district to another in order to keep enrollments at a more comparable level. In 1820 there were seven districts with an enrollment of 312 pupils. The enrollment in 1844 was up to "409 scholars in 13 districts," and the report lists 165 heads of families at that time. In 1905-06, school enrollment is listed as 122. Consolidation and closing of schools occurred throughout the 1900s, and by 1959, all students were enrolled in a single Orange Center school, which had to be expanded in 1989 to its present size and configuration.

In 1990 the elementary school enrollment was 125 pupils and the high school enrollment was 54 students, (a total of 179) from the town. In 1995, there were 131 elementary school students and 55 high school students, (a total of 186) from the town. Following the 2017/2018 academic year, the Orange and Washington schools will merge to become the Orange Washington Unified Union School District. This will impact the statistics on school enrollment, therefore these numbers will be updated in the future when data is available. Additional information related to the merger is included in Section 6: Education.

The first meetings for the worship of God were held in the homes of some of the town residents. In March of 1801 "at a Stated Place for holding public meetings" it was "voted to form into a religious Society for the purpose of settling a minister and for supporting the Gospel." The Town Records indicate that a Meeting House had been built prior to 1824 (reportedly built 1801-1803), and it seems logical that this is the same one where town meetings were held and eventually purchased by the town, then moved to Market Road.

The Orange Alliance Church in Orange Center was built in 1848 and dedicated in 1849 as a Union Church which meant any Christian denomination could use it. However, it was mainly the Congregationalists who used it until World War II when it was closed. Following the war, it was opened and used by various groups until 1958 when the Christian and Missionary Alliance organized there.

Electricity was installed in 1948 and in 1976 a major excavation was done under the church making room for a kitchen, meeting room, library and classrooms. A well was drilled and modern plumbing installed. In 1997 new windows were installed. In 1999 the church had new siding and new shutters installed. Though the renovations to the church have made it more energy efficient, it retained its original look.

Records indicate that another union church was organized for East Orange in 1823, the first building being erected in 1825 and occupied alternately by Free Will Baptists and Methodists. This building burned and another church was built on the same ground in 1850. This church building burned in December 1887. Construction began in June 1888 on a new church building, which was completed and dedicated in 1890. Worship services continue to be held in the East Orange Church which is noted for the beauty of its design and appearance.

There are seven cemeteries in the Town, the newest one being "Brook Haven" which is located near the town hall and clerk's office on Route 302 in the center of town.

After the first settlers came to Orange, there were several sawmills and grist mills established where dams were made in the waterways to provide water power. As a result of clearing trees from the land for farming purposes, the industries of making potash, pearl ash, and lye came about. These products were sold or bartered as needed. In the past, lumbering, local sawmills, a shingle mill and a tannery were important industries in Orange.

The raising of the sheep was a flourishing agricultural business from about 1810-1850, but declined rapidly when sheep herding in the western states became too competitive.

From 1850-1900 many dairy farms turned to producing butter, eggs, and cheese. Each family was more or less self-supporting with their means of producing dairy foods, vegetables, to last the year round, and poultry to supply further means of food. Later on, the sale of fluid milk and cream became the chief sources of income for the family. With the introduction of motor transportation the Town has gradually become a bedroom town where the majority of workers commute to places of employment outside Town boundaries.

Other industries, which were active in the past, were a tannery and shoe cobbler, around 1850; a wheelwright shop and shingle mill, around 1900; a cabinet and furniture shop, around 1850-1900, and general stores in Orange Center and East Orange.

Economic activity today includes: a used car sales business, firewood and maple sugar sales, three dairy farms, several livestock and/or vegetable farms, construction contractors, a machine shop, a legal services practice, several finish carpenters, furniture makers, several truckers, a used vehicle storage facility, and several motor vehicle mechanics. The vast majority of the employed town residents commute daily to and from their work places.

Several social organizations and clubs have been active in the Town and continue to provide opportunities for social interaction, if desired. These include the Friendly Circle Home Demonstration Club, the Parent Teacher Association, Orange Little League Baseball, and a Youth Group of the Orange Alliance Church. The Town Recreation Committee also plans many recreational activities during each year. A new recreation field was created in 1992 with the help of the Vermont National Guard.

An annual Heritage Day was initiated in 1982 to commemorate the bicentennial of the town's charter date on the first Saturday in August and was held annually from 1982 through 2003.

## **SECTION 5: TOWN PROFILE**

*Section Note: Updates in this plan will use the best available data. For most datasets on community demographics, the 2010 U.S. Census provides the most accurate and accessible data source. Future plan updates will contain new and more current information, however at this time, the 2010 U.S. Census will serve as the source for the majority of this data unless otherwise noted.*

### **Community in Transition**

The Town of Orange consisting of 38.77 square miles finds itself at the junction of two landscapes. At once it is both traditional rural Vermont and the frontier of an expanding suburban front. It is a place where residents gaining their livelihood from the land are neighbor to those who make a significant commute to work each day. Positioned at the southern boundary of the 25,645-acre Groton State Forest and adjacent to Central Vermont's largest job centers, Orange remains a community in transition. A consideration of the population density of surrounding towns illustrates the point well.

The three towns at Orange's northwest border (Barre Town, Barre City and Plainfield) constitute a 2010 population density of more than 300 persons per square mile. To the northeast, east, and south, Orange's four bordering towns (Corinth, Groton, Topsham, and Washington) have a population density of more than 20 persons per square mile. The 2010 U.S. Census revealed an eleven percent (11%) increase in population from 2000, i.e., an increase from 965 to 1072. Orange's population density increased from 24 persons per square mile in 2000 to 28 persons per square mile in 2010. So, while Orange shares the rural characteristics of neighboring towns to the northeast, east, and south, it is clearly subject to the forces of change, which have impacted its more suburban neighbors to the north and west.

Development pressures in Orange are largely a result of influences from the Town's northern and western neighbors. The planning goals set forth in the Orange Town Plan shall help minimize any adverse impacts of these pressures on neighboring municipalities to the east and south.

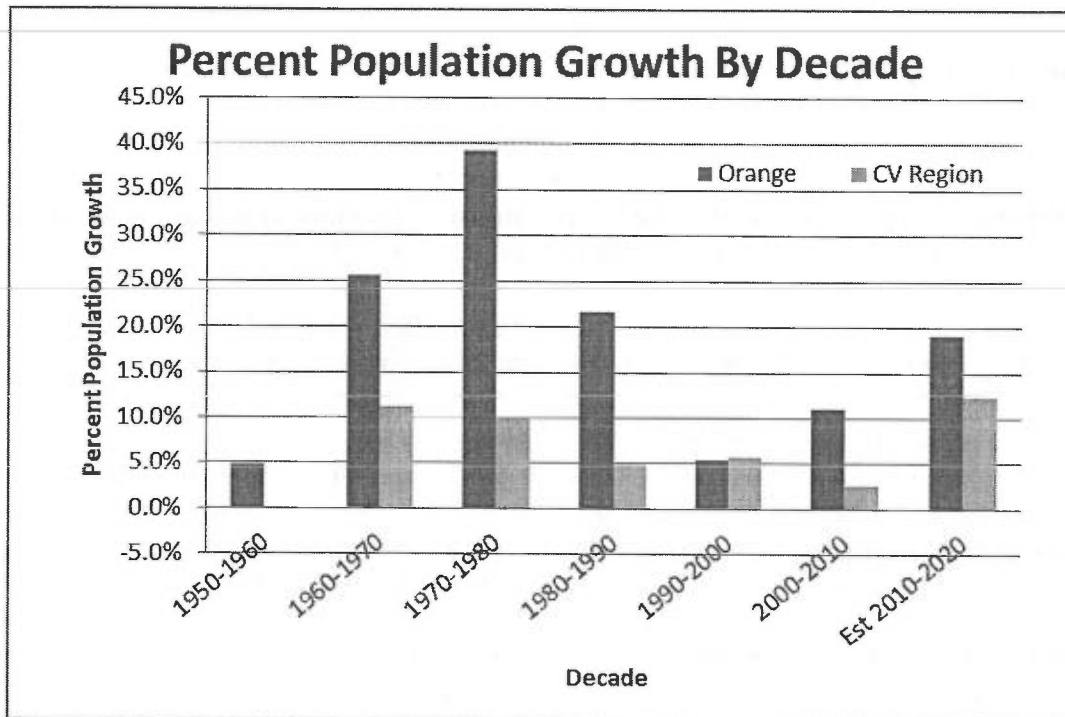
The Orange Town Plan appears quite compatible with the plans of its neighbors. The Orange Town Plan seeks to address the mounting pressures for housing growth caused by the nearby more urban areas, while seeking to remain as much as possible like its more rural neighbors. Because Barre Town and Barre City are planning for and undertaking expanded commercial, industrial and residential growth, the location of their respective growth centers presents a potential direct conflict with current and future land uses in the Town of Orange.

Dwellings are scattered sparsely throughout Orange. Two village centers exist, i.e., East Orange at the southeastern corner of Town, and Orange Center at the west and central edge of Town. Route 302 is the Town's major thoroughfare, providing a transportation route that bisects the Town on an east-west axis and hosts a number of residential and commercial structures. This information is depicted on the Existing Land Use Map in Appendix B.

## Population

The population of Orange had declined steadily from more than 1,000 residents in the early to mid-1800s until 1960. In 1960, 430 people resided in Orange. Orange then grew significantly from 1960 to 1990, more than doubling its population. Growth during those 30 years was three times the regional rate.

From 1990 to 2000, growth slowed to slightly less than the regional average; however between 2000 and 2010, the growth rate in Orange was roughly 425% greater than that of the Central Vermont Region. According to a 2001 forecast put together by the Regional Planning Commission, Orange's growth between 2010 and 2020 is expected to remain higher than the Region's. For reference, the 2010 population for Orange as reported by the U.S. Census Bureau was 1,072.



This is not surprising given Orange's proximity to regional job centers (i.e., Barre City, Barre Town and Montpelier) and relatively low land costs.

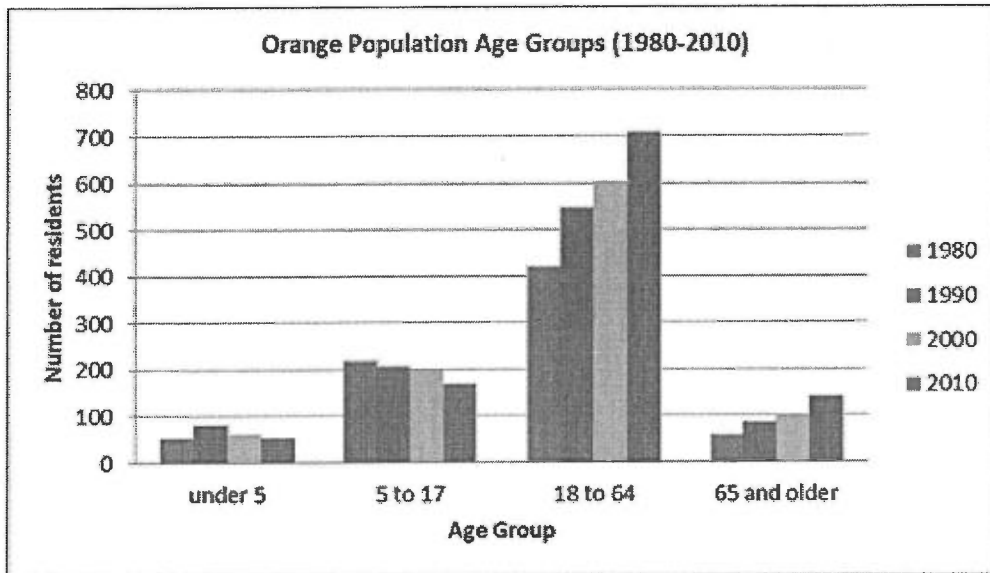
It is in the Town's interests to facilitate growth that is beneficial to the community. The number of adults between the ages of 18 to 64 in Orange has increased steadily in recent decades and has now surpassed 600. While the number of working aged adults has increased, the total employment (other than self-employed) in the town is less than 50, and more than half is public employment (the majority at Orange Center School).

Orange has a critical need to generate local employment. Although it supports increased private sector employment through an existing tax stabilization ordinance, lack of infrastructure is an impediment. The town should seek additional steps to facilitate and nurture employment.

An understanding of the changing population is essential to planning for the future of the community.

**Orange is aging – rapidly.**

The median age of the Town residents is increasing rapidly. According to the US Census, between 2000 and 2010 the median age of Orange residents increased from 38.1 to 44.8. In 1980 the median age was 27.3. The population under age 5 fell by 20 percent between 1990 and 2000 and 12.1 percent between 2000 and 2010. The population ages 5 to 17 fell 3.4% between 1990 and 2000 and 14.6% between 2000 and 2010. Meanwhile the working ages grew by 17.8% from 2000 and those age 65 and older jumped 36.3% from 2000.



**Table 2 - Town of Orange Growth**

	1970	1980	1990	2000	2010	Projected 2020
Population	540	752	915	965	1072	1276
Households	139	241	312	362	425	556
Household Size	3.88	3.12	2.93	2.67	2.52	2.29
<b>Change in:</b>						
Population		212	163	50	107	204
Households		102	71	50	63	131
Source: US Census 1970-2010/ CVRPC EPR Forecasts						

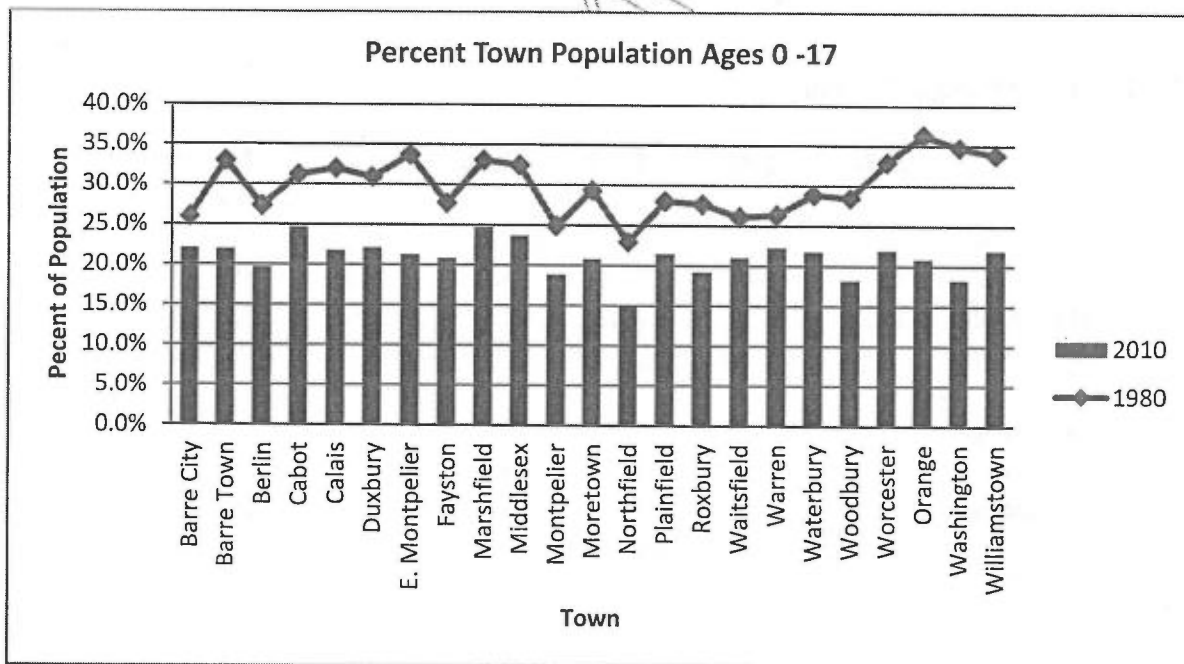
**Table 3 - Changing Age Demographics**

Year	Under 5	5-17 Years	18-64 Years	65+	Total
<b>1990</b>					
Number	81	209	543	82	915
Percent	8.9%	22.8%	59.3%	9.0%	100%
<b>2000</b>					
Number	63	198	602	102	965
Percent	6.5%	20.5%	62.4%	10.6%	100%
<b>2010</b>					
Number	55	169	709	139	1072
Percent	5.1%	15.8%	66.1%	13.0%	100%

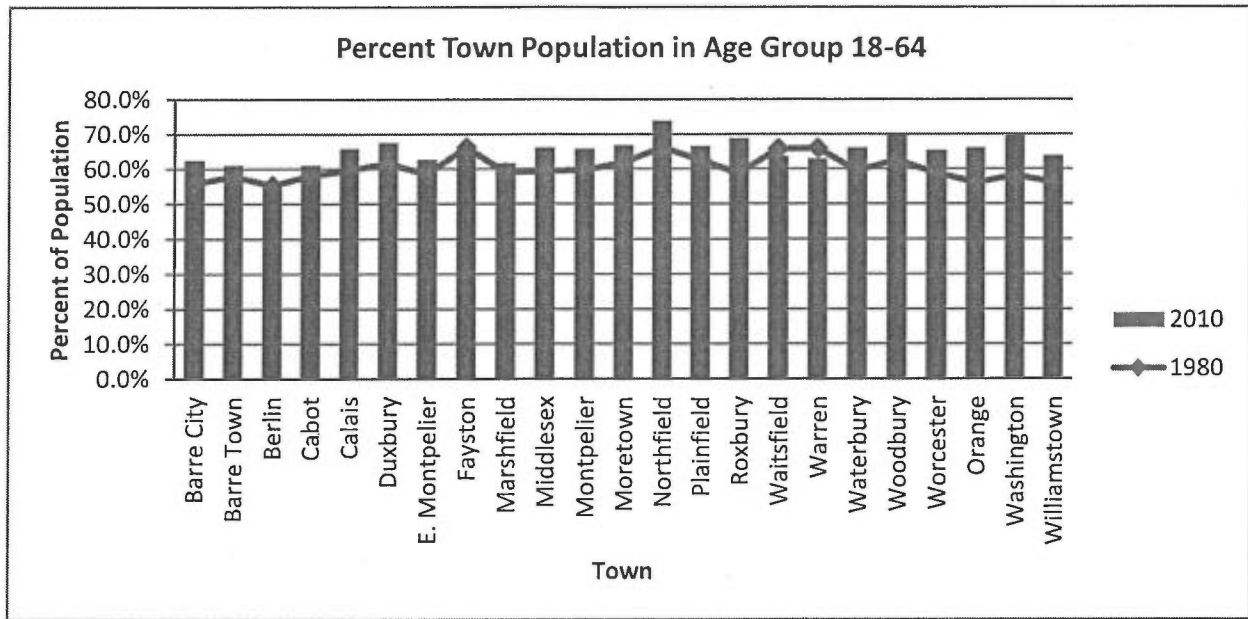
Source: US Census 1990-2010

**Historic Age Disbursement By Town**

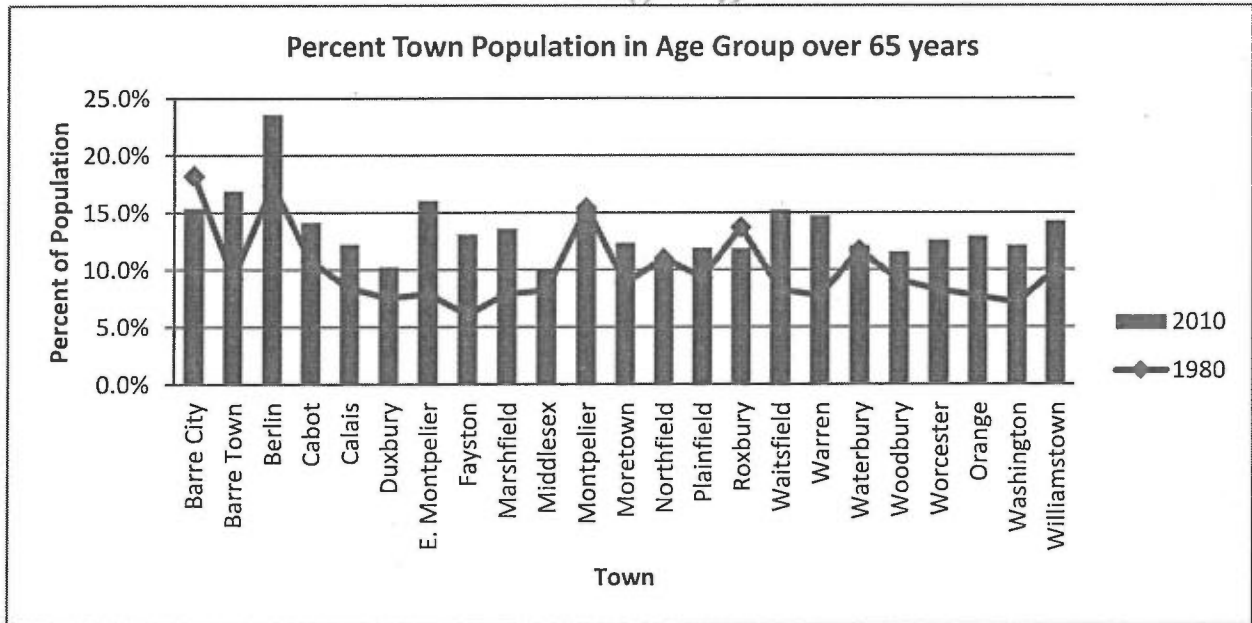
The percentage of residents in the age group 0-17 declined significantly in every Central Vermont town between 1970 and 2000. In Orange, the percentage declined from 42 to 27 percent.



The percentage of residents in the working ages (18-65) increased in each Central Vermont town between 1970 and 2000. In Orange, the increase was from 50 percent to 62 percent.



The change in percentage of residents over age 65 varies substantially from town to town. In Orange, the percentage has increased from 8 percent to 11 percent.



## Population Estimates

In 2001, the Central Vermont Regional Planning Commission – in conjunction with the Central Vermont Economic Development Corporation and Central Vermont Chamber of Commerce – commissioned an estimate of future population and housing.

Below are the actual census figures from 1960 to 2010, and the projected populations for Central Vermont towns to 2020.

**Table 4 - Central Vermont Population Growth By Town**

	1960 Census	1970 Census	1980 Census	1990 Census	2000 Census	2010 Census	2020 Projected
Barre City	10387	10209	9824	9482	9291	9052	8626
Barre Town	4580	6509	7090	7411	7602	7924	8747
Berlin	1306	2050	2454	2561	2864	2887	3515
Cabot	763	663	958	1043	1213	1433	1453
Calais	684	749	1207	1521	1529	1607	2052
Duxbury	546	621	877	976	1289	1337	1820
E. Montpelier	1200	1597	2205	2239	2578	2576	3151
Fayston	158	292	657	846	1141	1353	1766
Marshfield	891	1033	1267	1331	1496	1588	1821
Middlesex	770	857	1235	1514	1729	1731	2460
Montpelier	8782	8609	8241	8247	8035	7855	7780
Moretown	788	904	1221	1415	1653	1658	2301
Northfield	4511	4870	5435	5610	5791	6207	6311
Plainfield	966	1399	1249	1302	1286	1243	1306
Roxbury	364	354	452	575	576	691	703
Waitsfield	658	837	1300	1422	1659	1719	2250
Warren	469	588	956	1172	1681	1705	2421
Waterbury	4303	4614	4465	4589	4915	5064	5579
Woodbury	317	399	573	766	809	906	1098
Worcester	417	505	727	906	902	998	1109
<b>Orange</b>	<b>430</b>	<b>540</b>	<b>752</b>	<b>915</b>	<b>965</b>	<b>1072</b>	<b>1276</b>
Washington	565	667	855	937	1047	1039	1311
Williamstown	1553	1822	2284	2839	3225	3389	4224
<b>CV Region Total</b>	<b>45408</b>	<b>50668</b>	<b>56284</b>	<b>59619</b>	<b>63276</b>	<b>65034</b>	<b>73080</b>

Source: US Census 1960-2010/ CVRPC EPR Forecasts

The anticipated 20 percent growth rate for Orange between 2010 and 2020 is about 8% greater than what is expected for the Region.

## Sources of Population Growth

Although Orange has traditionally had more transient growth (immigration) than most Central Vermont towns, the primary source of growth in the 1980s was native, i.e., a result of more births than deaths among current residents. However, since the 1990s, the primary source of growth continues to be in-migration.

**Table 5 - Source of Population Growth**

	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10
Native Growth	3	50	57	90	5	30
Immigration	17	60	155	73	45	77
Total Change	20	110	212	163	50	107

Source: Vermont Department of Health Vital Records

All of the projections regarding population that are identified above were done prior to the economic down-turn and recession in 2008. The rate of growth prior to this period was much more robust than in the subsequent years. In 2013, the Vermont Agency of Commerce and Community Development (ACCD) prepared population projections that factored in these economic changes including rates of in-migration. ACCD developed two scenarios to project population rates through 2030 and included a high migration rate (scenario A) and a low migration rate (scenario B). Table 6 provides those population projections for the Town and provide an additional dataset for consideration of future planning.

**Table 6 - Population Projections 2010 - 2030**

	2010 Population	2020 Projection	Percent Change from 2010	2030 Projection	Percent Change from 2010
Scenario A	1,072	1,141	6.4%	1,177	9.8%
Scenario B	1,072	1,108	3.4%	1,115	4.0%

Source: Vermont Agency of Commerce and Community Development

## Government

A Board of Selectmen governs the Town of Orange. The Board is a part time body comprised of three elected citizens. The Board manages Town affairs, plans, and finances; maintains Town roads and facilities; and oversees the work of Town commissions and committees.

The Orange Planning Commission is a volunteer commission. The Orange Town Plan is a product of recent activities of the Planning Commission. The Planning Commission's future work will be aimed at implementing the goals of the Orange Town Plan through local and regional planning initiatives, crafting of necessary and appropriate ordinances and bylaws, representing the Town in Act 250 hearings, and working with the state and local public officials.

The Orange Recreation Committee has developed a Town recreation field along the Reservoir Road, just beyond the State Garage. The Town has a multi-year, renewable lease on the property.

The Orange Town Clerk maintains Town records, handles local licensing programs and responds to record search requests. Questions concerning permitting should be directed to the Town Clerks Office. A list of the Town Officers can be found in the annual town report.

## **SECTION 6: EDUCATION**

Following the 2017/2018 academic year, the Town of Orange will merge with the Washington Village School District. Each town will maintain their respective village schools, but will have one board of directors to oversee the newly formed union district. This will allow the Washington School to house the elementary population (kindergarten through 4<sup>th</sup> grade) and the Orange Center School to house the middle school population (grades 5 through 8). This merger will help provide more students in each grade to maintain more consistent class sizes at individual grade levels.

For the Town of Orange, being able to maintain and continue the use of the Orange Center School is significant. This facility has served the Town of Orange for almost 60 years and is regarded as a community asset. The school has a gymnasium/cafeteria, kitchen, office, library, seven classrooms and several smaller spaces used for a variety of purposes.

Before school and after-school programs can assist working residents as well as children. As a member of the Orange North Supervisory Union, the school now operates a before and after school program for students attending OCS. In addition, improvements made to the school's computer technology to support the curriculum have the potential to serve as a central location for computer and related technologies for town residents. The Board is continually looking at ways the school can serve as a resource for all Orange residents including information about vocational opportunities in Barre City and adult educational opportunities in the Barre/Montpelier area and to become better integrated into the community at large. The Orange School Board Plan of Action includes a goal stating "Develop a better connection with the Town through increased visibility, improved communication and more collaboration with Town entities."

With the creation of the Orange Washington Unified Union School District, the Orange School Board will be replaced by a new board of school directors. Each town will have three representatives on the new board for a total of six members. The Town will be responsible for appointing members to the new board similar to past practices.

The Orange Center School (OCS), located in the heart of the town, is the only town owned and operated educational facility. It serves the children of Orange residents from Kindergarten through grade eight and has been the centerpiece of the culture of Orange for 53 years. A small number of kindergarten students through eighth grade students attend private schools at their own personal expense.

Because the Town does not own or operate a high school, the Town, through the Orange School District budget, pays tuitions for high school students to the public school of their choice. Since 2003-2004 the Orange Center school enrollment has averaged 100 students with an additional 65 high school students attending secondary schools in the area. The School Board reports the names of the high schools, the projected number of high school students planning to attend each school and the high schools' announced tuition annually in the Town Report.

The school building is an important community asset and efficient use of the facility is imperative. In addition to it being an educational facility, it also serves as a town emergency shelter and as a meeting

place for a wide range of community groups including the local church, Boy Scouts, family reunions, etc. The Orange School Board is continually reviewing ways to maximize the efficiency of the school building and therefore minimize the cost of its operation. This is done via cost analysis of renovations, improvements and upgrades. The school district is a member of the Orange North Supervisory Union (ONSU) and with support from ONSU has managed to acquire in the excess of \$75,000 through grant funding since 2008 to improve the facility. Projects have included re-insulating the entire building, efficient lighting for the gym, and replacing bathroom and kitchen fixtures and appliances with more water efficient fixtures and appliances. A propane-fired boiler was also installed to improve the efficiency of the heating system in the school.

**SECTION 7: HOUSING**

Orange’s growth is on track to that predicted by CVRPC’s population estimates. In 2010, the CVRPC model predicted that Orange would have a population of 1101 living in 430 households with an estimated household size of 2.56 persons. Orange’s current household size is smaller than what was predicted by CVRPC. If this trend continues, Orange will want to investigate developing policies to encourage smaller housing units rather than large lot single family homes to accommodate the needs of the smaller households. The smaller household size could be attributable to Orange’s older population which could include more “empty nesters.”

**Table 7 - Average Household Size**

	1970	1980	1990	2000	2010	2020 projected
<b>Population:</b>	540	752	915	965	1072	1276
<b>Households:</b>	139	241	312	362	425	523
<b>Household Size:</b>	3.88	3.12	2.93	2.67	2.52	2.44

Source: US Census 1970-2010/ CVRPC EPR Forecasts

**Table 8 - Change in Total Households**

Change	1970-1980	1980-1990	1990-2000	2000-2010	2010-2020
<b>Population:</b>	212	163	50	136	175
<b>Households:</b>	102	71	50	68	93

**Table 9 - Age of Residents**

2010 Resident Ages	Under 5 years	5-17 Years	18-64 Years	65+ Years
<b>Breakdown:</b>	55	169	709	139
<b>Percentage:</b>	5.1%	15.8%	66.1%	13.0%

Housing in Orange is found in minor concentrations in, around, and along Orange Center, East Orange, and Route 302. The remaining housing is dispersed throughout the town in typical rural settlement patterns. In keeping with the Central Vermont Regional Planning Commission model's Regional Housing Distribution Plan Projection the Town of Orange would like to see 70%, i.e., 52 units, of predicted new housing developments in and around the areas of East Orange and Orange Center. The remaining 23 predicted units could be developed in more outlying areas according to the recommendations outlined at the end of this section. The development of East Orange and Orange Center would reduce new infrastructure costs, enhance economic development, and reduce expenses related to service expansion, e.g., police, fire, and road maintenance, in these emerging village centers.

### **CVRPC's Regional Housing Distribution Plan**

In 2008, the Central Vermont Regional Plan adopted a Housing Distribution Plan as part of its Regional Plan. CVRPC's Housing Committee developed the Plan to encourage the development of more meaningful and practical local housing plans and to promote the sustainable and efficient distribution of housing region-wide. It was formulated with the aim of ensuring that all towns continue to contribute similar percentages of the Regions total housing in the future as they did in the year 2000. By doing so, it is hoped that the burdens and benefits of providing housing can be balanced among Central Vermont communities and sprawling, inefficient patterns of growth can be curtailed.

This document asks municipalities to plan for a future estimated housing need through the year 2020. Specifically, it asks municipalities to provide:

- A detailed map or maps of the town showing the town's preferred locations for future housing units – consistent with current or proposed zoning – for 80 percent of the anticipated 10 to 15 year housing allocation.
- Mapping updates that identify the locations and number of housing units created in the town since the previous town plan adoption.

While municipalities are under no obligation to comply with the guidelines of Distribution Plan, inclusion of the above items will be necessary in order for any plan adopted after January 1, 2009 to receive regional "approval" (per Chapter 117, Section 4350).

#### **Orange Housing Distribution (p. 6-17 in CVRPC Regional Plan)**

2000-04	2005-09	2010-14	2015-20	Total
31	37	40	53	153

The Distribution Plan allocates 93 new housing units to Orange over the next ten years (2010-2020). It is important to emphasize that CVRPC views the Town's response to the Distribution Plan as a planning exercise. According to CVRPC:

*"The projected housing demand numbers are not quotas or targets and we will not be requiring implementation. We are most interested in knowing that municipalities are cognizant of where housing growth is currently occurring, and thinking about where it should occur in the future, in their respective communities."*

As such, it makes sense for the Town to plan for this growth, as the housing market is subject to change and such growth is likely to come eventually.

Accordingly, a map showing preferred locations for accommodating 80% of allocated future units from 2010 through 2020 and difference from 2000 to 2010 (or 94 units in Orange's case) will be included in the Municipal Plan.

### Calculation for units for which to plan

Units added 2000 to 2010 = 67 (2010 Census)  
Forecasted units between 2000-2009 = 31+37 = 68 units  
Difference between forecasted and actual = 68-67 = 1 unit

Units to plan for between 2010 and 2020 = (93 (forecasted) + 1 (deficit)) x 80% = 75 units

It should be noted that the Regional Housing Distribution Plan, while still incorporated in the 2016 Central Vermont Regional Plan, may no longer provide the most up-to-date information on housing needs for the region. The data included in the housing distribution plan was developed before the economic downturn in 2008, therefore market forces were not as robust as previously anticipated. This slowdown in the economy translated to multiple sectors of land use planning, including housing construction. The Town of Orange will continue to support the region's housing needs as appropriate given the limited resources available. Additionally, alternative methods and calculations to more accurately identify how the Town can more appropriately assist in accommodating the region's housing needs will also be encouraged.

### Affordable Housing

According to 24 V.S.A. §4303 (1), "Affordable housing" means either of the following:

- (A) Housing that is owned by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including principal, interest, taxes, insurance, and condominium association fees is not more than 30 percent of the household's gross annual income.
  - (B) Housing that is rented by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including rent, utilities, and condominium association fees, is not more than 30 percent of the household's gross annual income.
- (2) "Affordable housing development" means a housing development of which at least 20 percent of the units or a minimum of five units, whichever is greater, are affordable housing units. Affordable units shall be subject to covenants or restrictions that preserve their affordability for a minimum of 15 years or longer as provided in municipal bylaws.

Based on a review of information from the U.S. Census Bureau's American Community Survey, housing affordability is not a significant issue in Orange. In 2016, the average price for a primary residence that was sold in Orange was approximately \$150,600 with the average price for a single family residence being

approximately \$176,800. Comparatively, the median household income for single family homes in Orange was approximately \$62,000.

Instead, the more significant issue in Orange regarding housing may be housing availability. The data from the U.S. Census identified only 1 unit available for rent and 2 units available for sale in 2010. While this information may be dated, it indicates that housing availability may be a greater challenge. It will be important to ensure more accurate data is incorporated when it becomes available to provide a more accurate measure of housing availability. If this trend continues, the Town may need to identify ways to encourage new development without jeopardizing the rural character that brought many residents to the Town.

Additionally, not many types of housing options exist in Orange. The primary type of dwelling unit is single family homes or mobile homes. There are no apartments or townhome styles units in Orange. The Planning Commission has identified the village as an area for mixed uses that could accommodate multi-family dwellings, however due to the lack of public water and wastewater, on-site solutions would mean that adequate land was available to accommodate these systems.

### **Subsidized Housing**

There is no subsidized housing facility in Orange that serves those with “very low to low” income, elderly and handicapped or disabled individuals.

### **Accessory Dwellings**

In order to address the housing needs of the Town of Orange, accessory dwellings will be encouraged wherever conventional residential units are developed. Accessory dwellings are defined in Vermont Statute as an efficiency or one-bedroom apartment that is clearly subordinate to a single-family dwelling, and has facilities and provisions for independent living, including sleeping, food preparation, and sanitation, provided there is compliance with all the following:

- The property has sufficient wastewater capacity.
- The unit does not exceed 30 percent of the total habitable floor area of the single-family dwelling.
- Applicable setback, coverage, and parking requirements specified in the bylaws are met.

This definition of accessory dwelling will be used to ensure these uses are permitted within the Town of Orange to help encourage and establish affordable options for housing.

An additional consideration related to housing affordability is the use of energy in housing. Specifically, the costs associated with utilities such as home heating impact affordability. While new construction is subject to the Residential Building Energy Standards (RBES) and commercial development is subject to Commercial Building Energy Standards (CBES), existing structures may be inefficient in terms of weatherization. Weatherization and replacement of inefficient heating systems can increase affordability by decreasing the amount of money being spent on utilities. Several organizations exist in Central Vermont that provide assistance on these issues including Capstone Community Action and Downstreet Housing & Community Development. Additional information regarding home heating and weatherization is included in Section 12 related to energy.

## SECTION 8: NATURAL RESOURCES

### **Topography**

Within the boundaries of Orange are abundant natural and physical diversity. The Town is largely characterized by steep and rugged hills. A major watershed boundary splits the Town on its north-south axis. On the eastern slope, tributaries flow into the Connecticut river by way of Waits River and the Wells River, and then south through southern new England and on to the Atlantic. On the western slope of Orange, tributaries flow into the Jail Branch River and then on to the Winooski before reaching Lake Champlain, a north flowing drainage depositing waters into the Atlantic by way of the St. Lawrence River.

Butterfield Mountain (3,167 feet). Hannah Hill (2,196 feet). Knox Mountain (3,086 feet) and St. Cyr Mountain (2,334 feet) dominate the northeastern quadrant of Orange. This area is almost totally forested with very little development or human habitation. Below, in the southeastern quadrant of Town, hills and forest land predominate and play host to East Orange Village, a settlement on the East Orange Branch of Waits River at the Corinth Town boundary. The western reaches of Orange are most suited to habitation, and as such, are the most intensively developed.

Relative to many Vermont towns, a large proportion of Orange's land has slopes greater than 25%. Obviously, those lands pose significant impediments to human habitation and development. Development on such slopes can cause severe erosion and sedimentation, aesthetic degradation, and habitat disruption. In addition, it can make access for emergency vehicles difficult or impossible. Therefore, development on such slopes is discouraged.

### **Soils**

Perhaps as much as any other characteristic of the land, soils indicate appropriate land use. It is therefore useful to evaluate, at least generally, soil characteristics in the Town of Orange. For our purposes here it is most important to consider the soil's slope and drainage, its suitability for septic disposal, and its ability to support and enhance agricultural and forestry activities.

The Soil Conservation Service has completed a soil survey of the Town of Orange. The map and accompanying text provide a detailed description of the soils occurring in Orange. The following is a discussion of general trends and distributions of the soils within Orange. Any detailed investigation of soils in the Town should refer to the Soil Conservation Service Survey itself.

It is important to recognize that the characterizations provided are descriptions of general trends and are not absolute. Isolated pockets of soil types which pose no limitations to development are often found within soil associations that are generally not suitable for development. Just the same, soil associations which are generally suitable for development often contain pockets of soil types which are not compatible to development.

The soils hosting Orange Village and those of the majority of the western side of town are of the Buckland-Cabot association. These are upland soils with gently sloping to steep slopes. The Buckland-Cabot association has a higher percentage of poorly drained soils than other associations formed in glacial till in Orange County. Unless they have been cleared for farming, these soils often have many stones on the surface. Buckland-Cabot soils are often used for hay and pasture and sometimes pose limitations to community development due to a seasonal high water table and slow permeability.

Tunbridge-Woodstock-Buckland associations occur in large pockets in the north and south of town. Also upland soils, these are naturally very stony, but often have been cleared of surface stones. These are excessively well drained to moderately well drained soils whose major limitation to development is site specific depth to bedrock.

The Colrain-Buckland-Tunbridge association is the other major soil association in Orange. These upland soils are also naturally very stony, but are often cleared of surface stones. In Colrain soils, limitations are few for community development; while in Buckland and Tunbridge soils depth to bedrock and slow permeability do pose limitations.

There are two small, isolated patches of soils that formed in water deposited materials of valleys. These are the Hadley-Winooski-Limerick association and the Merrimac-Agawam-Windsor-Winooski association. These associations occur along the Jail Branch and Waits rivers respectively. Both soil types are subject to flooding. The Hadley-Winooski-Limerick soils are quality agricultural soils, but due to excess wetness pose limitations to development. The Merrimac-Agawam-Windsor-Winooski soils are also quality agricultural soils. Where slope is not a consideration, Merrimac-Agawam and Windsor soils have few limitations for development. Flooding prevents present Winooski soils from being compatible with development.

### **Air Quality**

Orange residents currently enjoy clean air daily thanks to the rural nature of the community. Orange shall maintain its air quality through encouraging development and industries that maintain high air quality standards as outlined by EPA limits. Orange shall maintain its air quality through conservation of forested areas and using BMPs in silviculture operations. Concentration of development can also maintain air quality by promoting an efficient transportation system to limit carbon emissions from vehicles and encourage alternative transportation options such as walking or bicycling. Clean air and air quality can also be maintained by, encouraging appropriately scaled and sited renewable energy sources to address the power generation needs of the community.

### **Deer Yards**

Deer wintering areas provide critical habitat for white tail deer and other forms of vertebrates. These areas of hemlock, spruce, fir, cedar, and pine species provide shelter from deep snows, and they also permit easier winter travel for deer and other species. The combination of elevation, vegetation, and solar aspect significantly increases the survival rates of deer populations and also impact the landscape ecology and recreation. Vermont Fish and Wildlife Department has targeted these areas for protection. Deer wintering areas have been identified and were remapped in 2012. Deer yards, aside from providing winter range, are essential for year round species migration. Careful management of these areas is of extreme importance in order for the species to thrive.

### **Rare, Threatened and Endangered Species**

Threatened and endangered species are protected by Vermont's Endangered Species Law (10 V.S.A. section 5401 et. seq.). The Vermont Natural Heritage Inventory of Vermont Fish & Wildlife Department maintains an inventory of the locations of rare, threatened or endangered plants, animals and natural communities. The precise locations are made available to town planners, although they are not published or made available to the general public. Orange is fortunate to have two locations in town of mapped

features as well as several significant natural communities occurring in Groton State Forest. These areas should inform planning and development decisions in town to conserve or otherwise protect those species and the habitats necessary for their continued survival.

### **Natural Areas**

For purposes of this plan, Natural Areas may be defined as unique or fragile areas which display critical biological, geological, cultural or otherwise aesthetic appeal. Land development needs to be sensitive to this resource base.

Within the Town of Orange there exist two presently identified Natural Heritage Sites. These are sites identified by the Agency of Natural Resources as containing rare plants, animals or a significant natural community (or a State natural/fragile area). One is located at the southern end of the Thurman W. Dix Reservoir and the other near Town Highway #19.

The Nelson Brook Gorge is an area along Nelson Brook at an elevation of about 1,600 feet, and is a natural area within the Town that is known for its outstanding environmental attributes.

These Natural Areas are an important component of the Town's natural and cultural history. It is hoped that through documentation and education their integrity will be preserved thereby avoiding regulatory measures, which often prove divisive to the community. The Town may wish to undertake specific steps to insure that development which occurs in or near these areas is not in conflict with their natural state, and landowners are encouraged to consult with state biologist or the historic preservation division before development of sites in sensitive areas, and to consider allowing the Vermont Land Trust an opportunity to purchase such tracts before selling to developers. Meanwhile, it is the Town's position that development, which occurs in or near these areas, should not unduly conflict with their natural state or ecological function.

### **Resource Production Lands**

Forest and agricultural lands provide many benefits to the Town of Orange. They not only contribute to the rural character and beauty of the community, but provide economic benefits as well, for both producers and consumers. In addition, they often play host to many of the natural resources mentioned above, and as such, protect their integrity and function. For these reasons, the Town would like to see productive resources remain so into the future.

While Orange is fortunate to have large blocks of timberland and prime agricultural soils protected within public lands and floodplains, significant areas in private ownership are worthy of protection, as well. Resource-sensitive site design and clustering of development (as addressed in more detail elsewhere in this plan), landowner participation in the Use-Value program, promotion of value-added industries, Land Trust activities, and adherence to acceptable management practices are all encouraged as means to achieve this end.

### **Invasive Species**

Invasive tree pests such as the Emerald Ash Borer, the Hemlock Woolly Adelgid, the Asian Longhorned Beetle, and others can pose a serious threat to the abundant forests in Vermont. Over 80% of the Town of Orange is forested therefore invasive species can have a dramatic impact on the landscape. Efforts

should be taken to limit the movement of firewood to or from the Town, and to diversify tree stands to incorporate a diverse mix of species. State and Federal guidance is available to help prevent the spread of invasive species and should be utilized whenever possible.

## SECTION 9: WATER QUALITY & FLOOD RESILIENCY

### Water Resources

Nate Smith Brook and Nelson Brook both originate in the Knox Mountains and flow west to their confluence and then on to the Thurman W. Dix Reservoir, a drinking water source for the residents of Barre City. Orange Brook originates in the northwestern corner of Town and flows south into the Thurman W. Dix Reservoir. This reservoir drains south into Orange Brook and then on to the Lower Orange Reservoir, also a drinking water source for Barre City residents. These brooks are largely free flowing and provide high quality habitat and recreation settings. Because they are ultimately sources of drinking water these water courses and adjacent land should be maintained so as to not significantly degrade water quality.

Baker Brook also originates on the western slope of the Town, joining Orange Brook below lower Orange Reservoir before its confluence with the Jail Branch. Other smaller tributaries occur along the western slope. A number of other tributaries flow from the eastern slope of town before entering the Waits River.

Water quality classifications are determined by the Water Resources Board. The classifications establish water quality goals for each body of water in the State. All brooks except the Jail Branch are classified by the Board as Class B waters. According to the Board, this classification indicates that the water courses have management goals which include "good aesthetic values, contact and non-contact recreation, public water supply with disinfection and filtration, irrigation, and other agricultural uses." The Jail Branch is classified as a Class C watercourse. According to the Board, Class C waters are not appropriate as sources of drinking water nor are they appropriate as contact recreation sites. Because the Jail Branch borders active agricultural land and is generally not suited for recreational purposes, it should remain classified as a Class C River.

Riddel Pond displays high quality aesthetic value and is excellent wildlife habitat. In addition to Riddel Pond, Thurman W. Dix Reservoir, and Lower Orange Reservoir, there exist numerous small ponds scattered throughout the Town. Some exist within wetlands, and others in higher elevations, as the source of many of the Town's brooks. In many cases beaver dams have created these smaller ponds. They serve to store water from heavy rains and spring runoff, thereby preventing detrimental erosion and contributing to flood control, and they are often excellent habitat. As the health of these bodies of water is important to the Town, any undue, potentially detrimental activities should be discouraged.

### Groundwater

Major groundwater deposits in this region are most often located in areas underlain by stratified drift deposits (permeable sands and gravel of glacial origin), along watercourses in valley areas. As there is an exchange between surface and ground waters, land uses, which pollute upstream waters, may in time pollute downstream aquifers. Thus protection of groundwater may require restrictions on potentially toxic land use and that care should be exercised in the course of development in these areas. In that the vast

majority of Orange residents rely on groundwater from springs and bedrock wells as their primary water source, the health of these supplies is very important.

### **Wetlands**

Orange's wetlands are included on the National Wetlands Inventory Map, available through the Agency of Natural Resources Department of Environmental Conservation. Wetlands are recognized as an important resource to the Town. They provide excellent habitat, they act in flood regulation and groundwater recharge, and through silt deposition and ingestion of nutrients by wetland plants, they act as water purifiers. Activity in wetlands is regulated by both the State and Federal governments, and Orange desires no additional restrictions.

### **Floodplains**

Federal Flood Insurance Rate Maps depict floodplains within Orange. The most significant floodplains occur along portions of the Jail Branch, Orange Brook, Nate Smith Brook, East Orange Branch, Nelson Brook, and Baker Brook. However, some smaller tributaries are subject to flooding and capable of inflicting damage on inappropriately sited development. Flooding most frequently occurs in early spring as a result of snow-melt and often heavy rains.

### **Local Hazard Mitigation Plan**

In November 2017, the Town of Orange adopted a local hazard mitigation plan that was approved by the Federal Emergency Management Agency (FEMA). This plan provides significant detail on specific hazards that face the Town of Orange. The most likely hazards that are identified in the plan that would impact the Town include severe weather such as thunderstorms, hail, lightening, or high winds; and flash flooding. Wildfires, forest fires, and extreme cold/winter storms (including ice storms) are also noted as hazards with the highest possible frequency of occurrence. The information included in the local hazard mitigation plan, including specific actions to address hazards, is intended to provide the necessary detail to address statutory requirements of municipal plans related to flood resiliency. This is further emphasized by the potential impacts of the flood related hazards discussed in the local hazard mitigation plan.

## **SECTION 10: ECONOMIC HEALTH**

The economic health of Orange declined between 2001 and 2010. Orange fell from 12<sup>th</sup> place to 21<sup>st</sup> place in 2010 out of the 23 towns in the central Vermont region in Adjustable Gross Income (AGI) and to last place in AGI growth. However, from 2010 through 2015, Orange moved up two spots to 19<sup>th</sup> regionally based on the overall percent change between 2010 and 2015. Table 10 shows the median income (adjusted income per tax return) and the AGI growth for the 23 municipalities of Central Vermont based upon information compiled by the Vermont Tax Department.

**TABLE 10  
2015 SCHOOL DISTRICT MEDIAN ADJUSTED GROSS INCOME REPORT**

Municipality	Adjusted Gross Income per Return			Percent Change		2015 Regional Rank
	2001	2010	2015	2001-2010	2010-2015	
Barre City	\$23,056	\$27,732	\$31,166	20.3%	12.4%	12
Barre Town	\$31,975	\$37,546	\$43,908	17.4%	16.9%	7
Berlin	\$30,151	\$34,546	\$39,394	14.6%	14.0%	8
Cabot	\$23,199	\$29,707	\$33,506	28.1%	12.8%	10
Calais	\$29,053	\$36,607	\$38,256	26.0%	4.5%	20
Duxbury	\$35,049	\$44,026	\$49,396	25.6%	12.2%	13
East Montpelier	\$31,975	\$39,503	\$48,452	23.5%	18.5%	5
Fayston	\$35,726	\$44,317	\$49,651	23.6%	10.7%	15
Marshfield	\$27,812	\$32,907	\$36,032	18.3%	9.5%	17
Middlesex	\$35,807	\$43,459	\$52,843	21.4%	21.6%	3
Montpelier	\$28,143	\$35,087	\$41,518	24.7%	18.3%	6
Moretown	\$30,065	\$38,529	\$46,554	28.2%	20.8%	4
Northfield	\$28,121	\$31,549	\$35,540	12.2%	12.7%	11
<b>Orange</b>	<b>\$28,884</b>	<b>\$29,489</b>	<b>\$31,058</b>	<b>2.1%</b>	<b>5.3%</b>	<b>19</b>
Plainfield	\$24,847	\$30,621	\$33,139	23.2%	8.2%	18
Roxbury	\$27,867	\$29,728	\$36,850	6.7%	24.0%	1
Waitsfield	\$29,615	\$32,997	\$40,557	11.4%	22.9%	2
Warren	\$28,631	\$33,215	\$33,497	16.0%	0.8%	21
Washington	\$25,148	\$29,012	\$29,217	15.4%	0.7%	22
Waterbury	\$31,015	\$38,978	\$44,161	25.7%	11.7%	14
Williamstown	\$27,563	\$32,848	\$36,336	19.2%	10.6%	16
Woodbury	\$30,641	\$36,723	\$36,813	19.8%	0.2%	23
Worcester	\$27,163	\$34,618	\$39,144	27.4%	13.1%	9

Notes:

1. Information from Vermont Department of Taxes, January 2017
2. Rank is based on percent change between 2010 and 2015 with the greatest percent change ranked #1 and the smallest percent change ranked #23

State records in the Vermont Economic Services Division indicate that 2.4 percent of Orange residents receiving Reach-Up, one of the lowest rates in the region. Orange County averages 15.0 percent, and Washington County has a 14.0 percent average.

The same department indicates that 11.5 percent of Orange Town residents receive three squares Vermont (food stamps). In Washington County's 3.0 percent of its residents receive three squares Vermont (food stamps), in Orange County the rate is 2.0 percent.

Orange has so few employers in town that average wages paid by its employers is not released by the Department of Employment & Training because it could breach confidentiality guidelines. On the other hand, so few residents work at jobs in Orange, the number would have little meaning. The annual unemployment rate has steadily increased from 0.8% in 1995 to 5.5% in 2011.

In order to stop further economic and income decline and to revitalize economic health the Town must find a way to encourage new employment through an active development program and encouragement of employment-related services to benefit the Town's residents. If the Town fails to stem the economic decline, then the perception as a "poor town" will further hinder the incentives of those who may wish to invest in and/or to relocate to the Town.

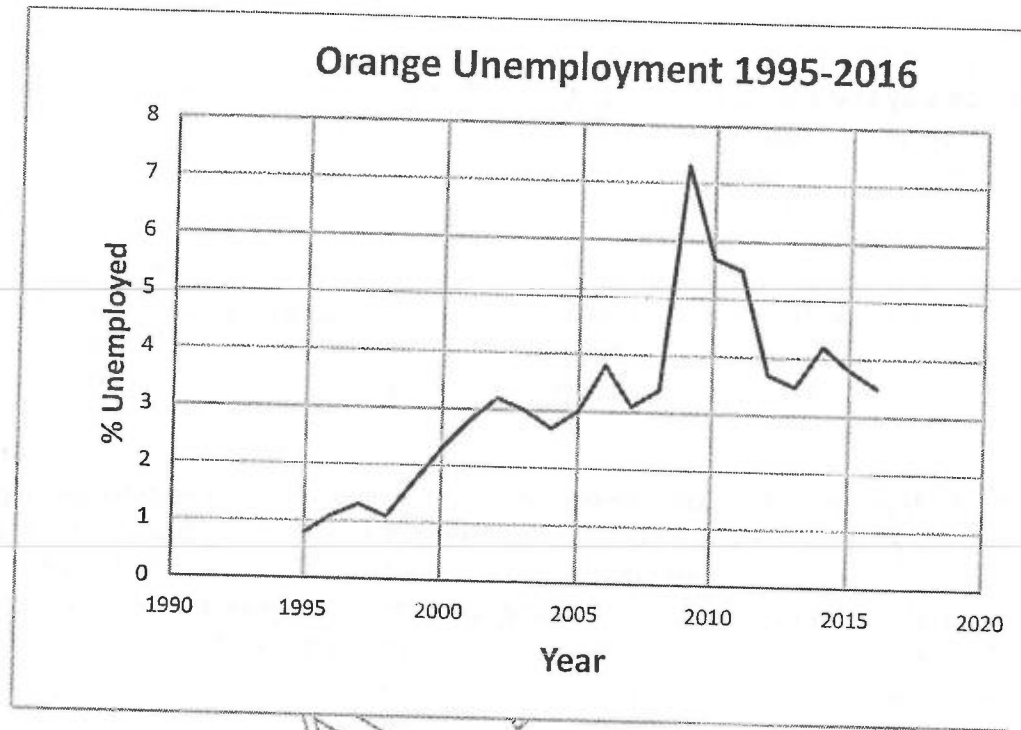
The reality of the Town's circumstance is it can't and won't plan development unless and until it has an area with municipal sewage treatment. There are a limited number of businesses Orange could reasonably attract without sewer – mostly small scale and likely to be located "wherever it works" for the entrepreneur. Without municipal utilities, and without a historical influx of commercial employers, there is little relevance to planning directives.

While development is most likely to occur near highways, it is currently not happening at all. The future land use plan for the Town identifies the Villages as the primary location to support development density within the Town. This includes the Village of Orange Center and East Orange. In both instances, limits on available infrastructure will dictate the amount of potential development that could occur. By identifying these areas as possible locations for future growth, the Planning Commission has also indicated that this will be a way to help protect the rural areas of the community from unnecessary development that is inconsistent with the character of the community.

Even though employment is limited in Orange, there are economic opportunities. The forest economy is strong in Orange through timbering, maple sugar production, and recreational uses of the forests. The Vermont Association of Snow Travelers (VAST) identifies trails throughout Orange that connect with the state forest and cross private lands through agreements with the landowners. Identifying ways to support these uses can be a catalyst to future economic growth that is consistent with the rural character of the Town and provide needed services to support the year-round residents. These opportunities could also be impacted by the invasive species that were discussed previously under Section 8.

**Table 11 - Percent Unemployment**

Year	%
1995	0.8
1996	1.1
1997	1.3
1998	1.1
1999	1.7
2000	2.3
2001	2.8
2002	3.2
2003	3.0
2004	2.7
2005	3.0
2006	3.8
2007	3.1
2008	3.4
2009	7.3
2010	5.7
2011	5.5
2012	3.7
2013	3.5
2014	4.2
2015	3.8
2016	3.5



Source: Vermont Department of Labor, 2017

**SECTION 11: LAND USE**

The most important considerations in determining desirable land uses are:

- “Will it be good for the Town?”
- “Is it compatible with the Goals & Objectives of the Town Plan?”
- “Can the land support it?”

The land use recommendations of the Town Plan shall consider these three questions regarding the future growth of the Town. A use which will have an adverse effect on the Town shall not be undertaken, even if the land is perfectly capable of supporting it. A use which the land cannot support should not be undertaken, even if it is good for the Town. A use shall not be undertaken if it is not compatible with the Goals & Objectives of the Town Plan.

## The Pace of Growth

Orange is a rural community, and residents wish to maintain this character with the historic and well-paced pattern of growth. Sudden large increases in population and/or physical development which would place an undue burden on Town facilities and have a negative impact on the town and village character shall be discouraged.

## Current Land Use

Land use in Orange follows the patterns of traditional Vermont rural towns. Orange Center and East Orange are predominately residential with almost no commercial or industrial uses that are not associated with home occupations or home businesses. In Orange Center the school, the Town Clerk's Office, and the Town Hall are served by a municipal water service. There is no municipal sewer service. All outlying areas are served by private wells and on-site septic systems. Areas outside of the Orange Center and East Orange are rural in nature with a mix of year-round and vacation homes.

The list below was compiled from the 2016 Town of Orange Grand List. It illustrates the distribution of land parcels among the different Grand List use categories. The list indicates zero commercial or industrial uses. This may be an indication that those uses are associated with home-based businesses therefore they are not classified as standalone commercial or industrial uses.

<u>Category</u>	<u>Number of parcels</u>
Residential 1 (parcels less than 5 acres)	192
Residential 2 (greater than 5 acres)	197
Mobile Homes	19
Mobile Homes (With Land)	47
Vacation 1 (parcels less than 6 acres)	14
Vacation 2 (greater than 6 acres)	43
Commercial	0
Commercial Apartments	0
Industrial	0
Utilities - Electric	3
Utilities - Other	0
Farm	5
Woodland	38
Other	2
Miscellaneous	52
Current Use	40

The primary land use categories in the Town of Orange consist of residential, agriculture, forest, and mixed uses, with the predominance being in the agriculture and forest categories. As noted previously, many of the residents of the Town of Orange located here because it is rural in nature with agriculture and forestry uses dominating the landscape. These uses will continue to be a significant component of the town's land use and their protection is noted throughout this plan.

## Future Land Use

The ongoing and planned growth of Montpelier, Barre City, and Barre Town to the west has created development and population growth pressures on the Town of Orange. Also, Orange's lack of any land use regulations has made the town more susceptible to unregulated development pressures within the Town caused in part by the fact that all the surrounding towns have enacted some form of land use regulations limiting and directing land use development in their respective jurisdictions. In light of these development and population growth pressures and the wishes of the residents of Orange to maintain the Town's rural character and the residents' individual liberty, some means should be considered to provide a bulwark against the increasing development and population pressures on the Town. Updates to critical data such as U.S. Census counts will provide a better indication of specific trends that could impact the priority of establishing land development control measures.

It is recognized here that land use decisions are often personal and private matters for landowners. The Orange Town Plan acknowledges this and does not aim to infringe upon the rights of property owners.

Nonetheless, land development is a permanent feature of the landscape, and often has long term implications for the community. Therefore, land development in Orange shall demonstrate respect for the existing character and quality of life in Orange. That is, where land development takes place, the long-term interests of abutting landowners and the community as a whole shall be considered along with the personal aspirations of landowners.

One goal for the Town of Orange is to encourage development that maintains the historic settlement pattern of the Orange Center and East Orange.

As much as possible, settlement patterns within Orange shall have the following effects:

1. Concentrating settlement and growth to allow the Town to grow and prosper while protecting rural resources, farms, forest industries, and the character of the current Orange landscape.
2. Concentrating growth that reinforces community identity, important to the enhancement of "sense of place", as well as to the Town's ability to attract visitors and business.
3. Concentrating services and future infrastructure needs. Concentrating growth shall serve to minimize Town expenditures associated with that growth. The Town shall encourage new employment in certain areas through an active development program with appropriate support and incentive.

While recognizing the benefits associated with concentrated growth, the Planning Commission appreciates that individual initiative will continue to drive land development within the Town. Thus, the Town shall identify potential sites where public investments could be targeted to encourage concentrated settlement patterns and a beneficial land use mix.

Another goal is concentrating structures within specific parcels. Where land development does take place, regardless of its location within the Town, the concentration of structures is encouraged. It is recognized that clustering has a potential to benefit farmers, homeowners, developers, and the community as a whole.

Orange shall consider providing incentives, where appropriate, to developers to concentrate infrastructure and structures on a given site, and should explain clearly what is expected of a developer in order to benefit from such incentives.

By concentrating structures and infrastructure on a given site as opposed to spreading development throughout the whole parcel, a developer can realize significant construction savings. Through clustering of structures, a developer can minimize expenditures on road and utility/service extension (i.e., sewer, drainage, water systems). Furthermore, by concentrating development, a developer is likely to avoid environmentally sensitive areas thereby expediting the permitting process and creating a more livable environment for future homebuyers.

Homebuyers can benefit from reduced development costs that translate into lower housing prices.

The community will also benefit from the concentration of land development; first through realizing the protection of open space and environmentally sensitive areas and then by reducing future maintenance costs (i.e., plowing and resurfacing) if private roads are accepted as municipal ways.

Stating goals is a small and simple step. Achieving them is much more difficult. With few ordinances and no bylaws in place, Orange relies almost entirely on state law, e.g., Act 250, to oversee and control development.

Through departmental permits and the Act 250 process, the State of Vermont provides some permitting of land development projects, which provides minimal land use protection to the Town and its residents.

Act 250 reviews residential construction and/or subdivision of six or more lots; commercial and industrial projects involving more than an acre of land; and projects over 2,500 feet in elevation. Such review of land development projects is a useful mechanism in protecting the health, safety, and welfare of the community.

As the pressures of land development increase in response to an expanding population base particularly along Route 302 from the west, Orange must take control of its destiny and thereby strengthening its ability to influence land use decisions and guiding the changes occurring throughout the Town rather than relying upon the minimal protections afforded by the State and Act 250.

Orange currently has no permitting process other than road access permit ordinances on non-state roadways and floodplain regulations as part of the National Flood Insurance Program. Orange shall begin taking jurisdiction over some aspects of development by establishing simple development ordinances.

Such ordinances, at a minimum to provide concrete information to Town Officials with respect to:

1. The kind of development taking place within the Town.
2. Where development is taking place within the Town.
3. The rate at which development is taking place within the Town.

At the same time, such ordinances shall enable the Town to oversee the elements of development deemed most important to abutters and to the community as a whole.

## **Future Land Use Categories**

The following future land use categories will be used to reflect the general characteristics of land uses that are desired in the various districts. The future land use map included in Appendix B is intended to provide a general representation of where different categories of use can be anticipated. The future land use map is not intended to be strict representation future use and does not follow specific boundaries. Instead, the future land use map will provide a general idea to the community and the region as to the classification of uses that are appropriate throughout the Town.

### **Village (Mixed Use)**

The two village centers currently have a mixture of residential, light commercial and public uses. These areas should accommodate new construction but remain as they are in character and settlement pattern. Commercial development in mixed-use areas shall be surrounded and interspersed with high-density residential, public and compatible industrial uses. These areas are intended to continue the long tradition of Vermont's downtowns and village centers. Development in these areas shall be the highest density in the Town, and should facilitate development of a circulation system that accommodates pedestrians and other non-vehicular travel. New development should not detract from the historic character and aesthetic qualities of the village centers

### **Industrial/Commercial**

There are currently no areas in the Town of Orange that are designated as future industrial or commercial uses however this category is included for possible future development needs. Industrial and commercial areas are places that have been identified for uses that may be incompatible with other uses because of traffic, noise, or inherent conflict with village character, etc. They also represent land reserved for industries such as mining or quarrying, which may have inherent limitations on where they can function and locations that are appropriate for larger commercial or retail establishments that would be out of character in a village setting. These areas should be reserved for industrial and commercial development, or resource extraction and managed to minimize traffic, environmental, and aesthetic impacts on surrounding areas. Home based businesses that operate within an existing residential structure or structure that is accessory to a residential use are not considered in this category.

### **Residential**

Future land uses designated as residential include areas that consist of smaller lots, typically less than two acres, where the primary use is a residential dwelling. These locations will typically be in close proximity to the villages and the lot sizes will be sufficient to support one dwelling unit with its associated water and wastewater systems. The residential category will generally provide a portion of the density needed to help support village developments and could include accessory dwellings or duplexes. Home based businesses would also be included in this category.

### **Rural Residential**

Rural Residential areas can support a number of different uses, including low density residential, forest, agricultural (including tree farms and other horticultural uses), open, and transitional

(scrub/shrub). They have been designated based on their current use and accessibility from existing roads. Rural areas shall allow only compatible uses, and maintain existing, low-density settlement patterns. Sprawl and strip development shall be avoided and cluster development shall be incorporated, as long as the overall density remains low. Open space and recreational resources should be preserved wherever possible. New residential development may occur in Rural Residential areas only where accessible by existing town roads. Home based businesses would also be included in this category.

### **Conservation/Recreation**

Recreation opportunities are a vital part of the Town's economy and quality of life. Publicly accessible recreation opportunities shall be enhanced where possible, and measures taken so opportunities are not diminished. Designated recreation areas shall retain their recreational value to the public; where development would reduce these recreational opportunities, alternatives shall be provided.

Conservation areas are lands that possess outstanding value or potential as wildlife habitat, recreation areas, educational resources, fragile natural areas, economic assets (generating revenue from recreation and tourism), or aesthetic resources. Conservation lands represent relatively pristine areas of the Town that residents wish to preserve in their natural state for future generations, and should receive the highest level of protection from development. Special care should be taken in any resource management or extraction plans to maintain the character and value of these areas. Conservation areas are especially beneficial when surrounded by compatible uses such as forest and agriculture. Conservation areas can also provide recreational use and shall be valued as such.

### **Agriculture/Forest**

Agricultural land has historically been important to the Town's economy, local food supply, and cultural heritage. It contributes to the land use patterns and aesthetic qualities that make the Town a desirable place to live, work, and visit. Land in agricultural use and idle open land with agricultural potential possess these values. The potential for agricultural use and production shall not be impaired in designated agricultural areas. Cluster development shall be incorporated in these areas for the preservation of open lands.

The majority of undeveloped land in Orange is forested. The State owns a portion of this land and manages it for forestry and wildlife habitat, while allowing recreational uses. The contiguity of large areas of forestland is important for many types of wildlife, especially for large mammals such as deer, bear, and moose. The State Agency of Natural Resources has identified several large areas within the town as deer wintering areas and bear habitat. Any development which occurs in forest areas should be designed so that these important habitat areas are maintained wherever possible. Forest areas are also important for their recreational, aesthetic, and economic resource values. The ability of Forest areas to provide these benefits shall not be impaired. Development in these areas shall be undertaken in ways that protect their value and ensure the continued presence of healthy forest ecosystems in the Town. Cluster development shall be incorporated in these areas for the maximization of forest preservation.

## Special Consideration Overlays

There are several important resources that may occur within any of the land use categories above, and which merit special attention and protection. They include: Public Water Supply Source Protection Areas; floodplains, vegetated areas next to surface waters, wetlands, Natural Heritage Inventory sites, critical deer wintering habitat and bear habitat as defined by the Vermont Agency of Natural Resources, regionally significant historic sites, and other locally defined sensitive natural areas and scenic resources. Development shall avoid and minimize negative impacts to these resources. In addition, special considerations should be observed in the following two areas:

### High elevations and steep slopes

At high elevations (greater than 1,800 feet) the soil tends to be thinner and cooler and less able to support a wide range of plant life. If areas are disturbed the potential for severe erosion is great. Land at 1,800 feet and above as well as lands with steep slopes (greater than 25%) shall be protected from any development which will cause soil erosion.

### High elevation development guidelines

Orange values its ridgelines and other high elevation areas and recognizes the great importance of these areas to both resident and migratory wildlife. Therefore commercial and industrial development at elevations greater than 1,800 feet shall be strictly avoided. The town discourages land development including the construction of roads and extension of utilities at these elevations with the exception of activities related to non-commercial recreation, forest management, camps, and single-family residences. Any development which is proposed at higher elevations shall demonstrate that every measure has been taken so that the development is not visually obtrusive to surrounding neighbors or from public roadways.

While residential development may be expected in almost all land use categories, higher densities should be concentrated in and around established village areas. Residential development should be compatible with the land use and housing goals of this plan, and should not conflict with the values defined in the land use categories of this plan.

### Agriculture and Forest Lands

While Orange once hosted a number of active dairy farms and sheep farms, the town is now home to two dairy farms. Agriculture was an important part of the town's history, culture, and rural character and remains so today to a lesser extent.

Most of Orange's land area is forested. One privately owned parcel is managed for wood production and is enrolled in the State's Use Value Appraisal program. This program ensures that the land is managed according to a plan developed by a professional forester and provides an incentive for landowners to keep the land forested. Forest lands provide a natural system of air purification and soil stabilization as well as areas for recreation and wildlife habitat. When managed carefully, these lands also provide an important local economic resource through the production of timber.

## Earth Resources

Earth resources, including sand and gravel deposits, are also natural resources of importance to the Town. It is the Town's desire to work with landowners to facilitate appropriate extraction that will minimize long-term aesthetic and environmental impacts while still providing opportunities to utilize local sand, gravel, and earth resources. This will reduce the costs of transporting materials into the Town including municipal needs. Any extraction proposals shall include a plan for maximizing reclamation of the site upon closure.

## Public Lands

Orange is unique in its diversity of land ownership. Certain large parcels of land in Orange are owned by public entities other than the Town of Orange, and they deserve special note here. Obviously, the maintenance and future of these lands are of special importance to residents of Orange.

The Butterfield Block of Groton State Forest extends into the northeastern quadrant of Orange. At 25,645 acres (1,934 acres in Orange), Groton State Forest is the third largest contiguous land holding of the State of Vermont. Timber management is an important use of this forest but is "generally subservient" to recreational needs.

The Barre City Forest, a large parcel of land encompassing the Thurman W. Dix and Lower Orange Reservoirs, is owned by Barre City. Water from the reservoirs flows through a modern filtration and treatment plant to provide drinking water to Barre City. The tract includes approximately 1,200 acres of land immediately surrounding the two reservoirs, all of which is protected. As a result, the Town enjoys a unique wildlife refuge.

Behind the East Barre Dam, a flood control dam owned and managed by the State of Vermont, lies a large inundation area. Located within the southeastern quadrant of Orange, this area incorporates a significant portion of the Jail Branch floodplain. Part of this inundation area is owned by the State and was acquired in fee. In higher reaches of the inundation area, the State owns only the flowage rights while private ownership accounts for other land rights. Owners are thereby prevented from filing claims against the State in the event of heavy flooding. Much of this land is also high quality agricultural land.

This land is currently farmed and is likely to remain useful only for agriculture in the years ahead. This complements the Town's desire to see agriculture and value-added products continue to be part of the town's economic base.

The Orange Town Forest is a 306.4 acre parcel located near the center of the Town on the North side of Route 302. The parcel is managed for the harvest of timber.

The Town has a lease on a property located along the Reservoir Road, which hosts a ball field and is maintained by the Recreation Committee as a community recreation field. The lease has been renewed for a second ten-year term.

## Wildlife Habitat

Orange residents are fortunate to share the community with a variety of animal species that depend on a variety of habitat types – and connectivity between habitats – for their survival. Maintaining viable populations of native wildlife is an important goal of town residents. To achieve this, residents and local

officials should understand the habitat needs of different species, where those habitats are found in the community, how they interact with habitat areas outside of the community, and how land use and human activity can best be guided so that the function of important habitat is not diminished. Conducting an inventory of important habitats would greatly assist the town to better maintain habitat. Despite the lack of a comprehensive inventory, however, several types of significant habitat have been identified in the town.

### **Contiguous Forests**

Contiguous forest habitat provides a significant contribution to the local community's interests in its natural heritage, identity, and working landscape. These lands represent much of what makes life in this area unique and enjoyable. These lands provide a myriad of ecological functions for fish, wildlife, plants, and all the natural processes that sustain them. Further, they provide extremely valuable connections for people to enjoy and appreciate the land and its abundant resources. For these reasons, contiguous forests will be supported by sustainable working lands, for the myriad contributions to our natural and cultural heritage, and for maintaining options and choices for future generations of the community. To this end, we will work to inform landowners of these values and offer assistance for any conservation actions that are in keeping with the local community's conservation interests.

In Orange, contiguous forest blocks greater than 500 acres play a particularly important role. The town seeks to minimize habitat fragmentation and parcelization in these large blocks of forest by encouraging clustered development and limited driveway length.

### **Connecting Lands**

Because many wildlife species move long distances to get the food, water, shelter and access to mates that they need, allowing for connections between blocks of habitat is critically important. "Travel Corridor" is a term used to describe land that links larger patches of core habitat within a landscape, allowing the movement, migration, and dispersal of animals and plants, which is crucial in maintaining biological diversity, and the long term viability of breeding populations in the face of climate and habitat change. Riparian habitat along streams and rivers, strips of forest cover between developed areas, and even hedgerows/fencerows all represent potential connecting habitat. Included are areas where land use and landscape features allow wildlife to move across roads to and from habitat areas (e.g., undeveloped areas with forest cover close to each side of the road). Travel corridors can serve local populations of wildlife, or species with wide ranging habitat requirements. Efforts should be made to identify and map wildlife travel corridors in town in an effort to protect these linkages between larger areas of core habitat.

In a more regional context, Orange is part of a large "linkage area" that connects the Green Mountains of Vermont with the White Mountains of New Hampshire. This linkage area connects entire populations of wildlife, allowing for genetic diversity and hence healthy populations across the region. Scientists with The Staying Connected Initiative and Vermont Fish & Wildlife Department agree that this linkage area is of eco-regional significance and the travel corridors within this linkage area are critically important.

### **Forest Integrity**

With the passage of Act 171 in 2016, municipalities are required to indicate areas within their towns that are important as forest blocks and habitat connectors. The purpose of this identification is to ensure that any plans for land development in these locations is done in a way that will minimize forest fragmentation

and promote the health, viability, and ecological function of the forest. Additionally, municipalities may establish policies that encourage the active management of the forest blocks and habitat connectors for wildlife habitat, water quality, timber production, recreation, or other values or functions identified by the municipality, but it is not explicitly required.

The Town of Orange is primarily wooded and relies on its forest resources for products such as firewood, maple sap, and other logging operations. Healthy intact forests are critical to the economic health of the Town as these areas provide vital resources for the residents of Orange that establish their livelihood on the forests and its resources. The majority of the development that does exist is focused along the roads that crisscross through town. The Village of Orange Center is the most developed area of town and is located along U.S. Route 302 in the western portion of town.

U.S. 302 is the primary east/west thoroughfare through the community. This roadway does create a break in two significant areas of forest, however this roadway sees light traffic. The Vermont Agency of Transportation counts traffic on U.S. 302 by segments and intersections. The heaviest daily volumes on U.S. 302 in the Town of Orange occur between the western boundary of the Town and Reservoir Road. Volumes along this segment were listed at 4,300 vehicles in 2015.

As traffic continues east along U.S. 302 the numbers diminish and are cut almost in half to 2,000 vehicles by the time they reach the eastern boundary with the Town of Topsham. This low amount of traffic along U.S. 302 means that wildlife can easily cross this corridor without interacting with vehicles. However, land uses that may create additional traffic along this corridor should consider the potential impacts to wildlife that cross this section of roadway. In the future, the Town may consider identifying the most critical crossing locations to ensure they are protected.

In order to address the requirements of Act 171, the Town has identified High Priority and Priority Interior and Connectivity Forest Blocks. These areas are defined as a contiguous area of forest in any stage of succession and not currently developed for non-forest use. A forest block may include recreational trails, wetlands, or other natural features that do not themselves possess tree cover, and uses exempt from regulation under subsection 4413(d) of Vermont Statute.

Additionally, the Town has identified High Priority and Priority Surface Waters and Riparian Wildlife Connectivity areas. These are defined as land or water, or both, that links patches of wildlife habitat within a landscape, allowing the movement, migration, and dispersal of animals and plants and the functioning of ecological processes. A habitat connector may include recreational trails and uses exempt from regulation under subsection 4413(d) of Vermont Statute. Together, these areas make up the critical locations throughout the Town of Orange that should be protected to the extent possible by limiting fragmentation. These areas are identified on the Forest Integrity Map in Appendix B. Also, specific policies related to the protection of these areas is included in Appendix A.

## **SECTION 12: ENERGY**

Increased energy demands and the high cost to provide them are leading to efforts to conserve existing energy resources and to search for alternative solutions to energy problems. Environmental concerns such as air pollution and acid rain are directly linked with energy consumption. Combustion of fossil fuels results in the release of “greenhouse gases,” and acid rain that has impacted many lakes and streams in the Northeast.

While the Town of Orange has not yet seen these direct negative impacts of energy consumption, there are some concerns that affect local residents. The costs of electricity are particularly high in Vermont. In addition, the cold climate requires additional forms of energy for heat such as fuel oil, propane, or wood. In order for residents to heat their homes more efficiently and effectively, there are a number of measures that may be considered during the planning and design stages of home development and rehabilitation. Recent state regulations require that all new homes meet certain standards of energy efficiency. These may include use of passive solar energy through home location, insulation, storm windows and fuel-efficient heating systems.

Proper land use techniques can be employed to achieve energy conservation. The siting of structures to maximize solar gain, proper slope orientation and the utilization of trees as wind barriers are all effective tools when designing for energy conservation. New development should incorporate these and other energy conservation measures.

The use of hardwoods for fuel consumption is a reasonable alternative to non-renewable sources because it is available locally and when used in a modern, clean burning stove does not pollute the atmosphere nearly as much as older technology stoves and burners. Harvesting of cordwood that is based on sound forest management plans does not degrade forests and streams. In addition, locally produced cordwood contributes to the local economy, creating jobs and keeping dollars within the community.

Other locally available renewable energy resources include biodiesel, wood pellets, wind and solar. Biodiesel can be used wherever petroleum-diesel is now used. It can be used in oil furnaces or oil fired hot water heaters. It can often be used in any vehicle or machinery that uses petroleum diesel with no modification to the engine.

In order to provide a more comprehensive analysis of the Town's current energy use and future energy needs, information from the Central Vermont Regional Planning Commission is being included. The following tables provide an analysis of existing energy patterns in the Town of Orange and identify possible targets for the Town to consider that will help reduce the overall energy demands and needs. This will help provide the necessary background information for the Town to use when considering how to support the State Comprehensive Energy Plan's goal of having 90% of the Town's energy needs provided from renewable sources by the year 2050. In addition to the tables included in this section, resource maps are included in Appendix B.

Table 12 provides information related to the current energy use in the Town of Orange. This is specifically related to the energy used for home heating. Heating for commercial structures is included in Table 13.

Table 12 - Current Annual Residential Heating Energy Use

Fuel Source	Number of Households	Percent of Households	Municipal Square Footage Heated	Total Annual BTUs (Billions)
Natural Gas & Propane	52	13.3%	107,242	6.43
Electricity	0	0.0%	0	0.00
Fuel Oil	190	48.6%	383,073	22.98
Coal	0	0.0%	0	0.00
Wood	140	35.8%	279,783	16.79
Other (Includes Solar)	9	0.0%	17,784	1.07
No Fuel	0	2.3%	0	0.00
<b>Total</b>	<b>391</b>	<b>100%</b>	<b>787,882</b>	<b>47.27</b>

Source: U.S. Census Bureau - American Community Survey - 2015

Based on information from the Vermont Department of Labor, there were eight commercial establishments in the Town of Orange in 2015. The Vermont Department of Public Service provided information related average energy consumption for commercial uses. This information was compiled to establish that the average commercial energy use for heating was approximately 1,500 million BTUs per year. Table Twelve provides a breakdown of this information.

Table 13 - Current Municipal Commercial Energy Use

	Total Commercial Establishments	Estimated Thermal Energy Use per Commercial Establishment (Millions of BTUs)	Total Estimated Thermal Energy Use (Millions of BTUs)
Municipal Commercial Energy Use	8	1,583	12,664

Source: Vermont Department of Labor  
Vermont Department of Public Service

The information in Tables 12 and 13 can be further refined to establish the amount of energy being used by the Town of Orange. Since Tables 12 and 13 are listed as BTUs, it can be converted to megawatts and megawatt hours. Table 14 includes the conversion of residential and commercial energy use for the Town of Orange into megawatt hours.

Table 14 - Current Electricity Use

Use Sector	Current Electricity Use (Megawatt Hours)
Residential	2,847
Commercial and Industrial	777
<b>Total</b>	<b>3,624</b>

Source: Efficiency Vermont

As shown in Table 14, the Town of Orange uses approximately 3,600 megawatt hours of energy every year. In order to support the state's goal of 90% of the total energy consumption being developed by renewable sources by the year 2050, the Town will need to not only help generate energy, but identify ways to use less energy. This reduction in energy is a combination of conservation and conversion to more efficient technologies, such as high efficiency heat pumps, or alternative fuel options, such as high efficiency wood heating systems.

Specific targets for efficiency and conversions of heating (thermal) and electricity use are identified in Tables 15 through 20. While Tables 17 and 18 specifically identify heat pumps and wood heating systems, the Town of Orange is not limited to only use these types of systems for conversions. If other renewable technologies exist, they can be utilized as well. These are only two examples of systems that could be incorporated to meet the conservation and conversion targets. Targets for conservation and conversion related to transportation are included in Section 13.

*Table 15 - Residential Thermal Efficiency Targets by Target Year*

	2025	2035	2050
Percent of municipal households to be weatherized by target year	20%	42%	92%

Source: Vermont Department of Public Service  
 Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
 U.S. Census Bureau – American Community Survey – 2015

*Table 16 - Commercial Thermal Efficiency Targets by Target Year*

	2025	2035	2050
Percent of commercial establishments to be weatherized by target year	22%	33%	61%

Source: Vermont Department of Public Service  
 Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
 U.S. Census Bureau – American Community Survey – 2015  
 Vermont Department of Labor

*Table 17 - Residential & Commercial Thermal Fuel Switching Targets for Wood Systems by Target Year*

	2025	2035	2050
New Efficient Wood Heat Systems (in units)	0	0	8

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
 U.S. Census Bureau – American Community Survey – 2015

*Table 18 - Residential & Commercial Thermal Fuel Switching Targets for Heat Pumps by Target Year*

	2025	2035	2050
New Heat Pumps (in units)	40	102	194

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
 U.S. Census Bureau – American Community Survey – 2015

Table 19 - Annual Electricity Efficiency Targets – All Sectors by Target Year

	2025	2035	2050
Increase in Efficiency and Conservation	1.5%	7.3%	15.2%

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning

Table 20 - Annual Use of Renewables – Heating by Target Year

	2025	2035	2050
Percent of Thermal Related Energy being derived from Renewable Sources by Target Year	50.9%	65.9%	93.1%

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning

Next, it's important to identify the amount of renewable energy generation that would be needed for the Town of Orange to meet its share of the state's goal of 90 by 2050. Renewable generation is measured by megawatt hour and is based on a per capita share for the Town. As such, Table 21 identifies the amount of renewable energy that would need to be used by the Town of Orange in each of the three target years to meet the state's energy goals. Again, this use of renewable generation is factored into the conservation and conversion of energy use as a whole.

Table 21 - Use of Renewable Energy by Target Year

	2025	2035	2050
New Renewable Energy Use by Target Year (megawatt hours)	1,724	2,759	6,899

Source: Central Vermont Regional Planning Commission  
Vermont Department of Public Service

In order to establish perspective on the megawatt hours of renewable energy identified in Table 21, it's important to identify the amount of renewable energy that is currently being generated and the potential renewable generation in the Town of Orange based on the amount of resource area that exists. Table 22 lists the current renewable generation and Table 23 provides an overview of the potential renewable energy based on the amount of resource area in the Town of Orange.

Table 22 - Existing Renewable Generation by Source

Renewable Generation Source	Megawatts	Megawatt Hours
Solar	0.04	45.38
Wind	0.00	0.00
Hydro	0.00	0.00
Biomass	0.00	0.00
Other	0.00	0.00
Total Existing Generation	0.04	45.38

Source: Vermont Department of Public Service

Table 23 - Renewable Generation Potential by Source

Renewable Generation Source	Megawatts	Megawatt Hours
Rooftop Solar	0.43	529
Ground-mounted Solar	732.71	898,601
Wind	3,434.25	10,529,411
Hydro	0.00	0
Biomass and Methane	Unknown	Unknown
Other	Unknown	Unknown
<b>Total Renewable Generation Potential</b>	<b>4,167.40</b>	<b>11,428,540</b>

Source: Central Vermont Regional Planning Commission  
Vermont Department of Public Service

As noted in Table 23, the Town of Orange has a significant amount of resource area for the generation of renewable energy. Biomass and Methane, and Other are listed as unknown for potential due to the fact that these sources are not resource dependent. That is to say there isn't a need for the resource to be present in a specific location in order for it to generate energy. These sources can be located anywhere in Town that is appropriate as identified by the community. The targets for renewable energy generation are consistent with the use of renewable energy as identified in Table 21. Table 24 provides the renewable energy generation targets for the Town of Orange by each target year.

Table 24 - Renewable Generation Targets by Year

	2025	2035	2050
<b>Total Renewable Energy Generation by Target year</b> (megawatt hours)	1,724	2,759	6,899

Source: Central Vermont Regional Planning Commission

### **SECTION 13: TRANSPORTATION**

An adequate and efficient transportation system is important to the health of any community. In Orange, where the primary mode of transportation is the private automobile, the transportation system is comprised of a network of roads linking residents to various services and facilities both within and outside of the Town. Excepting school bus routes, there are no municipal public transport options within Orange.

An adequate and efficient road network is imperative to a healthy economy and to the well-being of Orange residents. The road network ensures that consumers are able to reach goods and services; that goods and services are able to reach consumers; and that emergency services are able to reach residents. For many, the road network is also a recreation medium on which one might enjoy a Sunday drive or an afternoon bicycle ride. Obviously, the quality of the road network is important to all Orange residents.

The state highway classification system classifies town roads. The classification system serves as the basis by which the state allocates highway financial aid to municipalities. The classification system refers primarily to highway conditions. Within this classification system, Orange town highways are categorized as follows:

## Class of Roads

1. There are 0.00 miles of class 1 town highway - highways that are designated by the Transportation Board, and are extensions of a state highway route, and carry a state highway route number.
2. There are 7.64 miles of class 2 town highway - highways that are designated by the Board of Selectmen and approved by the Transportation Board, that secure trunk lines of improved highways from town to town.
3. There are 27.23 miles of class 3 town highway - highways that are designated by the Board of selectmen in consultation with the Transportation Board that are:
  - a. a traveled town highway other than class 1 or 2.
  - b. a town highway negotiable under normal conditions in all seasons.
  - c. a town highway with sufficient surface and base, adequate drainage, and width sufficient to permit winter maintenance.
4. There are 3.38 miles of class 4 town highway - all other town highways as designated by the Board of Selectmen. These highways may be maintained to the extent required by the necessity of the town, the public good and the convenience of the town's inhabitants, or may be reclassified as set forth in section 302 of title 19.
5. There are 4.18 miles of legal trails. Class 4 town highways and legal town trails often both serve as "trails," but are separate and distinct under State statute. Any development on a class 4 highway or legal trail that would require reclassification of a class 4 highway to class 3 or higher or a legal trail to class 4 or higher will require reclassification permission from the Selectboard and will be done in accordance with 19 V.S.A. §§ 708-716 upon findings by the Selectboard that the public interests will be substantially advanced by such change in status and that reasonable measures are taken to replace, substitute, or avoid the loss of public and commercial travel, intrinsic and recreational value, or other public interests afforded by the existing class 4 highway or trail. The Selectboard shall require that the cost of upgrading a trail to a class 4 or higher highway or upgrading a class 4 highway to a class 3 or higher highway be assigned to the developer and may require an alternative travel easement or right-of-way replacing the travel route be upgraded to insure that current users and landowners have uninterrupted access.

Town highways correspond with settlement patterns and are accordingly situated primarily within the western portion of Orange. In addition to town highways, Route 110 and Route 302 intersect Orange. Route 110 runs between the Washington and Barre Town borders, and Route 302 through the center of Orange along its east west axis.

Route 302, also called the William Scott Memorial Highway, is a high volume transportation corridor of regional significance. It splits Orange Village, and will likely play an increasingly important role in the development of that portion of Town as a growth center. Moreover, the accessibility and nature of Route 302 are such that Orange has become subject to traffic impacts resulting from development activity outside

of the Town boundaries. For this reason, Orange shall play an active role in the review of any land development activity, which may impact traffic conditions within the Town itself. Orange shall limit curb cuts and establish setbacks along state highways and town roads so as to preserve the rural character of the community. The use of common driveways is encouraged wherever there exists the potential to improve traffic safety and reduce resource consumption.

Public capital investment planning in Orange shall consider the potential for safe, convenient, economic and energy efficient transportation systems that respect the integrity of the natural environment. Where feasible, the Town shall expand paths for pedestrians and bicyclists. Also the Town shall encourage public transit and to that end shall investigate working with Green Mountain Transit (GMT) to expand its current public transportation routes along 302 to include a stop at the Orange park and ride located in Orange Town Hall parking lot as more commuters are going to Barre/Montpelier area for work.

Orange shall seek to secure full right of way to the Town Forest, and shall retain other town owned rights-of-way.

Transportation accounts for approximately half of the state's energy use. In order to effectively meet the state's energy goals as discussed in Section 12, an evaluation of transportation energy is needed. Table 25 outlines the current energy use related to transportation for the Town of Orange. This information is based on data provided by the U.S. Census Bureau and the Vermont Agency of Transportation.

Table 25 - Current Municipal Transportation Energy Use

Transportation Data	Municipal Data
Total # of Vehicles	807
Average Miles per Vehicle	12,500
Total Miles Traveled	10,087,500
Average Gallons Used per Vehicle per Year	576
Total Gallons Use per Year	542,339
Transportation BTUs (Billion)	64
Average Cost per Gallon of Gasoline	2.31
Gasoline Cost per Year	\$1,252,802.00

Source: U.S. Census Bureau - American Community Survey - 2015  
 Vermont Agency of Transportation

Similar to information discussed in the energy section regarding conservation and conversion for heating of homes and businesses, a similar approach can be taken with transportation. Conservation and conversion of fossil fuel based vehicles to renewable options will be a necessary component for the Town to help meet the state's energy goals. Tables 26, 27, and 28 identify specific values for each of the three target years regarding the percent of renewable based transportation, the number of new light duty electric vehicles, and the number heavy duty bio-diesel vehicles respectively. It should be noted that these are only targets and not requirements. The goals and policies that are established and prioritized by the Town will help determine if these targets can be met.

Table 26 - Use of Renewables – Transportation by Target Year

	2025	2035	2050
Percent of Transportation Related Energy being derived from Renewable Sources by Target Year	9.6%	31.3%	90.2%

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning

Table 27 - Transportation Fuel Switching by Target Year – from Fossil Based Fuel Vehicles to Electric Vehicles for Passenger Vehicles and Light Duty Trucks

	2025	2035	2050
New Electric Vehicles by Target Year	69	479	956

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
U.S. Census Bureau – American Community Survey – 2015

Table 28 - Transportation Fuel Switching by Target Year – from Fossil Based Fuel Vehicles to Biodiesel Vehicles for Heavy Duty Trucks

	2025	2035	2050
New Biodiesel Vehicles by Target Year	121	224	363

Source: Vermont Energy Investment Corporation – Long Range Energy Alternatives Planning  
U.S. Census Bureau – American Community Survey – 2015

## SECTION 14: UTILITIES, FACILITIES, AND RECREATION

Although Orange is a small community containing little in the way of public utilities and facilities, it is important for the community to take stock and reaffirm its commitment to ensuring the health, safety and welfare of all residents. It is a goal of the Orange Town Plan to plan, finance and provide an efficient system of public facilities and services including fire and police protection, emergency medical services, educational facilities and solid waste disposal in order to meet the future needs of the citizens of Orange.

### **Water**

There is no public water supply in Orange for Orange residents. Residents rely on potable water sources accessed by way of drilled wells, dug wells, or natural springs. Obviously, the maintenance of a clean and plentiful supply of surface and groundwater is critical to Orange residents.

It is not uncommon for Vermont communities to experience groundwater contamination. Health hazards resulting from the contamination of a groundwater source can be severe, and the cost of restoration significant. Groundwater supplies are often susceptible to contamination from surface and sub-surface influences including septic systems, road salt, chemical and hazardous materials spills and fertilizer application. To ensure that drinking water is safe, a series of tests, including annual testing of the total coliform level and testing every five years for inorganic chemicals should be performed. Prior to testing, the Vermont Department of Health should be consulted to determine the testing requirements.

An aquifer is an underground area of sand or gravel in which water collects. The aquifer recharge area refers to that area of land, which serves as the aquifer's watershed. Groundwater quality is influenced not only by activity directly above the aquifer, but also by activity throughout the whole of the recharge area. Orange residents rely wholly on groundwater as a potable water source. Therefore, potentially polluting activities, diversions and consumptive uses should be closely scrutinized. As noted previously in the Future Land Use Categories, Public Water Supply Source Protection Areas are included as a Special Consideration Overlay and designated to help protect drinking water supplies from contamination.

### Wastewater Treatment

There is no central, commonly owned sewage treatment system in Orange. Disposal of wastewater is by way of individual sub-surface sewage disposal systems. As development pressure from surrounding communities and new septic technologies approved by the State of Vermont increase the number of new homes in Orange will become a greater concern to the Board of Selectmen along with the residents of the town.

All new buildings constructed with a water supply and/or wastewater disposal system must acquire a permit from the State of Vermont in accordance with the Agency of Natural Resources, Dept. of Environmental Conservation, Wastewater Systems and Potable Water Supply Rules. As older wastewater treatment systems age and fail a new replacement will need to be designed and constructed in accordance with these same "Rules". Contacting the VT Dept. of Environmental Conservation to determine if a permit is required is recommended prior to starting any repairs or replacement actions.

Because Orange residents are not served by public or protected water supply, extreme caution should be demonstrated in the siting and maintenance of sub-surface sewage disposal systems in order to ensure that contamination does not occur and that there is adequate capacity in the aquifer to accept additional wastewater disposal without exceeding drinking water standards.

### Solid Waste

Orange is a member of the Central Vermont Solid Waste District (CVSWMD). The District was formed in 1984 and given the mission of addressing the long-term solid waste needs of Central Vermont communities. CVSWMD is made up of 17 member cities and towns and the approximately 52,000 residents that live within them. The Orange Town Selectmen appoint a citizen of Orange to the District Board to represent the Town.

The CVSWMD's mission is to provide leadership, education, and services for residents and businesses in reducing and managing their solid waste in order to protect public health and the environment to the greatest extent feasible. To meet this goal, the District Board of Supervisors developed and adopted a Zero Waste Solid Waste Implementation Plan (SWIP) titled Working Toward Zero Waste. Since adopting this goal, the zero waste approach has become the accepted industry "best-practice" for management of solid waste.

Ongoing CVSWMD programs included the following:

1. Composting Programs: Since food scraps comprise about 21% of the waste Vermonters produce every year, capturing and composting that organic matter is a major focus of CVSWMD's waste reduction programming. Diverting food scraps substantially reduces

the pressure on rapidly filling landfills. Additionally, the three area composting facilities that CVSWMD hauls food scraps to turn the scraps into compost, a soil amendment, which then is used to enrich the soils of Central Vermont.

2. Residential Composting Program: This program supports residents who wish to manage their food scraps at home. The CVSWMD offers technical support and assistance to residents composting at home, a composting booklet "The Dirt on Composting" free to residents, online plans for building several types of compost bins, and Green Cone food digesters and Soilsaver composting units for sale at a reduced cost to town residents.
3. Business Composting Program: CVSWMD services businesses and institutions throughout the Central Vermont region. In the most recent year participating businesses and institutions diverted an estimated 1250 tons (more than 2.5 million lbs.) of food scraps to composting facilities.
4. School Zero Waste Program: This program includes a school composting program for the lunch room and also provides a means for schools to determine the content of their waste streams and ways that they can reduce the amount of waste they create and how to save money by making smart purchases. Orange Center School has diverted approximately 2.61 tons (5,210 lbs.) of food scraps since joining the program in November 2010.
5. Special Collections: The CVSWMD conducts numerous special collections during the year. Items collected at the events included hazardous waste, electronics, textiles, paint, batteries, mercury thermometers, fluorescent bulbs, tires and books.
6. Green-Up Day Grants: Member towns are offered grants to assist them in covering costs of waste collected during Green Up Day.
7. CVSWMD E-News: CVSWMD publishes a monthly e-newsletter and regularly sends e-mail notices about special events to town clerk offices, select board chairs, legislators, and interested residents.
8. Educational materials: CVSWMD provides a number of educational and informational materials to district members.

## Electricity

Orange is within the service area of two electrical utilities. The Washington Electric Cooperative serves the majority of Town, while The Green Mountain Power Corporation serves a small area in the southwestern corner of Town along Route 110 and a portion of Route 302.

The bulk of electricity provided by the two utilities is generated by way of imported and local hydro sources and by the use of methane gas from a landfill. Specific data related to energy use, including electricity, is included in Section 12 related to energy.

The extension of utility lines shall encourage new development in concentrated settlement patterns consistent with the goals of The Orange Town Plan. Where utility lines are extended, underground placement is encouraged. Since Orange residents depend upon springs and wells for their water supply,

ecologically sound utility corridor maintenance practices are encouraged. Mechanical maintenance practices are preferred to chemical maintenance practices.

### **Communication Towers and Structures**

The maintenance of a modern and accessible telecommunications network is essential to the public welfare. Public safety agencies, such as emergency medical services, fire and police departments, rely on broadcast and communications facilities to provide essential services. In addition, a modern and accessible telecommunications network provides communities with economic, social and cultural benefits.

At the same time, network infrastructure shall be developed in an efficient, safe, and thoughtful manner. Possible impacts upon scenic and cultural resources, aesthetics, and public health and safety shall all be considered during the planning process.

One subject of particular concern is the location and construction of communications towers. These structures and their supporting infrastructure (such as power lines, access corridors, and support buildings) can alter mountaintops and ridge lines in ways which negatively impact scenic resources vital to the Town's economic future and cultural richness. Aesthetic concerns will increase as the number of undeveloped mountaintops and ridge lines decreases. In addition, there are concerns about the health effects of the electromagnetic fields generated by broadcast and telecommunications facilities, and the safety of the structures once they are built. These concerns must be addressed as new opportunities are made available to the Town through emerging telecommunications technology.

### **Recreation**

In 1990 The Vermont National Guard came to the Town of Orange for a training exercise to assist them with turning a meadow into what is now the community ball field. They spent every weekend for a month at the field bulldozing and building up the land along Reservoir Road. After the completion of the excavating the Town entered into a 10 year lease agreement whereby the Town leases the land from the state and pays \$1.00 per year. At the end of each ten year period the lease has been renewed. The Town submitted their most recent renewal request in September of 2017 to continue this arrangement.

Due to the rural nature of Orange, there is an extensive number of trails that crisscross the landscape. Many of these are informal, however trail development in the Town Forest has received a renewed interest from residents. Additionally, the Vermont Association of Snow Travelers (VAST) identifies routes throughout the Town for use in the winter. VAST has established agreements with local land owners for access as many of these trails cross private land.

Orange also has many bodies of water including streams, lakes, and ponds. These resources provide recreational opportunities to the local and regional community. Identifying access points for the public to enjoy these resources will expand the range of recreational choices while protecting and maintaining private land owners from unauthorized or unwanted infringement on their property. Additionally, maintaining these access points will help provide long-term recreational benefits to the community.

### **Health and Wellness**

Health and wellness can be defined as the state of optimal well-being. It is not simply the absence of illness or disease but an improved quality of life resulting from enhanced physical, mental and spiritual

well-being. This section outlines a vision and mission for the health and wellness of the residents of Orange. It incorporates objectives and goals while outlining strategies to achieve a healthy community. It also identifies potential partners for achieving our vision and goals.

Understanding that the root of health and wellness is self-responsibility on the part of Orange's residents, this Town Plan can serve only as a guide to local initiatives and land use decisions to facilitate a continuing journey of wellness. The information in this section is intended to help the town achieve a healthier environment and community for its residents.

As previously discussed in the population and growth section of this plan, Orange's population should continue to grow and with that comes factors that affect the quality of life residents have come to expect. As the town grows, it is important for its residents to be able to access livable wage jobs and educational and recreational resources as a means to increase wellness.

### **Health and Wellness Issues and Indicators**

Several factors come together to influence health and wellness of individuals and family units. These factors have been identified as:

1. Secure shelter.
2. Access to safe and nutritious food.
3. Opportunities for mental and physical activity.
4. Financial security.
5. Proper care, supervision and stimulation for children, elderly and similarly dependent groups.
6. Adequate education for adults and children.
7. Minimization of unhealthy personal activities.

Local indicators have been identified by other groups in our region and include:

1. Low birth weight
2. Availability of child care.
3. Dental care for children on Medicaid.
4. Helping youth maintain a healthy weight.
5. Youth tobacco and marijuana use.
6. Number of moves in foster care.
7. Diabetes related deaths.
8. Adult tobacco use.
9. Adequate housing and the extent of homelessness.
10. Home care options for elders and people with disabilities.

Based on how the Town ranks or rates each of these indicators can establish a benchmark for the overall health of the community. It will be important to monitor these indicators over time in an effort to gauge the direction of the community's health and wellness, and make changes as necessary. Advocates or agencies such as the Vermont Department of Health can serve as a resource for evaluating or identifying other organizations to help monitor and interpret these indicators.

## **Health and Wellness Infrastructure and Services**

### Health Care and Rescue Services:

Barre Town Ambulance provides ambulance service within Orange with emergency medical assistance from Washington Rescue Squad and Corinth Topsham Fast Squad. Health facilities available to Orange residents include the Plainfield Health Center, Central Vermont Medical Center in Berlin, Gifford Memorial Hospital in Randolph, Fletcher Allen Medical Center in Burlington and Dartmouth Hitchcock Medical Center in New Hampshire. There are also several nursing homes in the surrounding Towns that are available for residents of Orange.

### Other Public Agencies that offer health services include:

Central Vermont Home Health and Hospice offers home health care, therapy (physical, occupational, speech), homemaker services (shopping, meals, housekeeping), counseling of the terminally ill, child birthing classes and other services.

Vermont Department of Health offers pre-school immunization programs and prenatal and pre-school nutritional programs, WIC, Alcohol and Drug Abuse Prevention, Lead Poisoning Prevention just to name a few.

Washington County Mental Health offers 24 hour emergency service, an outpatient clinic, substance abuse programs, job placement services, resident programs, day programs and the like.

People's Health and Wellness Clinic in Barre provides care for uninsured/underinsured--you must meet some qualifications for care.

### **Local Foods**

There are numerous Food Shelf outlets in the Barre area including St. Monica's, Central Vermont Community Action Council, and Websterville. There are also some community meal sites which require a small donation. Additionally, local food options through farmers markets are available in surrounding Towns throughout the year. These markets provide local sources of fresh products and outlets for suppliers in Orange to sell locally made or sourced goods.

### **Childcare**

The Town of Orange currently has only one registered home child care provider. This provider offers child care services at their home and currently has several vacancies available, however this information is subject to change. Most child care is provided by family members or child care providers located outside of Orange. New residents can access information regarding the availability of other registered providers in and around Orange by going to [www.brightfutures.dcf.state.vt.us](http://www.brightfutures.dcf.state.vt.us).

### **Fire Protection**

Orange does not maintain a fire department. The Town receives fire protection from three area departments. The Barre Town Fire Department services most of the western portion of Town. The Washington Fire Department provides service along a section of Route 110. Tri-Village Fire Department

covers East Orange Village and much of the eastern portion of Town. Orange maintains annual agreements for service with each department to provide this service. Additionally, the town shall encourage landowners to install dry fire hydrants in newly constructed ponds.

### **Police Protection**

The Orange County Sheriff's Office is under a contract to provide routine patrols in Orange. The Town does not have plans to expand police protection needs for the foreseeable future.

### **Ambulance Service**

The Town of Orange does not maintain an ambulance service and instead relies on neighboring departments for "as needed" response services. Orange contracts with Barre Town EMS for their primary ambulance service. Washington EMS, and the Tri-Village EMS also provide ambulance service and will bill the Town if they respond. There are currently no plans to establish ambulance service in the Town of Orange.

DRAFT

**APPENDIX A**  
**GOALS, OBJECTIVES, &**  
**ACTIONS**

DRAFT

The following is a comprehensive list of the goals, objectives, and actions for the Town of Orange. The high priority items to be addressed during the eight year cycle of this plan are identified in Table One located in Section 3. This list is included to provide an overview of the future planning needs for the Town.

**Goal 1:** Ensure development that maintains the rural atmosphere of the community and historic settlement pattern of compact village centers separated by rural countryside.

Objectives:

1. Development density shall be encouraged only in and around the immediate area of Orange Center and of East Orange.
2. Public investments, including the construction or expansion of the infrastructure, shall reinforce the general character and planned growth patterns of the area.
3. Growth and development shall occur at a rate that shall not burden the taxpayers.
4. Basic regulatory documents shall be established to provide guidance to the community regarding preferred development patterns and create consistency among development requirements.

Actions:

1. The Town will investigate pursuing Village Center Designation as a way to focus development in preferred locations and maintain the rural areas throughout the community.

**Responsible Party** – Planning Commission, Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Village Center Designation established

2. Develop basic land use regulations for accessory dwellings, home occupations, and similar uses that provide consistency in development patterns while protecting important historic, cultural, natural, and environmental community resources; and limits impacts to adjacent properties from noise, dust, lighting, or similar nuisances.

**Responsible Party** – Selectboard, Planning Commission, Citizens of Orange

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Regulations are developed and approved by the Selectboard

3. Identify and map areas of the community where investments in infrastructure such as water and wastewater are most appropriate and preferred.

**Responsible Party** – Planning Commission, Selectboard

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Areas are identified and mapped

4. Establish a conservation commission

**Responsible Party** – Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Conservation Commission is established and conducts regular meetings

5. Inventory, map, and prioritize areas throughout the Town that could be eligible for preservation by a land trust or similar organization in order to protect and persevere the Town's natural resources.

**Responsible Party** – Selectboard, Planning Commission, Conservation Commission

**Priority** – Low (5 to 10 years)

**Measure of Success** – Natural resources are inventoried, mapped, and prioritized for possible protection

**Goal 2:** Promote a strong and diverse economy that provides satisfying and rewarding job opportunities; maintains high environmental standards; and promotes economic opportunities.

Objectives:

1. Economic growth shall occur in Orange Center and East Orange and in areas so designated and shall be employed to vitalize Orange Center and East Orange.
2. Home occupations shall be supported as long as they are conducted within a residence and are clearly incidental to the use of the building as a residence.

Actions:

1. Establish a system to track locations of specific land uses such as home occupations, accessory dwelling units, childcare facilities, or similar uses throughout the Town in order to maintain an accurate inventory.

**Responsible Party** – Planning Commission, Selectboard

**Priority** – Medium (3 to 5 years)

**Measure of Success** – System(s) developed and implemented by the Selectboard

**Goal 3:** Maintain and broaden access to educational, vocational, and cultural opportunities for all Town residents.

Objectives:

1. Encourage development of educational and cultural opportunities for all residents.
2. Support community-wide cultural events and activities.

Actions:

1. Establish a community message board at the Town Office and allow posting of information on the Town Website as requested.

**Responsible Party** – Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Message board or similar posting area is established.

2. Develop policies for posting of materials on Town sponsored message boards and websites to ensure content is appropriate for posting without infringing on free speech rights.

**Responsible Party** – Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Policy regarding posting on Town sponsored venues are established.

**Goal 4:** Promote and maintain a safe, convenient, economic, and energy-efficient transportation network that respects the integrity of the natural environment, as well as the historical and esthetic value of the existing roads.

Objectives:

1. Improvement or expansion of public utilities and transportation shall occur in existing corridors to encourage desired development patterns.
2. Alternative forms of transportation, such as walking, bicycling and public transportation shall be encouraged.
3. Retain the tree canopies and stone walls on the existing roads.
4. Funding assistance to off-set costs of transportation projects will be sought as appropriate.
5. Alternative transportation options such as bicycle and pedestrian facilities will be prioritized in State Designated Village Centers.
6. Maintain existing roads to ensure the safety of the community.
7. Maintain safe and convenient access to municipal roadways.

Actions:

1. Identify specific corridors within Designated Village Centers where bicycle, pedestrian, or transit facilities would be most beneficial to link existing developments and activity centers and aid in traffic calming.

**Responsible Party** – Planning Commission, Selectboard, Recreation Committee, CVRPC TAC, VTrans

**Priority** – On-going

**Measure of Success** – Corridors and specific facilities identified, prioritized, and mapped

2. Identify and inventory existing tree canopies and stone walls along roadways that should be preserved.

**Responsible Party** – Planning Commission, Recreation Committee

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Specific resources are identified and mapped

3. Actively work with the Vermont Agency of Transportation and the Central Vermont Transportation Advisory Committee to identify and prioritize transportation improvements throughout the community such as road maintenance, bridge upgrades, alternative transportation infrastructure, bicycle & pedestrian facilities, or public transit facilities.

**Responsible Party** – Selectboard, Planning Commission, CVRPC TAC, VTrans

**Priority** – On-going

**Measure of Success** – Transportation improvements are identified, prioritized, and completed.

4. Seek funding, when necessary, to assist in the planning, development, and construction of identified transportation projects throughout the community.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – On-going

**Measure of Success** – Grants or other funding opportunities are applied for as opportunities become available.

5. Regularly inventory and identify roadway improvements or reclassifications necessary to ensure a safe, reliable, and convenient network exists throughout the Town.

**Responsible Party** – Selectboard, Planning Commission, CVRPC TAC, VTrans

**Priority** – On-going

**Measure of Success** – Road facilities are inventoried and evaluated for potential projects or improvements and reported to the Selectboard for consideration.

**Goal 5:** Protect important natural and historic features of the Orange landscape, including woodland, wetlands, scenic sites, significant architecture, villages, wildlife habitats, view sheds, contiguous forest blocks and agricultural land.

Objectives:

1. Encourage the renovation and preservation of historic buildings and structures.
2. Develop additional policies and plans for the long-term protection of significant scenic roads, highways, waterways, and views; cultural and historic resources; and recreation lands.

Actions:

1. Identify and include important resource areas on the Future Land Use Map and develop a conservation plan to protect and preserve those features including but not limited to viewsheds, historic & natural resources, and high priority forest blocks.

**Responsible Party** – Planning Commission, Recreation Committee

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Specific resources are identified and mapped

2. Develop a coordination protocol with the Orange County Forester to ensure forestry management plans are being followed.

**Responsible Party** – Planning Commission, Selectboard, County Forester

**Priority** – High (1 to 3 years)

**Measure of Success** – Protocols are established for coordination of information.

3. Develop and maintain a management plan for the municipally owned forest.

**Responsible Party** – Planning Commission, Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Management plan is developed and approved by the Selectboard.

**Goal 6:** Maintain and improve the quality of air, water, wildlife, and land resources.

Objectives:

1. Identify and incorporate conservation measures for critical wildlife habitat into municipal planning efforts consistent with best practices.
2. Encourage the use of transportation systems that have minimal impacts on air quality.
3. Protect sensitive areas from development including steep slopes, headwater areas, and aquifer protection areas.
4. Maintain contiguous forest blocks to ensure uninterrupted habitat areas exist necessary to sustain rare, threatened, or endangered species of plants and animals.

Actions:

1. Prioritize conservation measures for consideration in future municipal plan updates.  
**Responsible Party** – Conservation Commission  
**Priority** – Medium (3 to 5 years)  
**Measure of Success** – Conservation measures are ranked and prioritized.
2. Maintain communications with Green Mountain Transit regarding possible transit routes extending into Orange.  
**Responsible Party** – Selectboard, CVRPC TAC  
**Priority** – Medium (3 to 5 years)  
**Measure of Success** – Transit routes planned for future implementation
3. Develop guidelines consistent with state recommendations that limit or prohibit development on steep slopes (greater than 20%), in groundwater recharge areas, or within 100 feet of rivers, lakes, ponds, and wetlands.  
**Responsible Party** – Selectboard, Planning Commission  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Guidelines are developed and adopted by the Selectboard.
4. Identify and map high priority forest blocks within the Town of Orange and follow state guidance to limit impacts in these locations that would lead to fragmentation or adverse impacts to plant and animal habitats.  
**Responsible Party** – Selectboard, Planning Commission, State Agencies  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Plant and animal habitat areas are identified and mapped.

**Goal 7:** Promote the efficient use of energy through conservation and encourage the use of renewable energy resources, such as solar, wind, hydro and biomass.

Objectives:

1. Promote use of public transportation, ridesharing, non-motorized vehicles, and pedestrian facilities. Emphasize connections between schools, stores, work, and home.

2. Actively participate on the Central Vermont Regional Planning Commission Transportation Advisory Committee to promote the design, location, and maintenance of existing and future transportation systems consistent with the land use patterns recommended in this Plan.
3. Promote alternative and energy efficient development.
4. Encourage the concentration of energy-intensive facilities, housing, and other uses to avoid the expense of distributing energy over large geographic areas. Include on the Future Land Use Map existing infrastructure that would be available for energy-intensive facilities.
5. Promote Village Center Designation in order to encourage the location of community service structures, retail sites, day care centers, town offices, and other frequently visited sites to be within walking distance of residential areas.
6. Provide guidance, including standards, on preferred or prohibited locations for the siting of renewable energy resources within the Town.
7. Support energy efficient building practices such as the Residential Building Energy Standards and the Commercial Building Energy Standards.

Actions:

1. Work with state and regional partners to identify possible locations for park & ride facilities.  
**Responsible Party** – Planning Commission  
**Priority** – Medium (3 to 5 years)  
**Measure of Success** – Park & ride locations are identified and mapped
2. Consider establishing an energy committee to support municipal energy planning efforts.  
**Responsible Party** – Selectboard  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Energy committee is formed

3. Develop standards regarding the siting of renewable energy generation facilities including scale, screening requirements, preferred locations, and prohibited locations and map as appropriate.

**Responsible Party** – Selectboard, Planning Commission, Energy Committee

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Locations are mapped and standards are developed

4. Work with regional partners such as Downstreet Community Development and Capstone Community Action to provide information to the community on the benefits of weatherization, financial programs for purchasing high-efficiency systems, conservation of energy, or similar energy saving programs.

**Responsible Party** – Selectboard, Planning Commission, Regional Partners

**Priority** – On-going

**Measure of Success** – Information is made available to property owners.

**Goal 8:** Maintain and enhance healthy choices for the residents of Orange including active and passive recreational opportunities; local food choices; and access to natural, scenic, or environmental amenities.

Objectives:

1. Support the Town Recreation Committee in the effort to develop and maintain recreation facilities and infrastructure that will provide recreation opportunities for all residents.
2. Ensure the preservation of and access to important natural and scenic resource areas for recreational use.
3. Obtain the local data necessary to provide a baseline for measuring health and wellness in Orange.
4. Maintain and enhance recreational facilities and opportunities.
5. Encourage more physical activity through public land use plans and policies.
6. Support access to local food production and availability.
7. Support public access to natural, scenic, or environmental recreation opportunities including hiking, hunting, fishing, and other activities.

Actions:

1. Assess existing recreation facilities and prioritize any upgrades that may be necessary.  
**Responsible Party** – Selectboard, Planning Commission, Recreation Committee  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Facilities are assessed, prioritized, and mapped
2. Identify grants or other funding sources that could be used to support recreational priorities for the community.  
**Responsible Party** – Recreation Committee  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Funding sources are identified and match community needs
3. Identify locations that can support public access to outdoor recreation amenities including hunting, fishing, bird watching, hiking, or similar activities.  
**Responsible Party** – Recreation Committee  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Locations are identified and mapped.
4. Consider establishing a committee to support on-going efforts of the Town of Orange regarding health and wellness activities.  
**Responsible Party** – Selectboard  
**Priority** – High (1 to 3 years)  
**Measure of Success** – Committee is formed and conducts regular meetings.
5. Require large land use projects to include open space or similar amenities in their plans to ensure open land is preserved and accessible to the community.  
**Responsible Party** – Selectboard, Planning Commission  
**Priority** – On-going  
**Measure of Success** – Projects are reviewed and comments are offered.

**Goal 9:** Strengthen and support agricultural and forest industries.

Objectives:

1. Support the Use Value Appraisal (Current Use) Program for agricultural and forest lands.
2. Forest and agricultural lands shall be considered for their forest and agricultural productivity prior to any non-forest or agricultural uses.
3. Explore the possibility of having the Planning Commission review and comment on permits or licenses for new businesses issued by the State Agency of Agriculture for consistency with the Town Plan.
4. Encourage businesses and industries that will support locally produced agricultural or forestry products.

Actions:

1. Make available information that can be distributed to community members regarding the benefits of the Use Value Appraisal (Current Use) Program.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Information is made available throughout the community as appropriate

2. Identify businesses or types of businesses that would be supported within the community to promote agriculture and forestry uses.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Low (5 to 10 years)

**Measure of Success** – Businesses identified and prioritized, if applicable

3. Make available the state's Acceptable Management Practices for forest resources and Required Management Practices for agricultural uses through distribution of information or regular updates from state agencies on these programs.

**Responsible Party** – Selectboard, Planning Commission, State Agencies

**Priority** – On-going

**Measure of Success** – Information and updates are provided to the community

**Goal 10:** Promote the wise and efficient use of the Town's natural resources and to facilitate the appropriate extraction of earth resources and proper restoration and preservation of the aesthetic qualities of the Town.

Objectives:

1. Extraction of earth minerals and resources shall ensure that land and water resources are minimally impacted and restored after extraction.
2. Extraction of earth resources shall not unduly or adversely impact neighboring properties or municipal facilities due to noise, traffic, odors, dust, or similar functions associated with extraction practices.

Actions:

1. Identify and map locations of earth resource extraction such as sand or gravel pits to ensure conflicts with other resources are limited or mitigated.

**Responsible Party** – Planning Commission

**Priority** – High (1 to 3 years)

**Measure of Success** – Resource areas are identified and mapped

2. Evaluate identified extraction areas to ensure removal of materials will not adversely impact any other municipal resources such as historic sites; scenic roads; recreation areas; wildlife habitat; rare, threatened, or endangered plants or animals; or significant hydrological resources.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Extraction areas that intersect community resources are noted and impacts are mitigated as appropriate.

**Goal 11:** Plan, finance, and provide an efficient system of public facilities and services to meet present and future needs.

Objectives:

1. Analyze current facilities and assess future needs to determine potential demands of infrastructure.
2. Enact a Capital Program and Budget Plan for public utilities and facilities.
3. Provide safe, efficient, and affordable utilities throughout the Town of Orange.

4. Provide infrastructure in appropriate locations to support growth.
5. Support technological advancements to increase the Town's capacity regarding cellular communications.

Actions:

1. Develop and annually update a capital improvement program that addresses community planning and resource needs.

**Responsible Party** – Selectboard, Planning Commission, Recreation Committee, other municipal boards and committees

**Priority** – On-going

**Measure of Success** – Capital improvement program is developed, adopted, and annually updated

2. Consider establishing a wastewater committee to address all municipal issues related to wastewater including:

- Investigate the potential for developing a wastewater system
- Possible opportunities for funding
- Interconnection with adjacent municipalities
- Outreach and education to the community regarding wastewater issues

**Responsible Party** – Selectboard

**Priority** – High (1 to 3 years)

**Measure of Success** – Committee is formed and conducts regular meetings

3. Inventory and map utilities within designated growth areas to ensure facilities are in place to accommodate additional growth.

**Responsible Party** – Selectboard, Planning Commission, Washington Electric Cooperative, Green Mountain Power

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Utilities are inventoried and mapped in identified growth areas.

4. Develop cellular communication siting guidance that includes colocation of cellular facilities on existing towers before new towers are constructed, screening requirements, access to tower locations, and similar aesthetic guidelines.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Guidance developed and adopted by the Selectboard

5. Identify and map locations that would benefit from enhanced communications such as high speed internet, fiber-optic cable, or similar utilities.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Locations are identified and mapped.

**Goal 12:** Encourage availability of safe and affordable housing for anyone choosing to live in the Town of Orange.

Objectives:

1. The development of diverse and appropriately located housing shall be encouraged in the Town of Orange's Municipal Development Plan.
2. Development of accessory dwellings will be supported throughout the Town of Orange.
3. The Town of Orange will support a regional approach to addressing affordable housing needs in order to accommodate opportunities that can be supported by existing services or infrastructure.

Actions:

1. Identify locations within designated village centers where housing density would be appropriate to support affordability and housing options such as single-family, multi-family, special needs housing, senior housing, mixed-income housing, or options to meet the needs of the community.

**Responsible Party** – Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Locations within designated village centers that support housing density are identified and mapped

2. Work with regional housing groups such as Downstreet Housing & Community Development, Capstone Community Action, or similar organizations to help educate the community on the benefits to weatherization and programs available to provide assistance.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – On-going

**Measure of Success** – Residents are educated on assistance options available for weatherization of their homes or businesses.

3. Support the establishment of accessory dwellings<sup>1</sup> throughout the community to address housing affordability.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – High (1 to 3 years)

**Measure of Success** – Accessory dwellings are established.

4. Provide comments on any new housing developments that meet the thresholds of Act 250 to include units that are affordable to residents of the Town of Orange that make 80% or less of the median income for the Town.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – On-going

**Measure of Success** – Comments are provided on housing development projects regarding the inclusion of affordable units.

**Goal 13:** Ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and childcare work force development.

Objectives:

1. The development and availability of adequate, affordable, and safe child care within the Town shall be encouraged.

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<sup>1</sup> Accessory dwellings are discussed in Section 7: Housing. The specific definition for accessory dwelling is found in 24 V.S.A. §4412(1)(E) and also included in Section 7.

Actions:

1. Maintain an inventory of licensed or certified childcare facilities within the community and make it available to residents.

**Responsible Party** – Selectboard, Planning Commission, residents

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Inventory of licensed or certified childcare facilities is developed and locations are mapped

2. Collaborate with the local schools to identify opportunities that may currently exist or to establish future options for childcare including before or after school options.

**Responsible Party** – Selectboard, Planning Commission, school district

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Opportunities are identified and information is made available to residents.

**Goal 14:** Flood resiliency is incorporated into all relevant planning related activities.

Objectives:

1. Protecting community and municipal assets from impacts related to flooding will be a priority of the Town of Orange.

Actions:

1. Maintain flood plain and river corridor regulations to limit new development in floodplains and river corridors consistent with state and federal guidelines.

**Responsible Party** – Selectboard, Planning Commission, State and Federal Agencies

**Priority** – High (1 to 3 years)

**Measure of Success** – Regulations are updated as appropriate and flood plains and river corridors are mapped and included on Town maps when available from Federal or State Agencies.

2. Update and maintain a local hazard mitigation plan that meets state and federal requirements and implement the recommended actions to limit future impacts from flooding.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – On-going

**Measure of Success** – Local hazard mitigation plan is updated and approved by state and federal agencies and implemented locally

3. Inventory and assess municipal resources that may be located in or near a flood plain or river corridor to assess its vulnerability and consider alternative locations for these resources as appropriate.

**Responsible Party** – Selectboard, Planning Commission

**Priority** – Medium (3 to 5 years)

**Measure of Success** – Municipal resources are inventoried and mapped, including alternative locations for vulnerable facilities

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# APPENDIX B

## MAPS

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# ORANGE Known Constraints Map

## Known Constraints

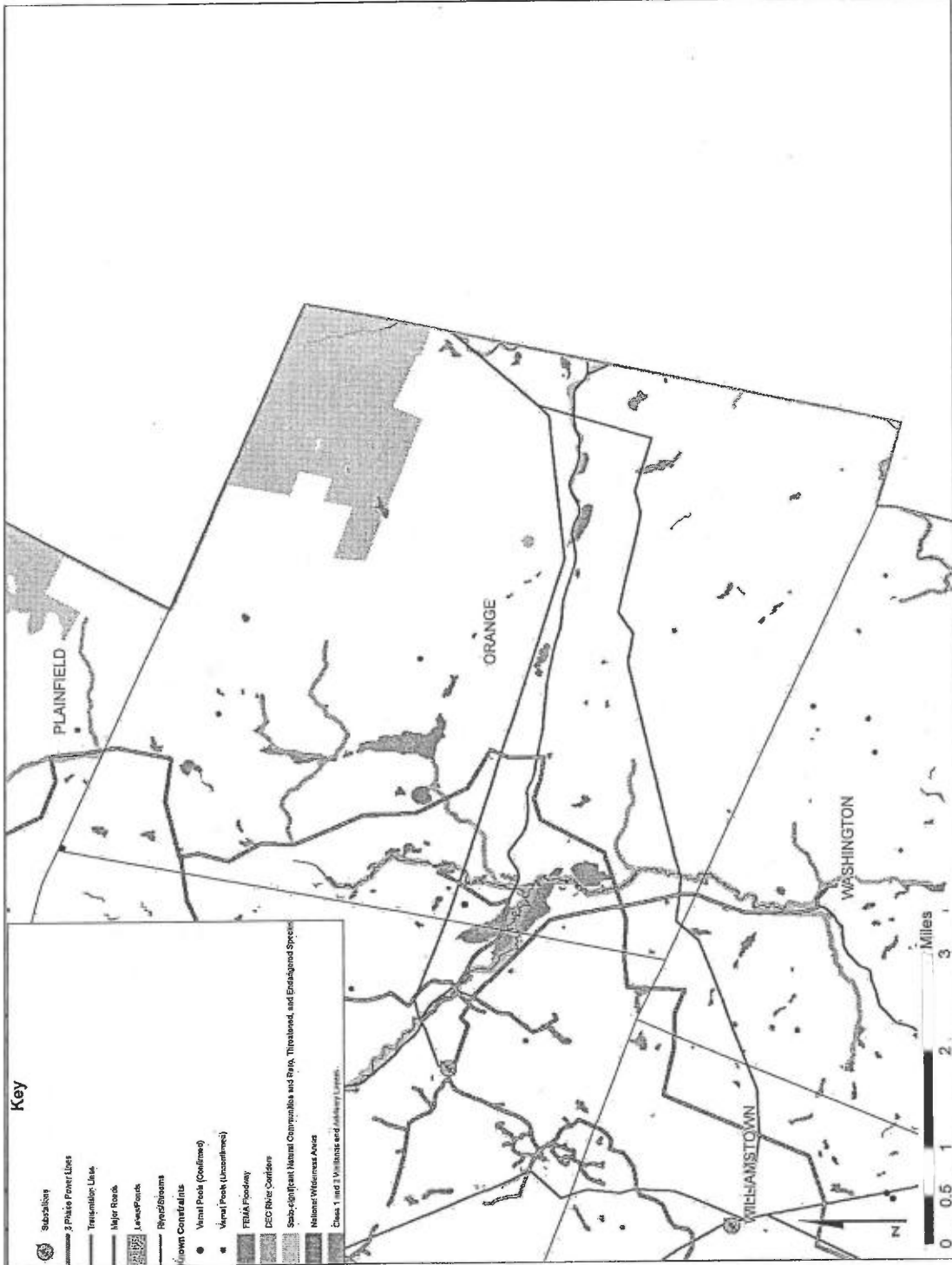
These constraints signal likely, though not absolute, unsuitability for development based on statewide or local regulation or designated critical resources.

Link to Data - <http://vogi.vermont.gov/opendata/act174>

- Known Constraints**
- Vernal Pools (Confirmed and Unconfirmed)
  - Vermont Fish and Wildlife DEC River Corridors
  - FEMA WSMR Rivers Program 1/2/15
  - FEMA Floodway Included in Zone AE - FEMA Map Service Center
  - State-significant Natural Communities and Rare, Threatened, and Endangered Species
  - Vermont Fish and Wildlife, Natural Heritage Inventory
  - National Wilderness Areas - USDA Forest Service
  - Class 1 and Class 2 Wetlands (VSWI) and Advisory Layers - VT Watershed Management Division

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: December 2016 by CVRPC GIS.



# ORANGE Possible Constraints Map

## Possible Constraints

These constraints signals conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect.

Link to Data - <http://vegi.vermont.gov/opendata/act174>

**Possible Constraints Data Sources**  
 Agricultural Soils include local, prime and statewide classifications - NRCS  
 FEMA Special Flood Hazard Areas include Zones A and AE - FEMA  
 Map Service Center  
 Protected Lands - include State fee lands and private conservation lands - VCGI  
 Act 250 Ag Mitigation Parcels include parcels as of 2006 - VT Dept. of Ag  
 Deer Wintering Areas - VT Fish and Wildlife  
 Vermont Conservation Design include the following Highest Priority Forest Blocks: Connectivity, Interior, and Physical Landscape Diversity - VT Fish and Wildlife  
 Hydric Soils include soils that have hydric named components in the map unit - NRCS

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.  
 Created: December 2016 by CVRPC GIS.



# ORANGE

## Solar Resources Map

- Legend**
- ⊕ Substations
  - 3 Phase Power Lines
  - Distribution Lines
  - Solar Potential
    - ☀ Prime (No Constraint)
    - ☀ Secondary (Possible Constraint)
  - ▭ Parcels
  - Roads**
    - Interstate
    - US Highway
    - Vermont State Highway
    - Town Class 1-3
  - Known Constraints**
    - Areas not shown on map
    - Verinal Pools
    - River Corridors
    - FEMA Floodways
    - Natural Communities & Rare, Threatened and Endangered Species
    - National Wilderness Areas
    - Wetlands Class 1 and 2

- Possible Constraints**
- VT Agriculturally Important Soils
  - FEMA Special Flood Hazard Areas
  - Protected Lands
  - Act 250 Agricultural Soil Mitigation Areas
  - Deer Wintering Areas
  - Highest Priority Forest Blocks
  - Hydric Soils
  - Elevations Above 2500ft
  - Lake Shore Protection Buffer 250 Ft
  - Municipal Lands
  - Slopes Greater Than 25 Percent

Created by: CVRPC GIS 4/4/2017  
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 Act174\_Energy\Solar Resources 11X17

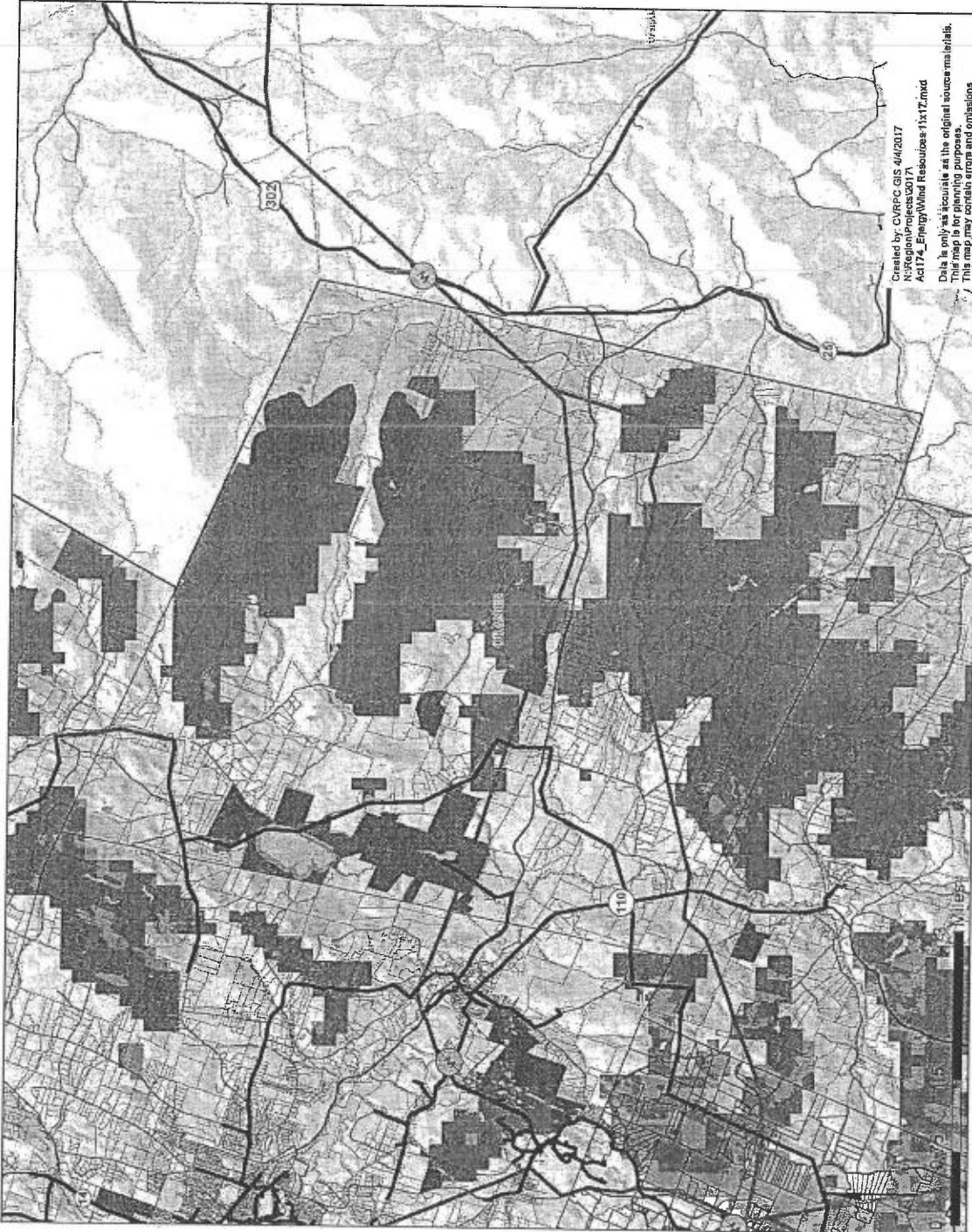
Data is only as accurate as the original source materials.  
 This map is for planning purposes only and does not constitute a contract.  
 The map may contain errors and omissions.



# ORANGE Wind Resources Map

## Legend

- Substations
- Phase Power Lines
- Transmission Lines
- Wind Potential
- Prime Wind (No Constraint)
- Hub Height (m)
- Secondary Wind (Possible Constraint)
- Hub Height (m)
- Parcels
- Roads
- Interstate
- US Highway
- Vermont State Highway
- Town Class 1-3
- Regional Constraints
- Elevations Above 2500 ft
- Lake Shore Protection Buffer 250 ft
- Municipal Lands
- Slopes Greater Than 25 Percent
- Known Constraints
- Areas not shown on map
- Vernal Pools
- River Corridors
- FEMA Floodways
- Natural Communities & Rare, Threatened and Endangered Species
- National Wilderness Areas
- Wetlands Class 1 and 2
- Possible Constraints
- VT Agriculturally Important Soils
- FEMA Special Flood Hazard Areas Protected Lands
- Act 250 Agricultural Soil Mitigation Areas
- Deer Wintering Areas
- Highest Priority Forest Blocks
- Hydric Soils



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 Act174\_Energy\Wind Resources\1x17.mxd  
 Date is only as accurate as the original source materials.  
 The map is prepared to the best of our ability and no warranty is made.  
 This map may contain errors and omissions.





# ORANGE Woody Biomass Resources Map

**Key**

- Substations
- 3 Phase Power Lines
- Transmission Lines
- Major Roads
- Lakes/Ponds
- Rivers/Streams
- Woody Biomass











**Methodology**

This map shows areas of resource potential for woody biomass, i.e., locations where forested areas are. This map also considers various other conditions, such as ecological zones, that may impact the feasibility of renewable energy/alternative heating source. These conditions are referred to as constraints. This map does not include areas from agricultural residue, could be grown/harvested.

This map was created as part of a Regional Energy Planning Initiative by the Vermont Agency of Natural Resources, Vermont State Planning Office, and the Vermont Public Service Department.  
Created: December 2016 by CVRPC GIS.



Central Vermont  
Regional Planning Commission  
Preferred Sites  
ORANGE

Key	
	Brownfields Sites
	Moretown Landfill
	Sand and Gravel Pits
	Quarries
	Substations
	3 Phase Power Lines
	Transmission Lines
	Major Roads



Data:  
Brownfields, VT AER, VCGI  
Sand and Gravel Pits, Quarries:  
CVRPC, 2013 digitized from 1986 imagery.  
This map was created as part of a Regional Energy Planning initiative  
being conducted by the Bennington County Regional Commission,  
and the Vermont Public Service Department.  
Created: November 2017 by CVRPC GIS.



Central Vermont Regional  
 Planning Commission  
 Existing Renewable  
 Energy Generation  
 ORANGE

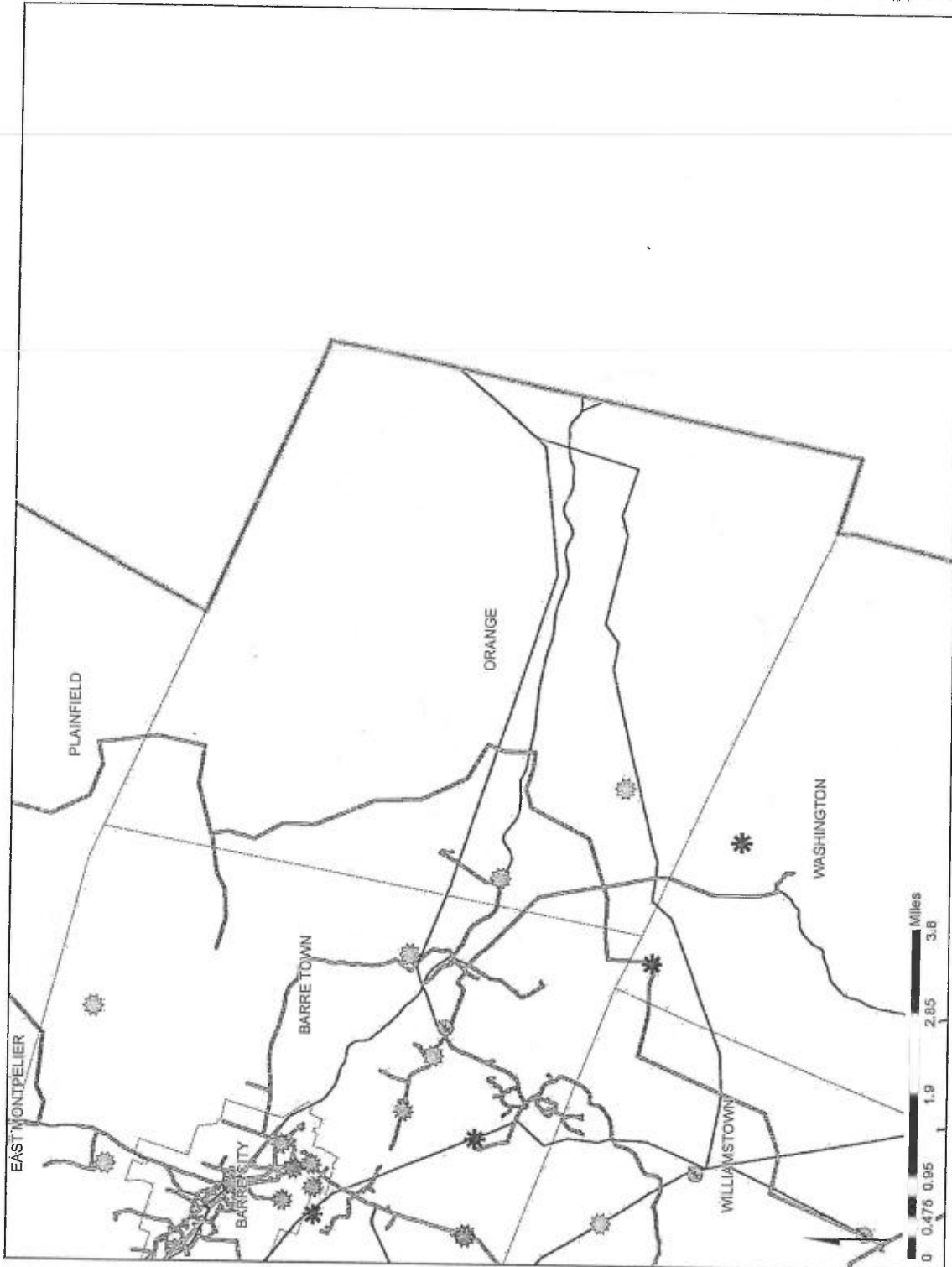
**Key**

- Biomass for Heat - Current Sites
- Wind Generation - Current Sites
- Solar Sites - Current Generation > 10 KW
- Generation of PV
- Road Mounted PV
- Substations
- Transmission Lines
- Major Roads



Data:  
 Wind and Biomass Generation:  
 VT Energy Dashboard  
 Solar Sites: VT Energy Dashboard

This map was created as part of the existing renewable energy generation initiative being conducted by the Orange County Regional Planning Commission and the Vermont Public Service Department.  
 Created: November 2017 by CVRPC GIS.



**APPENDIX C**  
**HISTORIC RESOURCES**  
**INVENTORY**

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## HISTORIC SITES AND STRUCTURES

Several sites and structures within Orange are recognized as demonstrating unique and/or significant historical characteristics. Historic sites and structures within the Town are valuable educational resources linking the people of today with the Town's forbearers and their activities.

The following is a list of sites and structures. The list was compiled by the Orange Planning Commission after consulting the properties listed by the Vermont Division for Historic Preservation. The list does not intend to imply or strive toward regulation of such property, rather it serves as an information base:

### **Strong Family House**

Location: North on Town Highway #7 (73 Strong Road)

Significance: built in the mid-1800s, this structure is the only brick house extant to the Town of Orange, the Walling Map of 1858 and the Beer's Map of 1877 list C. Cutler as the original owner.

### **Fishpond Farm (owned by Robert and Bernadette Leonard)**

Location: Town Highway #30, some 1.5 miles north of East Orange (257 Fish Pond Road)

Significance: This cape was built in 1810 and is one of the oldest structures in Orange. Pegged joints and hand hewn beams indicate that both barns were likely constructed prior to the Civil War. The Walling Map of 1858 and the Beer's Map of 1877 list J.B. Hurdown and A.E. Dickey as residents.

### **The Colby Farm (Emily Missner Raviola)**

Location: East Orange Village, turn North past church, cross bridge, first left (20 Colby Farm Road)

Significance: The Walling and Beer's Map list E.E. Colby as owner, until recently generations of the Colby family continued to live at the site. The structure is aesthetically renowned and well photographed. It was built in 1855.

### **East Orange Church**

Location: East Orange Village (4353 East Orange Road)

Significance: Built in 1890, the church displays what is known as the "Queen Anne Style." A visit to this site will attest to the architectural complexity.

### **Wayne and Beverly Hatch Place**

Location: North side of East Orange Road, first house west of church (4261 East Orange Road)

Significance: The house was constructed around 1860 while the barns appear to have been built between 1890 and 1900. The Beer's Map of 1877 lists D. Sanborn as owner.

### **Kenneth Morris House**

Location: North side of Rte. 302, .5 mile east of Orange Center (24 Senecal Road)

Significance: This house was built in 1840. The Walling Map lists J.P. Lord as owner.

### **Meadow View Farm**

Location: South on Town Highway # 2, first farm on left after junction with Town Highway #4 (277 Tucker Road)

Significance: The structure is "an unusually large classic cottage." it was probably built in 1864.

### **James and Hannah Avery Farm**

Location: West side of Route 110, north of intersection with TH #2 (240 VT Route 110)

Significance: built in 1864 with solid walls of two by fours laid up on top of one another, the Board house is a fine historic structure. This is the second house on this farm. The oldest part of the barn was probably built between 1810 and 1820. The barn was originally across the road from where it now sits. It was moved around 1900. The Walling Map of 1858 lists N. Waterman living on this site, and Beer's Map of 1877 lists N.S. Waterman. The Town Clerk's Office moved to this house in 1935 and was there until 1973.

### **Patrick and Margaret Doyle House**

Location: east side of Rte. 110, one mile north of intersection with TH. # 2 (149 VT Route 110)

Significance: Originally built as a one story home in 1845, a second story was added probably around 1890. The Walling Map lists N.A. Sanborn as owner in 1858, and Beer's lists W. Hayward in 1877.

### **Phillip and Jean Zeller House**

Location: North side of Route 302, located 0.75 miles east of Riddle Pond (1037 US Route 302)

Significance: This post and beam structure was built in 1840 and boasts a doorway as its most unique feature.

### **Orange Alliance Church**

Location: Center of Orange Village, north side of Rte. 302 (369 US Route 302)

Significance: This structure was built in 1848 as a union church after the Village moved to its present location from the original settlement site.

### **David Newhall House**

Location: South side of TH. # 24, first farm after turning left past Orange Center cemetery (125 George Street)

Significance: This structure was constructed in 1830. The Walling Map lists G. Camp as owner in 1858, and Beer's Map of 1877 lists H. Goodrich.

### **Jason and Nichole Fahey House**

Location: South side of TH. # 24, approximately 1 mile after turning left past Orange cemetery (193 George Street)

Significance: Built between 1820 and 1830, this house is listed on the Walling Map of 1858 and Beer's Map of 1877 as owned by M. Waterman.

### **Elsie Beard's House**

Location: Center of Orange Village, south side of Rte. 302 (380 US Route 302)

Significance: This structure was built prior to 1860 and served for many years as the Town Clerk's Office and Town Library as well as a home.

### **Orange Town Hall**

Location: Center of Orange Village, south side of Rte. 302 (392 US Route 302)

Significance: Constructed between 1801 and 1803, this building served as the first church in Orange. It was moved from its original site on the Orange Green in 1861 to its present site in order to serve as Town Hall. It is undoubtedly the oldest building in the town.

**Douglas Riddel**

Location: Southwest corner of the intersection of Rte. 302 and TH. # 21 (16 Riddel Pond Road)

Significance: This structure was built around 1870.

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**APPENDIX D**

**LIST OF MUNICIPAL  
ORDINANCES**

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From time-to-time, the Town of Orange may revise, add, delete, or otherwise amend the ordinances that currently exist within the Town. The ordinances that are currently in effect include:

- Sewage Ordinance
- Speed Limits for Town Highway 1, 2, and 3
- Animal & Nuisance Ordinance
- Burning & Fire Permit
- Overhead Wires
- Snow Disposal Restrictions
- Obstruction of Highway
- Street Naming
- Speed Limits for U.S. Route 302 and S.R. 110
- Speed Limits on Unpaved Roads
- Mandatory Recycling
- Floodplain Regulations (as part of the National Floodplain Insurance Program)

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