Town of Corinth
2019 Town Plan

DRAFT

Public Hearing

September 5, 2019

The Corinth Town Plan was prepared by the Corinth Planning Commission with assistance from the Two Rivers-Ottauquechee Regional Commission with funding through a Municipal Planning Grant from the Vermont Department of Housing and Community Development.

Table of Contents

I. Introduction 1
A. Long Term Goals 1
II. Town Description 3
A. Population 3
B. Town History 4
III. Economic Development 6
A. Employment and Income 6
B. Capital Budget and Program 7
C. Goals, Policies, and Recommendations 8
IV. Emergency Services & Emergency Management 9
A. Fire Protection 9
B. Emergency Plans 9
C. Police Protection 10
D. Goals, Policies and Recommendations 10
V. Flood Resilience 12
A. Background 12
B. Flood Hazard and River Corridor Areas in Town 12
C. Goals, Policies and Recommendations 14
VI. Utilities and Facilities 16
A. Library 16
B. Town Buildings and Properties 16
C. Health Clinic 17
D. Solid Waste 17
E. Public Utilities 17
F. Telecommunications and Internet 18
G. Goals, Policies and Recommendations 18
VII. Education 21
A. Schools 21
B. Vocational Opportunities 21
C. Adult Education 22

D. Childcare 22
E. Goals and Recommendations 22
VIII. Transportation 23
A. Town Roads and Maintenance 23
B. Other Modes of Travel 24
C. Access Management 25
D. Goals, Policies and Recommendations 26
IX. Current and Future Land Use 28
A. Current Land Use 28
B. Future Land Use 29
C. Goals, Policies, and Recommendations 30
D. Recreation 31
E. Scenic and Historic Features 32
F. Mapping 32
G. Village Designation 32
X. Energy 34
A. Energy Resources 35
B. Energy Needs 36
C. Energy Scarcity 38
D. Energy Costs 39
E. Energy Problems 39
F. Energy Efficiency 39
G. Renewable Energy 41
H. Goals, Policies and Recommendations 42
XI. Natural Resources 45
A. Water Resources 45
B. Wildlife and Forest Resources 47
C. Soil Types and Mineral Resources 49
D. Air Quality 50
E. Wetlands 51
F. Invasive Species 52
G. Slopes 53

XII. Housing 54
A. Current Housing 54
B. Housing Needs 56
XIII. Compatibility with Local and Regional Plans 60
XIV. Plan Implementation 61
A. Responsibility for Implementation 61
Appendix A: Town of Corinth Ordinances and Bylaws .....
Appendix B: Implementation Matrix .....
Appendix C: Corinth Energy Data .....
Appendix D: 2018 Survey Results .....

I. Introduction

In 1968, the Vermont General Assembly enacted the state's Planning and Development Act. This act enables all Vermont municipalities to guide their future growth through preparation, implementation, and maintenance of a comprehensive plan.

A plan is intended to set out goals for Town action. It provides the basis for further planning efforts. A plan may be implemented by bylaws approved by the voters and by ordinances adopted by the Board of Selectmen.

The original Town Plan was prepared by the Planning Commission for the purpose of establishing growth policies intended to help direct future development of the Town.

With a growing population and the likelihood of mounting development pressures, the Town of Corinth saw fit at Town Meeting in March of 1977 to vote to begin a comprehensive planning program aimed at preparing plans that would address the many complex issues pertaining to community development. This is a living document, it has been revised periodically because of inevitable changes to 24 V.S.A §4302 and §4382.

In no way will this document alone affect land use in existence prior to the plan's acceptance. It does not have the power of law designated to a zoning ordinance and should not be confused with such. It can, however, serve as testimony at an Act 250 land use hearing regarding major new development.

This plan is based upon the best current information available and is keyed to existing conditions. Changes or amendments may be considered at any time that conditions make such changes or amendments seem proper. The plan will serve as a consistent guide to present and future elected and appointed town officers in the exercise of their official duties. It will ensure that the expressed desires of the people of Corinth will play a major role in guiding decisions affecting Corinth's future. Therefore, citizen participation is encourage at all levels of the Town Plan planning process.

A. Long Term Goals

The Planning Commission has identified long term goals for the Town to guide growth, decision making, and the orderly and reasonable management of the Town's resources. These attainable goals are included in this plan as statements of the Town's intentions and aspirations.

1. Maintain Corinth's rural character
2. Conserve Corinth's natural resources.
3. Protect the public health, safety and welfare of the Town of Corinth.
4. Promote economic growth that is appropriate to the rural character of the Town of Corinth.

We define rural character as a pattern of settlement and land use that consists of relatively densely populated village centers separated by productive farm and forestland with dwellings outside of village centers adjacent to town highways and public utilities. This pattern maintains

the opportunity for the land and its natural resources to be a source of employment for local residents.

The remainder of this Town Plan is divided into chapters according to major planning elements. Within each chapter, planning objectives for attaining each goal are listed and recommendations are given as a means of implementation. The planning objectives are specific, measurable targets for accomplishing the Plan's long term goals. Recommendations are made for actions that can be taken by various groups within Town to achieve specific planning objectives.

It is important to note that these goals, objectives and recommendations are not laws or regulations.

II. Town Description

The Town of Corinth, Vermont is located in the central portion of Orange County and comprises an area of approximately 31,000 acres. It is bounded by eight towns, three of which share only a small segment of common boundary with Corinth. The four major neighboring towns are Topsham to the north, Bradford to the east, Vershire to the south, and Washington to the west.

Corinth is rural in nature with population being somewhat concentrated along existing main roads and in hamlet areas. The largest of these hamlets, East Corinth, serves as a community focal point and contains a library, health center, fire station, and post office. Town offices, a second post office, a fire station, and Town Hall are located in Cookeville. The other hamlets are Goose Green, Corinth Corners, South Corinth, Corinth Center, and West Corinth.

The Town's topography and the relatively undeveloped nature of the wooded landscape has attracted many residents and visitors to Corinth. In the rugged western portions of the Town, slopes are steep and elevations exceed 2,000 feet above sea level in certain places. The eastern part of town is more rolling with elevations dropping below 1,000 feet along the Town's three main waterways, the Waits River, the Tabor Branch and the South Branch of the Waits River.

The major roadway serving Corinth is Route 25, which ties in with Route 302 to the north and Route 5 and Interstate 91 in Bradford to the southeast.

A. Population

Existing population characteristics, past trends and future projections are all major considerations in the town planning process. An increasing population within a community is in most cases associated with an increase in demands for municipal services. Population growth benefits Corinth, adding people with new insights, energy and enthusiasm, as well as increasing the town's tax base. However, rapid and unanticipated population increases can compromise rural character, create a demand for new and expanded municipal services, and strain the financial ability of a town to provide public services economically.

One purpose of community planning is to anticipate, plan for and guide growth in such a way that any increase in demand for municipal services does not outweigh the town's ability to accommodate this growth.

The following U.S. census table, Figure 1, documents the Town’s population since 1790.

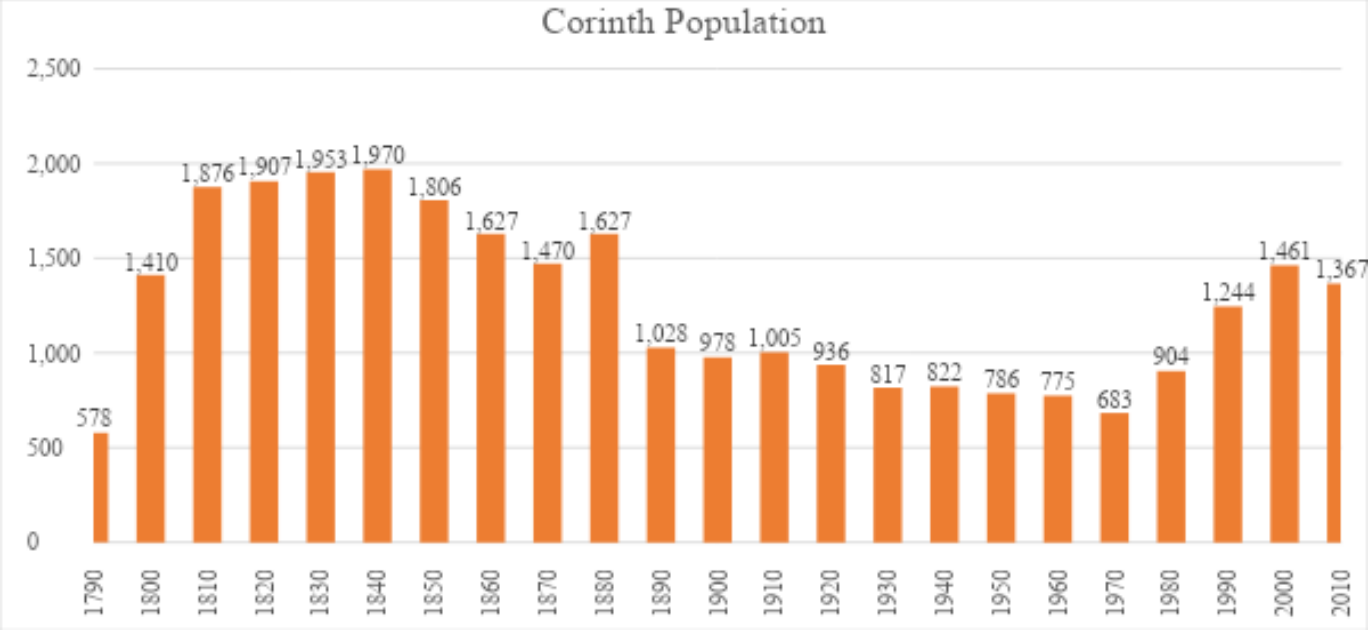


Figure 1: Corinth Population | 2010 U.S. Census

The data reveals that Corinth experienced a population growth from 1800 to 1840, and again from 1980 to 2000. There was a slight decline between 2000 and 2010. Current population projections developed by the Vermont Department of Aging and Independent Living predict little change in population over the next couple of decades.

B. Town History

The end of hostilities between the British and the French around 1760 began a period of expansion into wilderness areas of northern New England. The West was not yet open, and in an agrarian society land was wealth and good productive land was already spoken for. It is no wonder that Vermont appeared to be a promised land to many young land-poor southern New Englanders.

Corinth was first issued a charter on February 4, 1764 by Governor Benning Wentworth of the Province of New Hampshire.

The next 27 years were a turbulent time with furious land speculation between the original proprietors, charter disputes between New Hampshire and New York, and the eventual arrival of the first settlers. The only original proprietor to actually settle in Corinth was Colonel John Taplin.

The first gristmill was probably built in Cookeville by Col. John Nutting in 1777, and the first doctor arrived in 1795 in the person of John Tenney. This early pioneer period -- and the Republic of Vermont -- came to an end when Vermont became the 14th state in 1791.

These events ushered in a period of stable development and growth lasting into the 1850s. An agrarian society developed that was heavily engaged in sheep farming and the processing of wool. Potash was an early export from Corinth until the virgin land was cleared. Wheat enjoyed

a short period of prominence until declining yields and competition from newly settled western lands ended its production.

This period saw the building of the Town, with the first appropriation for schools in March 1792 and the building of the first church in Corinth Center in 1800. Between 1790 and 1810, the population of Vermont grew an astonishing 150% and the 1800 census revealed that two-thirds of the population was under 26 years of age. By the 1850s, Corinth had reached its maximum growth with a town population of approximately 1,970 residents. Records show that in 1824 the town boasted 10 blacksmiths, 3 distillers, 4 tanneries, 5 clothing works as well as 6 gristmills and 8 sawmills.

The opening of the Erie Canal in 1825 and the development of railroads 25 years later opened the West to development and Vermont population began to decline. During the 100 years following 1825, dairy farming became prominent. The railroads brought beneficial changes to Corinth farmers, who no longer needed to produce products for local markets alone. Cheese, then butter, then fluid milk found urban markets through rapid shipping. Creameries were established in Goose Green and East Corinth in the 1890s. Maple products from Corinth also came to be well-known.

This was also the time of the development of the Pike Hill copper mines, which operated off and on from 1855 to 1915 when the mines closed.

Lumber and lumber products continued to be a major industry, both in raw materials and finished products. The East Corinth bobbin mills were the most historically notable producers of these products.

The next major catalyst for change in Vermont was the development of the interstate highway system in the 1950s and 60s. Corinth retained its rural character and only in the past 20 years has it begun to participate in Vermont's population growth.

The use of former farmland for residential homes is changing the face of Corinth. Open land is gradually being reforested. Traditional housing styles are increasingly interspersed with varied designs. . Corinth is not a static place, historically there have been drastic changes to the landscape and economy. This process, noted in the previous Town Plan, continues unabated.

III. Economic Development

A. Employment and Income

Agriculture continues to be a vibrant part of the Corinth economy. While agriculture has changed, such as the decline of large dairy farms, new diversified farming ventures are on the rise. In 1983 the town had 15 working farms with some of the best cattle herds in the state. In 2010 that number was down to five full time farming operations and several small diversified agricultural operations.

Farming activities can include but are not limited to the following: haying, cheese making, beeswax and honey production, vineyards, and raising vegetables, sheep, goats, cows and poultry. The Corinth maple industry is strong, with several major producers and many small family sugar houses.

A growing employment trend is the number of people working remotely from home. Working from home often requires good internet connection and cell phone service. These services need to be expanded and improved in Corinth for this trend to continue. There are also a number of small retail businesses operating in town.

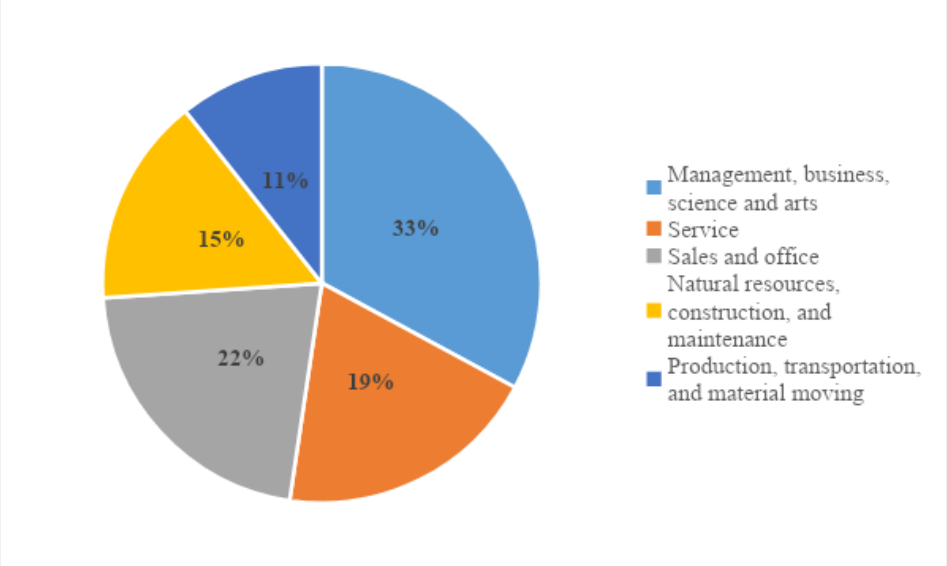


Figure 2: Corinth Employment Sectors | 2016 American Community Survey 5-Year Estimates

Over 80% (1,135) of Corinth's residents are 16 years of age and older, according to the 2012-2016 American Community Survey. As shown in the figure above, a majority of residents work in the management, business, science, and arts occupation sectors.

Median household income has steadily increased since the last writing of this Town Plan. In 2010 it was $29,919, in 2016, it was $51,838. . Figure 3 below compares the median household income of Corinth with that of surrounding towns.

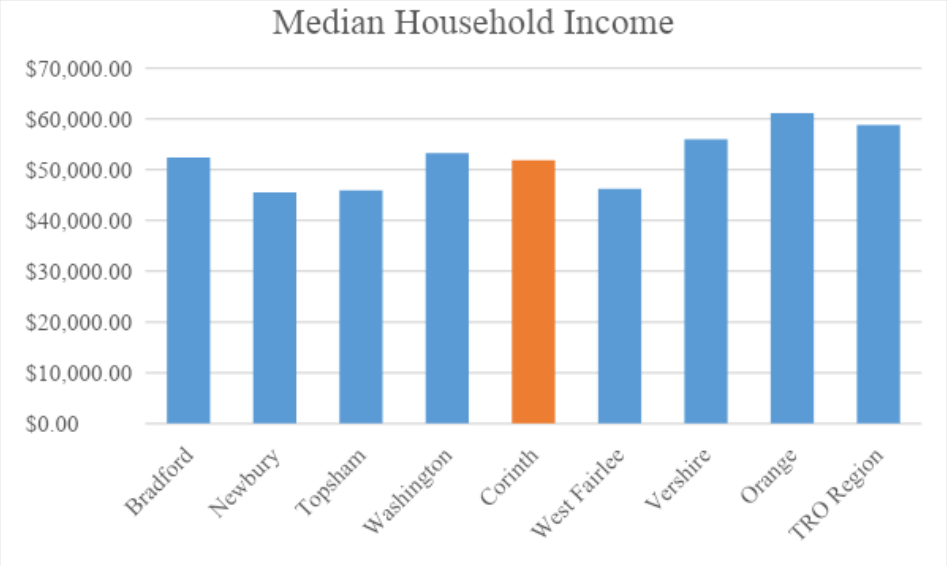


Figure 3: Median Household Income | Vermont Housing Data

Corinth's median household income is slightly less than the TRO Region median and roughly on par with surrounding towns.

Approximately 9% of Corinth residents work from home. The remainder of the work force travels outside of town for work. The 2012-2016 American Community Survey reports that the mean travel time is estimated to be 39.5 minutes. Residents travel to Montpelier, Barre, Hanover and Lebanon, NH, and other surrounding towns. The shift from agricultural to nonagricultural employment and the absence of large-scale manufacturing or retailing businesses necessitates travel to outside population centers for employment and goods and services.

Corinth also has many seasonal residents and retirees. These residents make a significant economic contribution to the town through volunteer activities and property taxes. About 16% of the Town's residents are over the age of 65. This percentage is projected to increase. In the 2018 survey, the majority of respondents agreed that industrial and commercial development should be limited to certain areas in Corinth. A majority of survey respondents wanted more retail businesses in Town but not "Dollar Store" type businesses. This is consistent with the majority position that maintaining Corinth's rural character is important. The addition of fiber-optic internet access could attract more telecommuting and home-based businesses.

B. Capital Budget and Program

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

might have on the operating costs of the community. Corinth has a capital budget and program for equipment replacements for the highway department until the FY23 fiscal year. However, there is no such program for town owned buildings. The Town's ability to plan for development would be enhanced by such a program

C. Goals, Policies, and Recommendations

Goals

1. Promote a strong and healthy local economy that provides jobs for Corinth residents and helps to support the town.
2. Maintain the historic settlement pattern of Corinth for economic expansion in its village and hamlet areas.
3. Support the manufacture of locally produced products, particularly those that are agricultural or silvicultural in nature, and the related distribution of such products.
4. Town-wide fiber-optic internet.
5. Creation of a food hub.

Policies

1. Commercial development must not have an adverse impact on the rural and residential nature of the community.
2. Encourage business growth that will enhance the rural environment that its residents so strongly value.
3. Consider the impact of Corinth's roads when it comes to development.
4. Take steps to ensure fiber-optic and cellular service is in every home and business.

Recommendations

1. Development will minimize impacts to the rural and residential character of Corinth.
2. The Town should consider more land use regulations in support of the above goals and policies.
3. Corinth should consider developing a Capital Budget and Program to plan for, finance, and provide an efficient system of energy efficient public facilities and services to meet future needs.

IV. Emergency Services & Emergency Management

The Town's public safety and welfare depends on cooperation among the townspeople, the Town government and the organizations that provide public services.

Services are currently provided by a contracted ambulance service, a volunteer FAST squad, a volunteer Fire Department, the State Police, and the Orange County Sheriff's office. The Fire Department currently has mutual aid agreements with several area fire departments.

A. Fire Protection

The community is served by the East Corinth Volunteer Fire Department, a non-profit entity that is separate from the Town. The department maintains two fire stations, one in East Corinth and one in Cookeville. At the time of this writing, the Town approved funding to construct a new fire house on Fairground Road. This will serve as the center point of emergency operations in Corinth (and possibly surrounding towns) during a disaster.

There are an average of 20 members of the Fire Department; many are trained in Fire 1 & 2, HazMat and cold water rescue.

The Fire Department has mutual aid agreements with other towns. Corinth often provides mutual aid to Bradford. Locatable addressing was established in 1998 and emergency help can now be summoned by calling 911. Since GPS and cell service are limited in the town, house number signs are a need to make response times quicker.

There are five dry hydrants located throughout Corinth with an identified need for more.

The town has a fire warden, who is appointed by the state. Permission for open burning is by permit only from the fire warden. It is everyone's responsibility to identify and prevent all possible fire hazards within the town.

B. Emergency Plans

The Town adopted an emergency management plan called a Rapid Response Plan (RRP) in 2005. The Town Hall and Waits River School (in Topsham) are emergency shelters. The Fire Chief and Road Commissioner are the first lines of contact in an emergency. Flooding is the highest hazard addressed in the plan.

Corinth has a FEMA-approved Local Hazard Mitigation Plan (LHMP) that identifies risks to the town; it was adopted in 2017 and has a lifespan of five years. The Town also has an adopted Local Emergency Operations Plan (LEOP) that is an annual adoption. This plan identifies key people in the town to deal with an emergency, such as a natural disaster. For the 2019 adoption year, the plan will now be known as the Local Emergency Management Plan (LEMP) that consists of similar elements of the LEOP. The LEOP is part of the Emergency Relief and Assistance Fund (ERAF), a state program that assist in paying match for federally declared disasters.

The Town is served by a FAST squad, the CTERT, consisting of volunteers from Topsham and Corinth. Members carry pagers that are linked with a radio dispatch system. A Homeland Security grant was used to fund much needed repairs to the CTERT communication equipment. Members are certified by the American Red Cross in advanced first aid. They are emergency care attendants and carry CPR cards. Many, if not all of the members are EMT certified. The FAST squad is equipped with cardiac defibrillators and, when necessary, can summon a helicopter for air transport to Dartmouth Hitchcock Medical Center.

Funding for equipment and training is provided primarily by the town, as well as an annual raffle and private contributions.

C. Police Protection

The State Police and the Orange County Sheriff provide law enforcement services in. Corinth. The Town has a constable but they are not able to carry out many police functions. To meet the resident's need for such services, the Town contracts annually with the Orange County Sheriff to provide some patrol and security services. The town also relies on the State Police in Bradford on an on-call basis. The town's reliance on the State Police and the Orange County Sheriff means that response time is delayed. Fortunately, crime rates are low and but some concerns, such as unlawful ATV use, are not addressed because of the limited law enforcement resources available.

D. Goals, Policies and Recommendations

Goals

1. Adequate emergency services are provided for town residents.
2. A strong relationship between the Corinth Fire Department and residents.

Policies

1. Encourage residents to volunteer with the fire department.
2. Ensure that town 911 emergency locator maps are kept up to date.
3. Ensure that the Corinth Local Emergency Management Plan is re-adopted on an annual basis.

Recommendations

1. Provide updated data to the Regional Planning Commission to ensure that town Emergency Locator maps are kept current.
2. The Town should continue to support fire safety training and education of Fire Department volunteers.
3. The Town should continually engage in Emergency Response planning so that unmet needs can be identified and plans can be made to address gaps.
4. The Fire Department should apply for grants to install more dry hydrants throughout the town.
5. The Fire Department should conduct more outreach and fundraising opportunities in Corinth.

6. Funding should be explored to develop an EOC and buy necessary equipment for the fire department.
7. The Fire Department should apply for grants to hand out free smoke and carbon monoxide detectors.

V. Flood Resilience

A. Background

Following the impact of Tropical Storm Irene in 2011, the Vermont Legislature added a requirement that all communities address flood resilience as part of their municipal plans. Interpreted broadly, "resilience" means that an entity—a person, neighborhood, town, state, region or society— when faced with a particular situation or event, has the ability to effectively return to its previous state or adapt to change(s) resulting from the situation or event without undue strain. As such, "resilience" is an overall preparedness for a future event. For the purposes of this chapter, flood resilience means the ability of Corinth to effectively understand, plan for, resist, manage and, in a timely manner, recover from flooding.

Historic Flood Events

One of the worst flood disasters to hit the Town of Corinth, as well as the overarching region and the State of Vermont, occurred on November 3, 1927. The Flood of '27 resulted from the remnants of a tropical storm that dropped up to 10 inches of heavy rain l on frozen ground. More recently, on August 28, 2011, Tropical Storm Irene delivered 6.79 inches of rain to Corinth. Record flooding across the state was responsible for several deaths, as well as hundreds of millions of dollars of home, road, and infrastructure damage. Due to the strong winds, some in excess of 60 mph, 50,000 Vermont residents lost power, and many did not have electricity restored to their homes and businesses for over a week.

Tropical Storm Irene's heavy rain caused widespread damage to property and infrastructure in Orange and Windsor Counties. The flooding that resulted is believed to equal a 500-year flood; that is, a flood that has a .2% chance of occurring every year. Large portions of Corinth's road infrastructure were damaged by the storm, including parts of Brook Road at the intersection of Vermont Route 25, Richardson Road, Johnson Road, Backway Road, Bear Notch Road, Eagle Hollow Road, Turkey Hill Road, and Dearborn Hill Road. A total of $53,455.95 was reported for Corinth from FEMA's Public Assistance database, which captures at least 70% of total damage. Estimates from Orange County from Tropical Storm Irene amount to $5 million.

In September of 2008, Corinth, along with the rest of Orange County and Lamoille, Essex, Caledonia, and Addison Counties experienced flooding. A total of $114,995 was reported for Corinth from FEMA's Public Assistance database. More recently in June 2014, periods of heavy rain resulted in flash flooding in Corinth and caused approximately $30,604.63 in damages according to FEMA's Public Assistance database.

B. Flood Hazard and River Corridor Areas in Town

There are two sets of official maps that govern development in floodplains in Vermont. They are the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs) and VT Agency of Natural Resource's River Corridor area maps. The FIRMs show the floodplain that FEMA has calculated would be covered by water in a 1% chance annual inundation event also referred to as the "100 year flood" or base flood. This area of inundation is

called the Special Flood Hazard Area (SFHA). FIRMs may also show expected base flood elevations (BFEs) and floodways (smaller areas that carry more current). FIRMS are only prepared for larger streams and rivers. Corinth has FEMA FIRM maps that are used in the administration of the Flood Hazard Area Bylaws. FIRM and Flood Insurance Studies (FIS) were last updated for the Town of Corinth on September 9, 1991. FEMA FIRM Maps are available for the Waits River Main Branch, Tabor Branch of the Waits River, South Branch of the Waits River, Pine Hill Brook, Meadow Brook, and Cookeville Brook. Corinth contains 755 acres of floodplain, 68 acres of which are floodway, the deepest, fastest flowing area in a flood. Floodplain comprises 2% of the town.

Recent studies have shown that a significant portion of flood damage in Vermont occurs outside of the FEMA mapped areas along smaller upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. Since FEMA maps are only concerned with inundation, and these other areas are at risk from flash flooding and erosion, these areas are often not recognized as being flood-prone. It should be noted that although small, mountainous streams may not be mapped by FEMA in NFIP FIRMs (Flood Insurance Rate Maps), flooding along these streams is possible, and such flooding should be expected and planned for. Property owners in such areas outside of SFHAs are not required to have flood insurance. Flash flooding in these reaches can be extremely erosive, causing damage to road infrastructure, threatening topographic features including stream beds and the sides of hills and mountains, and creating landslide risk. The presence of undersized or blocked culverts can lead to further erosion and streambank/mountainside undercutting. Change in these areas may be gradual or sudden.

Furthermore, precipitation trend analyses suggest that intense, local storms are occurring more frequently. Vermont ANR's River Corridor maps show the areas that may be prone to flash flooding or erosion, which may be inside of FEMA-mapped areas, or extend outside of these areas. In these areas, the lateral movement of the river and the associated erosion is a greater threat than inundation by floodwaters. The ANR mapped River Corridors accurately represent the area where rivers and streams will move over time to meander, and they depict areas that are at risk to erosion due to the river or streams' lateral movement. Elevation or flood proofing alone may not be protective in these areas as erosion can undermine structures. Streams and brooks that have mapped River Corridors include the water bodies identified above as having mapped Flood Insurance Rate Maps, including the Waits River, South Branch of the Waits River, Pike Hill Brook, Meadow Brook, and Cookeville Brook.

In the Town of Corinth, 37 total structures reside in the Special Flood Hazard Area, meaning they have a 1% chance of flooding annually. Specifically, 7 of these structures lie within the Floodway, which is the fastest flowing portion of floodwaters. The only mapped Floodway area in Corinth is the Waits River. The structures in the floodway include 1 commercial building, Cobble Mountain Hammocks Outdoor Furniture Store, 1 other commercial structure, 1 multi-family housing dwelling, 1 mobile home, and 3 single family dwelling. There are 30 additional structures in the Special Flood Hazard area that are at risk to flooding. These include 19 single-family dwellings, 1 multi-family dwelling, 5 mobile homes, 4 camps, and 1 house of worship. There are also 11 additional structures that reside within the mapped River Corridor area.

If all of these properties in the floodway and special flood hazard area were destroyed in a flooding event, the damage would total $9,640,652. In an effort to help reduce the risk to health, structures, and road infrastructure, it is important to restore and improve the flood storage capacity of existing floodplains, and to increase the overall area for retention of floodwaters in Corinth.

Flood Hazard Regulations

The Town of Corinth has standalone Flood Hazard Area Bylaws that were adopted by the Corinth Selectboard on May 11, 2015. These regulations apply to both the Special Flood Hazard Areas (SFHA) in town, as determined by the National Flood Insurance Program, and the River Corridor Areas, as mapped by the Vermont Agency of Natural Resources. If River Corridors are not mapped, then standards for these areas shall apply to the area that is 50 feet from the top of the stream bank of all perennial streams. If there is any uncertainty to a boundary of the Special Flood Hazard Area or the River Corridor Area, the Administrative Officer (AO), as appointed by the Selectboard, will determine the location. A final decision letter from FEMA for SFHA and the Vermont Agency of Natural Resources for River Corridors will be the final authority as to boundary disputes. A permit is required from the Administrative Officer for all development in the SFHA and river corridor areas. Conditional use review is approved by the Board of Adjustment, a panel of three or more members appointed by the Selectboard. Once conditional use approval has been established, the administrative officer must then issue a permit.

C. Goals, Policies and Recommendations

Goals

1. Maintain and improve the quality of Corinth's surface and ground waters.
2. Enhance and maintain use of flood hazard areas as open space, greenways, non-commercial recreation and/or agricultural land.
3. Ensure no net loss of flood storage capacity in an effort to minimize risks.
4. Allow Corinth to be prepared for flood events.
5. Protect municipal infrastructure and buildings from the potential of flood damage.

Policies

1. Maintain and enforce Corinth's floodplain bylaw.
2. Corinth prohibits all new fill and construction of buildings in mapped floodways, Special Flood Hazard Area, and River Corridor areas (*Mapped areas, unless corrected by FEMA).*
3. Continue to limit permitted land uses within Corinth's River Corridor Areas to non-structural outdoor recreational and agricultural uses due to the dangerous erosive risk in these areas.
4. Design and maintain culverts and bridges to ensure they are effective during severe weather events and comply with state standards.
5. Do not build Corinth's emergency services, power substations, and municipal buildings in the Special Flood Hazard or River Corridor Areas.

6. Maintain Corinth's upland forests and watersheds predominately in forest use to ensure high quality valley streams and to ensure that flood flows are reduced.
7. Restoration and enhancement of additional wetlands should be pursued in order to improve Corinth's flood resilience.
8. After flood events, recovery and reconstruction within the river area should be managed according to the Vermont River Program's best practices in order to avoid negative impacts downstream.

Recommendations

1. Corinth should work with VTrans and the Regional Planning Commission on advocating for and improving the flood capabilities of state or town-owned transportation infrastructure.
2. Corinth should continue working to update hazard mitigation plans and emergency preparedness and recovery procedures.
3. The Selectboard should continue to send a representative to regularly attend and participate in the region's Local Emergency Planning Committee (LEPC #12).
4. The town should continue to maintain and update town bridge and culvert inventories. This information should be used to develop a schedule to replace undersized culverts.

VI. Utilities and Facilities

A. Library

The Blake Memorial Library is located in East Corinth. The present library building was dedicated in 1949 after a 1945 fire destroyed the original building which had been dedicated in 1902.

The Blake Memorial Library Association elects a board of trustees who administer the library. Income from trust funds pays for some of the library's expenses and improvements.

Although the library is privately funded and governed, for several years Corinth and Topsham each have voted financial support of $2.00 per capita for the library. This support makes the library eligible to apply for various public and private grants. Residents go to the library for computer and internet access.

B. Town Buildings and Properties

The **Town Hall** is located in Cookeville on a site of approximately two acres. The building, formerly a store and later the Corinth School, has approximately 3,500 square feet on the main floor, a storage attic and a cellar.

The offices of the Town Clerk, Treasurer, Selectmen and Listers are located in the Town Hall. The building also houses a walk-in vault containing town records and official documents.

Space is available for town meetings, conferences and social events. The building includes handicap-accessible public restrooms, a kitchen, wireless access, and a central heating system.

The building has undergone renovations to replace the porch, restoring the building as it appeared during its historic use and has had the Town Clerk/Lister space renovated. Recently, the septic system was replaced. The town has appointed a building manager to oversee the Town Hall.

The **Corinth Academy Building** is located in Cookeville on approximately 3/4 of an acre. This building was used for Town Meetings and other events before the current Town Hall became available. There are currently no utilities in the building. It is used and maintained as a museum by the Corinth Historical Society.

The **Corliss-Prescott House and Barn** were donated to the Town's Historical Society in the 1990s for use as Corinth's Agricultural and Trades Museum. This building in East Corinth has recently been renovated.

The Town of Corinth maintains cemeteries located in the following areas: South Corinth, Corinth Corners, Corinth Center, Pike Hill, two in West Corinth and two in East Corinth. The Meadow Cemetery is privately owned and managed. The Town also owns several other properties including the old landfill site on Brook Road, a small part of the Cahill Swamp on Brook Road from a tax sale, and a small piece of land and remnants of an old creamery plant at the bottom of Young Road.

C. Health Clinic

Little Rivers Health Care was founded in 2003 to join together the Wells River Clinic, Bradford Health Services and the Valley Health Center as one organization. These three centers are now a unified health care practice system for the region, governed by a Board of Trustees. Little Rivers has achieved non-profit, tax exempt status and recently received a substantial federal grant to add dental and mental health services.

Little Rivers Health Care is located in the village of East Corinth and is incorporated as a nonprofit rural health center. The center is equipped with medical diagnostic and therapeutic equipment.

D. Solid Waste

Waste Transfer Station. The Town maintains a Transfer Station for the collection of non-hazardous solid waste and recyclables. At the time of this writing, the transfer station is in the process of moving from the town garage to Brook Road.

Until the mid-1980's, the Town maintained a landfill for disposal of waste materials. When space ran out, the Town contracted with a private operator who maintained a landfill on Route 25. This landfill was closed in July 1992 according to Vermont statutes, and the Town contracted with a licensed hauler to have its nonhazardous solid waste collected at the Transfer Station. In July 2005, the Town instituted a Pay-As-You-Throw program, with the goal of decreasing waste generation through increased recycling.

The Town has a contract with Casella Waste Systems that will last until 2023, and they handle all waste and recycling. Trash is taken to a certified landfill in Coventry. In addition to the Town-sponsored collections at the Transfer Station, trash pickup is available for a fee from private contractors.

Household hazardous waste can be disposed of by contacting the North East Kingdom Waste Management District, which the Town voted to join in 2012.

E. Public Utilities

The Town of Corinth is mostly rural. Development is spread over a wide area with only a few hamlet-type areas including East Corinth, Cookeville, and Corinth Center, which have higher population densities. The only public utilities available are electrical power and a telephone system. All domestic water systems and sewage disposal systems are owned and developed by the landowner.

A vital local economic base will be dependent, especially in the coming years, on reliable, affordable, up-to-date public utilities. It will be necessary for the Town to work together with the utility companies to ensure this kind of service is available to its citizens.

It may become necessary, especially in East Corinth, to consider developing water and sewer districts.

F. Telecommunications and Internet

Telecommunications have become increasingly important to the security and economic needs of residents and businesses in Vermont. This trend will continue. It will play a key role in our economic future, creating new opportunities for the relocation and growth of decentralized business operations and reducing demands for travel by conventional modes. With an improved telecommunications infrastructure, large amounts of information can be conveniently moved over long distances at competitive rates.

Internet access is fundamental to Corinth's economy. Topsham Telephone has offered DSL to all its subscribers with a 439 exchange since 2005. However, this service is no longer sufficient for the needs of most residents. There is a community movement to bring fiber-based internet to Corinth, which will provide reliable high-speed internet access for the foreseeable future.

The field of telecommunications is undergoing rapid change. Advancements in this technology have and will continue to impact growth in rural areas like Corinth. The implications for land use are significant, as this technology has enabled people to move into rural areas and to "telecommute" to other remote or central offices more readily.

The siting of telecommunication towers is a planning challenge as there are aesthetic concerns. To ensure adequate transmission of signals in mountainous areas, towers and related facilities often need to be sited on hilltops or high elevation points. Due to their higher visibility from multiple vantage points, they conflict with scenic landscapes.

The Federal Communications Commission (FCC) has jurisdiction over public airwaves and the telecommunications industry in general. Additionally, the Federal Aviation Administration (FAA) exercises control over the location and height of towers and similar structures to prevent interference with airport operations. Under Vermont law (24 V.S.A. Chapter 117), municipalities may require that certain standards be met prior to the erection of telecommunication facilities. Local bylaws may regulate the use, dimension, location, and density of towers, however FCC rules are preemptive of local and State law where conflicts exist. Since 1997, Act 250 has required a permit prior to the construction of a communications tower or similar structure over 20 feet in height.

G. Goals, Policies and Recommendations

Goals

1. Utilities and facilities meet the needs of residents in a cost effective and energy efficient manner.
2. Preserve the rural character of Corinth.
3. Protect the scenic, historic, environmental, and natural resources of Corinth.
4. Town-wide fiber optic internet.

Policies

1. All renovations on existing town-owned buildings and new buildings shall be retrofitted to be energy efficient.
2. Growth and development shall not exceed the capacities of local facilities and services.

3. Any increase in infrastructure shall be designed to have minimal aesthetic impact on the community.
4. Facilitate telecommunication services while minimizing the adverse visual effects of towers and related facilities by providing specific recommendations for design and siting standards.
5. Telecommunication facilities and other tower development shall be visually screened utilizing trees and landscaping located upon the land of the developer or lands leased by the developer.
6. No public burden from private development shall ensue.
7. Towers for wireless service providers shall allow other providers to co-locate on their facilities when feasible, subject to reasonable terms and conditions.
8. To minimize conflicts with scenic values, telecommunication tower design and construction shall follow these guidelines, whenever possible:
    a. Be located in non-residential areas and away from visually sensitive areas, prominent scenic areas and historic areas;
    b. Be located in forested areas when possible, or camouflaged on buildings;
    c. Be sufficiently landscaped to screen related ground fixtures from public vantage points, such as trails, roads or water bodies;
    d. Utilize materials, forms (including asymmetrical tree shapes), color schemes, mass, minimal height and other design elements to promote aesthetic compatibility with surrounding uses and to avoid adverse visual impacts;
    e. Screening must be located on the owned or leased property of the project;
    f. Where construction of access roads is involved, it should be situated to generally follow the contour of the land and to avoid open fields or meadows to minimize its visibility;
    g. Towers should not be illuminated by artificial means and not display strobe lights, except when required by the Federal Aviation Administration (FAA);
    h. Towers shall avoid breaking the silhouette of peaks and ridges by locating downslope whenever feasible, and be sited in areas minimally visible to the traveling public, public recreation and the; and +
    i. The height for towers, antennae and tower-related fixtures shall be as close to surrounding growth as possible while still achieving the coverage objective.
    j. In planning for telecommunication facilities, due consideration should be given to the environmental limitations of any given site. Impacts of the use on wildlife habitats, soil erosion, forestry and agricultural lands and similar resources should be carefully addressed. Projects that materially impact these resources are discouraged. The design plans for telecommunication projects situated on lands owned by the State shall be compatible with current Management Plans for Public Lands adopted by the Agency of Natural Resources.
    k. Towers, antennae and related fixtures that fall into disuse or are discontinued shall be removed. Local and State land use permits shall incorporate removal of inactive fixtures as a condition of approval.

Recommendations

1. The Town should continue to monitor and guide the Transfer Station and recycling programs.
2. The Town should increase the variety of recyclable materials at the Transfer Station.
3. The town should develop bylaws regulating the installation of utility and telecommunication towers or structures.
4. The town should support and encourage the development of local health care facilities and counseling to help residents obtain the health care they need as close to home as possible.
5. The town should support the effort of town-wide fiber-optic internet.
6. The Selectboard should look into the 2009 energy efficient audit of new town buildings and create a pricing schedule to implement these changes.
7. All new town-owned buildings must meet energy efficiency guides.

VII. Education

Together with the neighboring Town of Topsham, Corinth is part of a unified school district (Unified School District #36) which provides education for grades K through 12. High school students may attend the high school of their choice. The largest part of funds collected for property taxes is allocated for education.

A. Schools

Unified School District #36 has the responsibility of educating our children. The district runs Waits River Valley School, located on State Highway 25 in Topsham, near to the Corinth boundary.

Elementary Education: In the 2017-2018 school year, the Waits River Valley School (WRVS) served approximately 207 students in grades K-8. It offers a full-time kindergarten program, along with after school activities and a full extracurricular sports program. Enrollment at WRVS declined considerably over the last several years (see Figure below), but has stabilized since 2015.

Waits River Valley School Attendance

School Year	Number of Students
2009-2010	251
2010-2011	262
2011-2012	249
2012-2013	254
2013-2014	245
2014-2015	226
2015-2016	208
2016-2017	209
2017-2018	207

Source: VT Department of Education

Secondary Education: Since District #36 has no high school, Corinth high schoolers choose which school to attend. Presently, high school students attend some 10 different institutions. Most students in Corinth attend Oxbow High School, Thetford Academy and Blue Mountain Union.

B. Vocational Opportunities

River Bend Career and Technical Center is located in Bradford and provides technical education programs for students from eight area high schools and for adults. River Bend's facility includes a state-of-the-art automotive garage, heavy equipment training sites and shop, a complete building trade's workshop, and a commercial kitchen with its own restaurant. Additionally, there is a fully-outfitted cosmetology lab, a pre-school for training for human services students, Business Technology and Pre-Engineering Technology programs, an Environmental Studies program, and an Emergency Services program.

C. Adult Education

Adult residents often seek their educational opportunities elsewhere. Vermont Technical College in Randolph and Dartmouth College in Hanover, NH are the closest institutions for higher education. There are branches of the Community College of Vermont located in Montpelier, Hartford and St. Johnsbury. Due to the lack of high-speed internet in Corinth, adults may find it difficult to seek their education online. There is a Vermont Adult Learning center in White River Junction, Vermont that Corinth residents could attend to obtain their GED or other educational skills.

D. Childcare

Corinth has no home childcare providers registered with the State of Vermont. Most residents currently arrange for care with relatives, or take their children to licensed childcare facilities or registered home providers beyond the borders of Corinth to neighboring towns like Vershire, Topsham and Bradford.

The Sugar Maple Preschool in East Corinth was an early childhood education and childcare that used to serve the towns of Topsham and Corinth; it has since closed.

According to the 2010 U.S. Census, there were 149 children under the age of 10 in Corinth.

E. Goals and Recommendations

Goals

1. Provide a safe and secure learning environment where quality educational opportunities are provided to all students.
2. Increased early childhood educational and childcare opportunities.
3. The community is involved and supports education.
4. Encourage the development of fiber-based internet in Corinth so students may have access to education materials.

Recommendations

1. The Selectboard should invite Corinth members of the School Board to report regularly on current school matters.
2. The Corinth members of the School Board and the Planning Commission should meet with the Selectboard to ensure the long term plan for the school is compatible with the Town Plan.
3. The Corinth members of the School Board should consider community learning needs (including preschool and vocational programs) when reassessing the school facilities for utilization, layout and adequacy.
4. Selectboard should support new and existing childcare facilities when possible.
5. The Planning Commission should revise its subdivision bylaws so that land development that is likely to result in large numbers of school children is phased or planned so as to not place an undue financial burden on the capacity of town to provide educational services.

VIII. Transportation

The Vermont Agency of Transportation and the Corinth Selectboard jointly determine Corinth's road classification. There are four road classifications used by the State of Vermont. The classification determines the rate of State financial aid in the repair and maintenance of town roads (there is no State aid for class four roads). The classes are:

- Class 1: town highways which form the extension of a state highway route and which carry a state highway route number.
- Class 2: important town highways, often paved, with the primary purpose of linking towns and high traffic areas such as village settlements and state highways.
- Class 3: all traveled town highways other than Class 1 or Class 2 highways that are negotiable under normal conditions, all seasons of the year by a standard manufactured pleasure car.
- Class 4: all other town highways on which public use is limited.

A. Town Roads and Maintenance

Corinth's single most expensive capital asset is its system of roads, bridges, and culverts. The Town has invested more money in transportation than any other town program. The network of back roads is also an integral element of the scenic, rural countryside. These byways are both visually and economically important to the town. If improvements are needed to accommodate increased traffic, it is important to consider the relationship of the road to the surrounding features of the landscape. Improvement of the town highway system should support development that is consistent with other elements of the Town Plan.

Town highways are the second highest annual budget item, beyond schools, in our municipal budget. There are 29 bridges in town maintained through a yearly bridge fund and money for paving in the town budget. The State of Vermont maintains about 4 miles of highway and 5 bridges in town.

The **Town Garage** is a four-bay building located on approximately three acres on Goose Green Road near Goose Green. It was built to house town road maintenance equipment. A new salt shed was added to this facility in the last several years. The Town Road Crew has three members, one of whom is the road foreman, who reports to the road commissioner, who is appointed by the Selectboard.

The highway system consists of approximately 98 miles of Class 2, 3 and 4 highways and state highway, approximately 20 of which are paved.

State highways - Approximately four miles of State Highway 25 pass through the Town.

Regional transportation planning in Vermont is now the joint responsibility of the Regional Planning Commissions and the state highway engineers in Montpelier. The Two Rivers-Ottauquechee Regional Commission has a Transportation Advisory Committee (TAC) made up of representatives from all towns in the region, including Corinth. The TAC is charged with

creating a regional transportation plan that is coordinated with land use planning and is responsive to local needs and concerns.

Historically, development was restricted to the hamlets and along the well-traveled and maintained public highways. That meant the transportation system could have two levels of maintenance and upkeep – one standard for the well-traveled roads and another for the inaccessible low traffic volume back roads.

Presently Corinth is adjusting to a new development pattern. The idea that life moves more slowly here appeals to many of our new residents, and homes are built on these lower quality back roads for the enjoyment of country life. But the development comes with a new transportation challenge to provide better maintenance and upkeep. In previous times, the few that lived on these back roads were adequately prepared and the low traffic volumes spared the roads from significant damages. Now, however, the traffic volumes are much higher on roads never built for this intensity of use, and there is a larger dependence on two-wheel drive vehicles and regular commutes to employment centers in the Upper Valley and the Montpelier-Barre area.

The costs of maintaining an entire transportation system are much higher than the practices employed 10-15 years ago. As development continues along our rural back roads, the Town must anticipate higher transportation costs.

There is likely to be an increase in settlement along Class 4 roads and this may result in increased demand for reclassification of these roads to secure town services and maintenance. Careful consideration should therefore be given particularly to Class 4 highways for their potential future use: eventual year-round use by seasonal owners, year-round recreational use, and development. In February 2009, Class 4 highways were mapped and included on a sworn certificate of these roads in Corinth to comply with the new state law, Act 178, regarding " ancient roads. "Class 4 roads impassable by vehicles were reclassified to "legal trails" to maintain Town rights-of-way, or dropped.

Corinth maintains an up-to-date list of culverts and culvert condition, and has recently completed a culvert inventory and road erosion inventory. As part of this process, priority projects will be identified and cost estimates will be generated to prioritize culvert upgrades for damaged and undersized structures. Vermont Agency of Transportation Codes and Standards, which the Town of Corinth adopted on February 11, 2013, require a minimum size of 18 inches for new culverts. The process of upgrading culverts is ongoing. At the time of this writing, the Agency of Natural Resources rolled out the new Municipal Roads General Permit that will incorporate Best Management Practices (BMPs) on Vermont's roads to lessen the impact of phosphorous in waterways and to prevent erosion in high rain events.

B. Other Modes of Travel

Public Transportation

About half of all energy used in Vermont is for transportation. Over 50% of this is for residential users who drive private cars. Public transportation in Corinth is nearly non-existent and as a result there are few alternatives, if any, to the automobile. The 2000 Census shows that 10% of

the town's commuters carpool to work, while about 2% walk to work. For those driving to work, the average commute was about 31 miles each way.

Stagecoach Transportation Services is a private, nonprofit corporation that provides transportation services to the elderly, persons with disabilities, and the general public across a 26-town area of northern Windsor and Orange Counties. Stagecoach provides fixed route, demand response, and social service transportation. Stagecoach is also the area's Medicaid broker and arranges passenger trips to medical services using volunteer drivers, taxis and Stagecoach routes.

Bicycle and Pedestrians

Many residents bike or walk on town roads in Corinth. In the more rural areas of town, bicycle and pedestrian travel is reasonable safe. Main roads, such as Route 25, are deemed less safe due to higher traffic volume and speed.

Rail and Air Facilities

Corinth has no rail service. The nearest railroads are the New England Central Railroad (NERC) line that goes through Randolph and the Washington County Railroad that provide heavy haul freight services along the Connecticut River.

Corinth has no airports within its jurisdiction. The closest airports are Post Mills in Thetford, Rutland Regional Airport, Burlington International Airport, and the West Lebanon Municipal Airport in New Hampshire.

C. Access Management

According to the Vermont Agency of Transportation (VTrans) definition, access management is a process that provides or manages access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity needs, and speed. Access management is an important process to provide reasonable accessibility to adjacent land uses while maintaining a safe and efficient flow of traffic. Transportation professionals have established that a single, well-designed access to a public highway presents few concerns for the traveling public. However, if access has been poorly designed and/or its frequency increases, the road's health declines proportionally. The result is increased traffic congestion, crash rates, and road maintenance obligations to handle surface water improperly channeled to the road surface or shoulders. Ironically, these factors eventually compromise access to all land uses along the affected roadway. In many instances, towns are forced into costly highway expansion projects.

The town should consider amending the access management policy to include some of the following strategies for all public and private transportation and development projects impacting local and state public roads as well as private roads:

- Utilize State of Vermont design standards for all temporary and permanent access, to include emphasis on drainage, sight distance, and access for emergency services;
- Encourage use of shared driveways and/or permitting access that may result in a future shared driveway;

- Require the review of access for existing development whenever a change of use, ownership, or other application process is brought before the Town;
- Encourage commercial properties to use existing development codes in order to preserve or create road segments with few accesses;
- When practical, approve subdivisions with private and public road designs that allow shared access with other adjacent subdivisions and/or have the private rights-of-way reserved so an access may be built to connect to existing and future development;
- Encourage permanent landscaping and roadside enhancements to visually define access points and contribute to the roadway's aesthetic character;
- Use sight-distance standards based on the actual travel speeds and not the posted speed limits. If no such data exists or is not current, then the town will work with the Regional Planning Commission to obtain the appropriate data.

D. Goals, Policies and Recommendations

Goals

1. A transportation system that is safe, efficient and complements the other goals and policies of this Plan. Maintain Corinth's town roads using best management practices and technical assistance and other resources when available.
2. Future development does not unnecessarily or unreasonably burden or strain Corinth's road system.
3. Local, regional and statewide efforts that support transportation systems to meet the needs of all population segments and not just those who use automobiles.
4. Support pedestrians and bicyclists with safe areas to travel within East Corinth village if warranted by increased population density.
5. Support regular maintenance and upgrades to transportation equipment and facilities provided that the costs of which do not put an undue burden on the people of Corinth

Policies

1. Any new access, new construction, change of use, and any development of a land parcel that would create impacts on Corinth's road system should be reviewed by the town. Where such development requires improvements to town highways, such costs shall be borne by the developer and the Selectboard shall have sole power to change the classification of the road.
2. New residential or commercial development or changes of existing use that do not provide adequate off-road parking are contrary to the intent of this Plan.
3. Maintain the town's current highways, bridges, and related facilities, as it is necessary to ensure the current level of service.
4. The town, as written in V.S.A. Title 19 Section 310 does not maintain Class 4 Highways, excepting bridges and culverts. The policy of the Selectboard is that before the town would consider adopting a new road or upgrading an existing highway, the abutting property owners shall be responsible for the cost of improving and/or building the road to town specifications. Final decision regarding the nature of the improvement rests with the Selectboard.

5. Given the interest in and benefits from biking, hiking, snowmobiling, cross-country skiing, and similar outdoor recreational activities, the town should, as an alternative to complete discontinuance of a highway, give full consideration to preserving Class 4 roads for recreational use by downgrading their status to a legal trail and thus retaining the public's interest in them.
6. An integral scenic element of the rural countryside is the network of back roads comprising the town's highway system. These byways are both visually and economically important to the town. If improvements are needed to accommodate increased traffic, it is important to consider the relationship of the road to the surrounding features of the landscape.
7. Strip development is contrary to the character of Corinth and the intent of this plan and is not encouraged as a land use pattern. Such development occurs in a linear path along a right-of-way which often restricts visual and physical access to interior lands.
8. The health of trees along town roads shall be periodically reviewed. Trees that are unhealthy or otherwise pose a substantial risk to travelers shall be removed.
9. When considering upgrades of Class 4 Roads to Class 3, the Selectboard shall only do so if there is a clear benefit to the community and the cost of the improvement is borne by the residents requesting the improvement.
10. Any new developments that are proposed in town should be encouraged to locate adjacent to existing roads. Commercial development that requires large vehicle access (such as trucks) should only locate on roads which can effectively handle the size of vehicle needed.
11. Corinth supports the expansion of existing transit and the installation of new transit facilities.
12. Any new town owned buildings should look into installing EV charging stations.

Recommendations

1. The Selectboard and Road Commissioner should investigate creating parking areas in accessible places to make carpooling easier in addition to the existing park and ride.
2. The Selectboard should update town road policies and work with the Planning Commission to integrate them with existing and projected land use.
3. The Road Commissioner should update the driveway access process with clearer approval guidelines including drainage and sight lines.
4. The Selectboard and Road Commissioner should include consideration of scenic and historic resources, along with the usual economic and safety concerns, when making decisions regarding road maintenance and improvement and bridge replacement and renovation.
5. Where possible, in lieu of paving, the Highway Department should upgrade gravel roads with improved materials and geotextiles, and should improve drainage by better construction and maintenance of ditches, to better resist traffic induced road damage.
6. The Vermont Agency of Transportation should evaluate roads and speeds posted and road signage to reflect current engineering and traffic operation standards.
7. Corinth should keep updating their culvert inventory.
8. The town should look into applying for grants to install EV charging stations on town-owned property.
9. The town should encourage the use of the existing park and ride and look into expanding public transit services at this location.

IX. Current and Future Land Use

Corinth is defined by its rural character. Town residents overwhelming agree that rural character is one of Corinth's major strengths. Many seasonal and year-round residents have relocated to Corinth from developed areas which have lost any sense of their rural past. Citizens enjoy year-round outdoor activities due to Corinth's open spaces, varied topography and scenery. Farms and forest industries create a working landscape for the Town because of its abundant open and undeveloped land. The maintenance and promotion of rural attributes, specifically open spaces and undeveloped lands, are matters of public good.

Planning for future development of all types should prioritize and accommodate conservation of forest, agricultural and recreational land.

Overall Land Use Goals:

1. Support development which enhances the Town's rural character, wildlife habitats, historic resources, and scenery.
2. Respect the community's values as demonstrated by the scale and form of existing development.
3. Allow landowners to realize a reasonable and customary return from their land.
4. Balance the rights of individuals and the community. Focus development so as maximize open space and minimize the expansion of town services, specifically roads.

A. Current Land Use

Land use is continually changing. Currently, large parcels are being subdivided and developed. Seasonal residences are being converted to year round use. Growth is increasingly dispersed and scattered away from main roads. Homes are being built at the ends of dirt roads. These recent patterns of development result from the desire for views and privacy and have the unintended consequence of creating higher prices for land and homes.

Corinth has seven identifiable areas within the Town called "hamlets." Four of the hamlets, East Corinth, Goose Green, South Corinth and Cookeville, are situated at approximately 1,000 feet in elevation and are in close proximity to the Waits River or one of its two major tributaries, the Tabor Branch and the South Branch.

Some, like East Corinth, contain a mix of land uses, while others such as Corinth Corners are primarily residential/agricultural in nature. Development outside of village areas is scattered along the approximately 94 miles of town roads and highways, and the four miles of Vermont Route 25.

A large percentage of the 31,000 total acres in Corinth remains undeveloped. This land is privately owned and is predominantly forest land, with smaller areas being actively tilled or devoted to pasture or other open land use.

The Orange County Headwaters Project together with approximately twenty landowners in the largely undeveloped northwest section of town and on Hurricane Ridge to conserve 3,000 acres of land through voluntary donations of development rights. The total area of the project in Corinth is about 15,000 acres. The project includes roughly the same number of acres in the town of Washington. The goal is to try to keep remote areas remote and available for traditional uses including forestry, sugaring, hunting, fishing, hiking, and other non-motorized forms of recreation.

B. Future Land Use

The majority of respondents to the 2005 and 2018 Town Surveys want Corinth to stay as it is with no, or only slight, growth. A substantial majority want development to be controlled in order to protect the interests of the community and to protect prime agricultural and forest lands. Town residents, according to the surveys, agree that development, when occurring, should be in village areas and along existing Class 3 roads. Concentrating growth and development within these areas will help maintain Corinth's historic settlement pattern: compact village centers separated by rural countryside. Each time a new house is built, a new business is started, a parcel of land is subdivided, or other land altering activity is. An ordinance is a potential solution for the management of the impact of development in a fair and predictable manner for all Town residents and landowners. The 2018 survey results showed support for this solution.

Land use regulations should provide for the reasonable use of land in the Town of Corinth in a manner which promotes and protects the public health, safety, prosperity, and general welfare. Any such regulations should protect high elevations, steep slopes, soils, forests, stream banks, wetlands, critical wildlife habitats and corridors, and other natural resources. Further, land use regulations should encourage the density and distribution of settlement to be in character with the rural residential environment of the town.

Land use regulations must not discriminate against any particular individual or group of people for reasons unrelated to reasonable land use objectives. Any significant changes from existing land uses or any new development should address all the land capability descriptions discussed in the Natural Resources Chapter of this Plan. The Town should design land use regulations that will protect agricultural or forestry use of the land.

The Town should support density and development patterns that are likely to result in the conservation of energy.

Commercial and Industrial Development

The Town Plan recognizes that not all land and not all areas of town are equally suited for all types and intensities of development. It is the fundamental goal of this Plan that future land uses be sensitive to the attributes of a site and that in planning for the development of a parcel, more than the market value of property be considered. The Town recognizes the importance of economic vitality and employment for its citizens. Although still primarily a residential community, modern communications have enabled a growing number of citizens to work from their homes at an ever-widening array of jobs and businesses.

Residents of the Town are understandably concerned that commercial or industrial development will adversely affect the town by changing its character. Survey respondents strongly opposed large commercial development. This Town Plan is a step toward protecting the Town from unregulated development.

Town Plans, however, have limited power to combat development that is at odds with the attributes that Town residents value. Land use regulations can be an important tool to combat unwanted development. Historically, zoning has been controversial, however, the 2018 survey revealed that many people in town see these types of regulations as a way to protect the lifestyle they have chosen.

State regulators have designated all towns, including Corinth, without land use regulation as "1 Acre Towns"; therefore the following actions trigger Act 250 review:

- Any commercial or industrial developments of over one acre of property shall trigger a review under Act 250.
- The subdivision of land into six or more lots within a continuous period of five years shall trigger review under Act 250.

Under Criterion 10 of Act 250, any proposed project must conform to all duly adopted local and regional plans. It seeks to ensure that new development respects the wishes of Vermont citizens about the future of their town and region. Under Criteria 9 of Act 250, developments will also assess their impact on primary agricultural soils. As it presently stands, Criterion 9 and 10 are the only settings in which a court will consider the goals, policies and recommendations in Corinth's Town Plan.

C. Goals, Policies, and Recommendations

Goals

1. Support development that maintains the historic settlement pattern of compact villages and hamlets surrounded by rural countryside.
2. Maintain rural character by balancing developmental pressures, natural resources, and agricultural activities.
3. Maintain the current aesthetics of Corinth's working landscape.

Policies

1. Encourage agricultural and silvicultural businesses consistent with the existing scale of such activities, that support the rural character of the Town.
2. Encourage home businesses, small-scale light industries, and other developments that contribute to Corinth's rural character.
3. Large-scale commercial, agricultural and industrial development does not conform to this plan. All new commercial and industrial development shall be of a type, scale and location that is consistent with the goals and policies set forth in this Plan.
4. Discourage strip development.
5. Encourage the placement of any intensive residential development near villages and hamlets.

6. Encourage the location of new economic growth in concentrated village and hamlet areas.
7. Smart growth principles should be implemented with new developments.

Recommendations

1. The Planning Commission should develop land use regulations, incentives, and an appropriate permitting process to encourage development consistent with the Town's historic, rural character. These regulations should be designed to minimize the impact of development on town services, including roads, administration, and emergency services, and maximize open space. These regulations must be consistent with the goals and objectives of this Town Plan.
2. The Planning Commission should develop land use regulations to control the way that future industrial and commercial development occur.

D. Recreation

Based on the 2018 survey, Corinth residents find friendly people, open spaces and outdoor recreational opportunities to be important.

The Town of Corinth does not own any recreational facilities, nor are there any state- or federal-owned facilities in the town. The Town forest is a community-owned parcel of land which can be used for outdoor recreational activities. The Town relies on the generosity of landowners and Vermont's tradition of access to open land for access to trails, open lands, and rivers and streams for outdoor recreation. Landowners are encouraged to allow access to existing trails, open areas, and rivers and streams for recreational use.

The Town's designated recreation area, located on the Fairgrounds Road, is privately owned. The owners have donated the use of their property to the Town for recreational purposes for many years. Accordingly, the Town has historically exempted the property from the property tax.

The Town Hall can be rented for conferences, social events and instructional classes, etc. Waits River Valley School sports facilities are available for community use with permission. There is a ropes course and ball field at the school that are open to use by Corinth residents. School sponsored recreational programs are available for the students.

Northeast Slopes, Inc. is a non-profit community organization that maintains and operates a recreational area on Route 25 used by skiers and snowboarders. The country's oldest continuously operating rope tow can be found there.

Use of private land for recreational purposes should not cause damage to the land and should not endanger people or livestock.

Recommendations

1. Land owners should be encouraged to allow access to existing trails, open areas, and rivers and streams for recreational use.
2. The Conservation Commission should maintain and pursue the expansion of the Town Forest.

3. The Conservation Commission should work to create a network of non-motorized recreational trails in the town that will be open to the public.

E. Scenic and Historic Features

Corinth is fortunate to have both a scenic landscape and a link with its past through the many historic and architecturally significant buildings. The Town's rural character and scenic landscape have attracted many of its current residents and will continue to attract visitors and future residents.

The State of Vermont's Division for Historical Preservation has identified many sites within the Town as historically or architecturally significant. This inventory serves as a useful resource for townspeople interested in historic preservation efforts. (Contact the Corinth Historical Society for further information. See also the History of Corinth Vermont 1764-1964, available for purchase from the Town Clerk, or for reference at the Blake Memorial Library.)

Corinth has an active historical society that maintains a museum that exhibits town artifacts at the renovated Academy building. It is open on Saturday mornings in the summer. Additionally, the Corliss-Prescott buildings (hay barn and shed) in East Corinth have been renovated and will be similarly maintained by the Historical Society as an Agricultural and Trades Museum. It is open to the public once a year.

Recommendation

1. The Town should consider historically significant sites in land use planning.

F. Mapping

Accurate and up-to-date mapping of the Town is necessary to help manage land use activities and plan development. GIS maps are attached to this Town Plan including the following: natural features; present land use; future land use; transportation; and utility/facility/education. Maps can also be found at www.trorc.org-Corinth.

Tax parcel mapping work has been completed in Corinth and is updated yearly by the Listers.

Recommendation

1. Parcel mapping should continue to be updated yearly by the Listers.

G. Village Designation

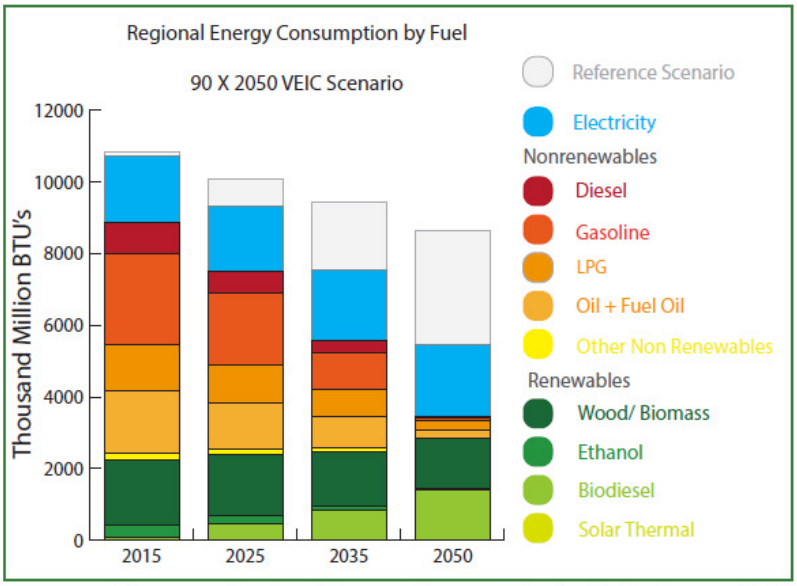
Vermont has a program to support the revitalization of small to medium-sized historic centers areas formally designated as villages. The designation brings financial incentives, training and technical assistance needed to attract new business and vitality. Participation in this program provides several benefits to businesses located within a designated boundary. Being a designated village supports the traditional Vermont development pattern of a compact village center surrounded by rural countryside, as well as the Town Plan’s goals of continuing to support

historical economic and land use patterns of Corinth itself. The areas of Corinth with the potential to be designated villages are East Corinth and Cookeville.

Recommendation

1. The Town of Corinth should apply for a village center designation for East Corinth and Cookeville villages.

X. Energy



Energy beyond just what we get from food is essential. Without outside sources of energy, we would mostly be hungry in the cold and dark. We like the modern benefits of our energy system. However, as enjoyable as the way in which we get and use energy today is, it is not sustainable. Even if there was not the overriding imperative to lessen the release of carbon dioxide into the atmosphere from burning fossil fuels, it is getting harder to extract these resources, despite the current increase in production.

To address the issue of how to create, use, and conserve energy, the State of Vermont has done energy planning, most recently in the 2016 Comprehensive Energy Plan. Our regional planning commission, the Two Rivers-Ottauquechee Regional Commission (TRORC), has also done a regional energy plan and created town-level data from state models. The graph above best shows the main impetus of these plans – to lower overall energy use from all sources, increase electricity from renewables as a portion of our energy, and virtually eliminate non-renewable energy use.

Like the rest of this plan, this chapter looks only several years into the future. Much has changed in the energy world in the last decade and much can be expected to change ahead. This discussion is about a longer term, but the longer term always starts now. We can begin by looking at our current situation, and then use the best information we have as we chart a course toward meeting our energy needs in a way that also meets state and regional targets transitioning us away from fossil fuels, leading us to a bright future that is sustainable. Opportunity exists to trade off a bit of our landscape to electric generation, and possibly battery storage, while conserving the function and look of most of our landscape. This plan maps places where generation facilities could best be built in Corinth, where we definitely do not want them built, and the scale and attributes of such development that is appropriate to our town. Only by doing so can Corinth collectively, and its residents individually, be pro-active.

As we start this chapter, we should make sure that we are all using a common vocabulary. In referring to ‘energy’, this plan is not just talking about *electricity*. Wood, gas, oil, and other

sources are all forms of *energy*. To compare energy use across source types, it is useful to use a common unit of energy. For this plan we will use MMBtu (million British thermal units) and kWh (kilowatt hours). 1MMBtu equals 293 kWh. To put these numbers into everyday terms, a cord of sugar maple firewood has roughly 24 MMBtus[i] of site use energy, while a gallon of gasoline has roughly 0.114 MMBtus[ii] of such energy. An average home uses 5,617 kWhs of electricity a year[iii] (or 19.2 MMBtus). So, if you used 1,000 gallons of gasoline to drive each year, three cords of wood for heat, and an average amount of electricity (for cooking, water heating, cooling, lights and other appliances) you would use 114 MMBtus, 72 MMBtus, and 19.2 MMBtus respectively. This is a good example of why on an individual level, heating and driving dwarf electrical use right now. Overall, total energy use in Corinth is estimated at 96,000 MMBtus (55%) for transportation, 62,000 MMBtus (33.5%) for heating, and 16,669 MMBtus (9.5%) for electricity.[iv]

A. Energy Resources

Energy resources are the sources of energy that we have and that we use. Some local sources of energy are solar radiation that we turn into heat and electricity, firewood from nearby, and any small hydropower or wind turbines we have. Most of our energy comes from elsewhere at this time in the form of fossil fuels.

In this plan we will look primarily at energy used within the town, and the sources of that energy. Corinth's residents do use, or depend on, a variety of energy used outside of town, from jet fuel on our vacations, bunker fuel that powers cargo ships bringing us foreign goods, and all of the energy used to manufacture the myriad products that fill our homes. Those uses of energy are important on a larger scale but are not considered in this plan.

The energy we use locally can be categorized as doing work in one of three areas – heating, transportation, and other household and commercial uses. Most of the energy we use is for heating and transportation, and most of this is supplied by fossil fuels from far away – gasoline, diesel, heating oil, propane, and natural gas. It is not known how much wood is burned for heat, but it is estimated that 42% of the energy we use for heat comes from wood, which would equate to about 2,600 cords of wood. Our next largest use of energy is electricity, which is a form of energy, and though some electricity is used as thermal energy to heat our homes and water, most is used for other household or commercial needs such as lighting, cooking, refrigeration, and washing and drying clothes. Using the latest figures from permitted solar electric systems, on the best day we may be producing 318kw of electricity from solar if all of these systems were operating at maximum (nameplate) capacity. This converts to a probable 247,400 kWh of electric energy annually or 844 MMBtus, a very small percentage of the estimate annual usage of 16,669 MMBtus. See the generation map for locations of power generation in town.

WEC Electrical Power Supply

(before REC sales)

68% Landfill gas (Coventry)

18% Hydropower (various)

11% Wind power (Sheffield)

3% Wood (Ryegate)

The vast majority of our electricity is supplied by the grid and comes from two suppliers. Most of Corinth is served by Washington Electric Coop (WEC) and a small section in the northeastern part of town is served by Green

Mountain Power (GMP). WEC currently sources all of its electricity from renewable sources.[v] GMP sources most of its electricity from hydropower sources, but does include non-renewables as a significant portion of its current power portfolio.[vi] Nuclear electrical generation does not produce greenhouse gas emissions as part of power production but is not considered a renewable resource. New construction of such plants has not proved financially viable and also has large carbon impacts.

We are doing very well on our electricity being generated from renewable sources, and GMP has announced that its electrical supply will be 100% renewable by 2030, but electricity is just a small part of our energy use.

GMP Electrical Power Supply (before REC sales)

35.5% Hydropower (various)

30.4% Market purchases (various sources)

14.7% Nuclear

8% Wind

5.2% Solar

5% Wood

1.2 Other

B. Energy Needs

What one needs depends on what one wants to do. Assuming we want to live in the future the same way we live now, we need energy to roughly do the things for us it is doing now – heat our homes, power vehicles, keep the lights on and the businesses running. But we can do these activities using much *less energy* if we are careful and undertake several efforts.

We also need to largely use energy with zero carbon emissions as fast as possible in order to meet greenhouse gas emissions targets that have a reasonable chance of maintaining an overall climate that does not exceed a global increase of more than 2° Celsius by 2100 (increasingly considered the best case possible). Such efforts will not stop global warming, but they may keep it to a level where the impacts are much worse than we are seeing already but still manageable. Warming above the 2° Celsius is widely considered to be catastrophic. Even the 2° Celsius may be high enough to be disastrous.[vii]

As seen above, we use about 174,669 MMBtus of energy now. However, we can reduce much of our needs by using energy better. And we don't actually need the same sources as we currently have. The state has provided a model of expected energy use for the town (LEAP model) that assumes we will do several things to lessen energy needs and to shift energy sources.

For the parts of town powered by WEC, they are already past the 2050 target level of at least 90% renewable for electricity. It should be noted that burning landfill gas is considered renewable as such gas is already being produced (as long as we are making trash) but it still releases CO2 instead of methane, which is a much more potent short-term greenhouse gas. GMP's power supply is less renewable but is on track to meet this goal.

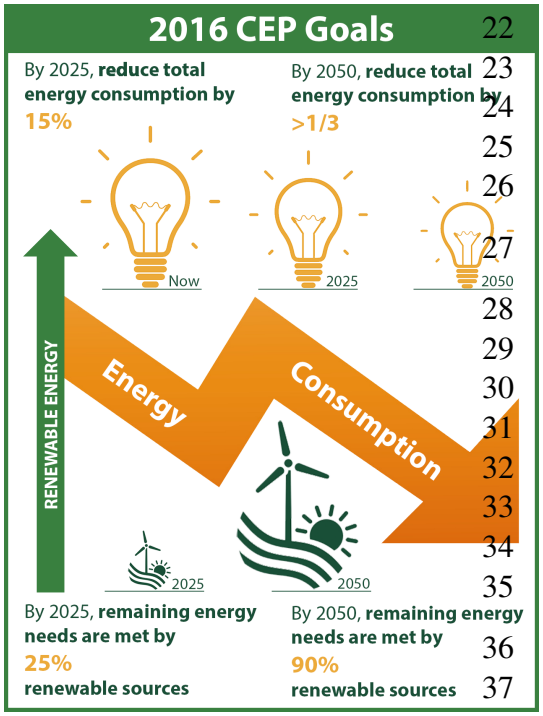
To lessen overall energy (not just electricity) needs and shift to renewables, the biggest change will be powering the transportation and heat areas with electricity. Most of the energy used in a gas-powered car does not actually result in the car moving due to inefficiency. Electric vehicles

(EVs) use energy much more efficiently, moving a car several times the miles of a gasoline-powered for the same amount of energy. (see also the Transportation Chapter for more policies)

The state goal is to have the transportation sector powered by 80% renewable energy by 2050, with 90% of all cars EVs and heavy equipment mainly powered by biodiesel. Heavy equipment is a small part of transportation and consequently this plan just focuses on cars, except for municipal vehicles.

Intermediate (LEAP) goals are to have 9.6% of our vehicles be EVs by 2025, 23.1% by 2035 and 90.3% by 2050. Right now, there are an estimated 989 vehicles in town.[viii] It is not known how many EVS are in town, but if we have the same percentage as the state as a whole (1.2%)[ix] then we likely have about 12 EVs in town now. To reach our goals, per the LEAP model, will require an eightfold increase in the next six years to 97 EVs in 2025. This number will then have to jump sevenfold to 690 in 2035, with further increases beyond.

For heating needs, we will have to move away from fossil fuel furnaces and boilers toward more efficient and renewable sources of heat, such as heat pumps and pellet stoves. The LEAP model shows that one way to achieve our goals is to shift to electric heat pumps, with nearly half of our homes having these installed by 2025. Heat pumps don't currently operate at the coldest temperatures we see in winter, and so at least a second source of heat is needed. They also don't operate in power outages. The state plan and regional model do not assume there is much of an increased reliance on wood (in terms of total tons) as a source of energy for residential heat due to greater use being offset by much better insulated homes and more efficient stoves and furnaces. There is roughly an expected increase of 150% of the use of wood in commercial buildings, since they have a relatively low use of wood right now. Wood is a plentiful local resource that could be better used and already makes up a good portion of our heating energy.



All models assume we are doing a good job at tightening up our homes and businesses to need less heat in the first place, so much so that a third of our buildings have been retrofitted by 2025, another third by 2035, and the remainder by 2050. Such improvements to buildings is one of the ways in which total energy use is expected to drop, and indeed must drop.

Both GMP and WEC could meet the any increase in electrical needs in town with solar power installations, though meeting energy demands when solar is not being produced (nighttime and much of winter) requires balancing with other resources or adding a lot of storage. Wind power has potential in the western part of town, but it is unclear at

this time whether wind would be preferred to solar or other resources from an aesthetic perspective by townspeople. Although as noted, WEC is 100% renewable already and GMP is mostly renewable, the regional goal for Corinth to produce locally in order to meet state targets is 7,600,000-9,300,000 kWh of new (post 2015) local power a year. Given the current state of technology and public acceptance, this is most likely to be met in the near term through solar photovoltaic facilities. To meet that amount would require between 6 to 8 MW of "nameplate" solar generating capacity (the maximum amount of power a facility is rated to generate). This would need somewhere between 20 and 40 acres of solar fields, a very small percentage of the land in town, on the order of 1/10th of 1% or less (or even less if rooftops are maximized). The town also has opportunities to explore deployment of generation technologies other than solar and wind, for example the addition of methane digesters at our larger dairy farms

C. Energy Scarcity

There are no scarcities of energy foreseen in the 8-year life of this plan. Our electrical providers have plenty of power supply resources either under contract or available to purchase at this time. Total energy demand is likely to shrink modestly in the near term as population is not expected to grow much and efficiency is constantly improving. Additional solar installations are expected, but WEC advises that, in 2019, it finds it hard to sell additional power because power sales growth has been flat, and is expected to remain mostly so through 2032 due to very efficient lighting and newer appliances. This will likely change in later years as heating and travel come to be electric powered. WEC thinks that will happen more slowly than the LEAP model forecasts.

What is in short supply now are systems (mainly cars and furnaces) that are powered by means other than fossil fuels, and the means to bring utility scale, locally generated electric power to market in a conventional way, by poles and wires. There is very little 3-phase distribution in Corinth, which is today's preferred way to send local power from solar or wind projects over 150 Kw onto an electric grid. Energy mapping shows limited 3-phase lines on or near Route 25, west of East Corinth village. Existing single-phase distribution can carry power from small projects and might be upgraded to 3-phase along roads and other established rights-of-way. Other parts of this plan discourage new power rights of way through high priority forest blocks, of which Corinth has many.

As seen above, renewable electricity is not scarce, but that does not mean that it is always cheap. Washington Electric Cooperative and GMP are both seeking to handle power demand with current and emerging technologies "pushing" it into storage or using power when cheaper, and curtailing power use when expensive or "pulling" power from battery storage. Such systems can be remotely managed to control when power is used (for example to heat water) and to store or draw from advanced battery storage, including the storage abilities of EVs. Some storage could also be built by the utilities themselves in small buildings. Such a system would be controlled on a minute-by-minute basis to ensure the grid remains stable.

Fossil fuels have varied widely in price over the last several years, and the overall trend is for dwindling supplies, and though there should be ample amounts for the life of this plan, we must not discourage a shift away from fossil fuels. Wood is a plentiful local source of heating fuel,

and many more cords could be sustainable harvested than are being cut now. Plenty of sun and wind are available if we decide to use them.

D. Energy Costs

The cost of energy is not an issue for most families, but is still an issue for many, and will be less of an issue for all if targets for better insulating buildings, switching to EVs, and using heat pumps and advanced wood heat systems are met. An EV has much less maintenance costs, as they have no engine or exhaust system, and the cost of electricity comes out to the equivalent of about $1.50 per gallon (in today's value), instead of $2.40 a gallon for gas. The daunting cost barriers are not the daily or monthly energy costs, but implementing these changes to the buildings and vehicles that use our energy. For example, a new gas powered Nissan Sentra costs $18,000, a Nissan Leaf EV $30,000. WEC in the winter of 2019 was offering a $5,000 rebate, bringing the price to only $7,000 apart, and a hefty federal tax credit can further reduces the cost. Over the life of the Leaf (if driven 200,000 miles), the Leaf will save (assuming an average savings of $0.90 per gallon) $6,000 compared to the Sentra on gas alone. With additional savings on engine maintenance the Leaf turns out to be a better deal than the Sentra over time, but it may be hard for credit stressed families to get financing or come up with a down payment. This same capital obstacle arises with home energy retrofits or advanced wood heat systems. Over time, these investments pay off, but they require getting financing or having considerable savings on hand.

As for our main source of electricity, WEC advises that the cheapest new power available to it comes from its landfill gas generating plant in Coventry and costs 5.7 cents/ kWh before transmission and other costs. The cost of power from solar panels continues to fall, however. The cost of power supplied to grids in some of the world's sunnier places has fallen below 3 cents per kWh.[x]). This suggests that power generated on site and consumed on site, "behind the meter," is quite competitive with grid supplied power. Costs of battery storage also continue to fall. It is likely that as total energy use shifts over primarily to electricity the timing of when power is used will affect its cost, and that systems to try to use power when most plentiful and cheap will help constrain costs.

E. Energy Problems

Our energy problem has not historically been due to supply, it has been relatively abundant and cheap. There are pollution problems from particulates, oil spills, mine waste, etc. Some consider our dwindling fossil fuel reserves a problem (as they certainly will be at some point), but the main way in which we have an energy problem is that environmental costs that we have long assumed to be zero or simply ignored are piling up, primarily in the form of greenhouse gases and the heat they are trapping on the Earth. It is now abundantly clear that we have an extremely short window to rectify this issue by moving to renewable sources of energy across all forms of energy use.

F. Energy Efficiency

There are a number of ways to encourage meeting Corinth's energy needs by lowering demand.

<u>Decreasing Energy Use by Implementing Energy Efficiency</u>

Residents, businesses, farms, and town buildings can apply the principles of energy efficiency to use less energy to cost-effectively provide the same level and quality of service. These principles, for most, come down to using newer, better electric appliances and devices, load management, building improvements, smaller, newer cars and trucks, and various means to lower the number of miles driven per person. The great benefit of such end user measures is that they cancel not only direct costs but also many associated costs of entire supply chains.

Building Energy

New residential construction in Corinth is subject to the Vermont Residential Building Energy Standards (RBES) under 30 VSA section 51, which requires that new, contractor-built homes (and larger additions) be certified as meeting the RBES standards. State law also requires that such certifications be placed in the town's land records, but there is little formal enforcement except sometimes when properties are sold. Commercial development is subject to the comparable Vermont Commercial Building Energy Standards (CBES). They apply to all commercial buildings and residential buildings four stories or greater. DPS is developing a commercial building stretch code.

Most of the state law around such certificates assumes a town issues building permits, which does not happen in Corinth except in flood zones. Consequently, there is not a very good mechanism for making sure these certifications are issued and filed.

Energy Committee

Corinth does not have an energy committee, but it has had an energy coordinator since 2013. There is no position description and no budget for the position. Corinth's energy coordinator acts as an advisor to the Selectboard and Planning Commission on all things energy related. It is this board/person that would take an active role in auditing town buildings for energy use or creating an energy strategy for town, much of which could help implement actions proposed in this plan. An active energy committee/coordinator can help the town and residents save money while saving energy by becoming involved in municipal energy efficiency and outreach to homeowners on energy efficiency and renewable energy generation.

Auditing Municipally Owned Buildings

Many towns in Vermont own buildings that are old and inefficient in many respects. For instance, older buildings often have insufficient insulation, wasteful heating and cooling systems, and out-of-date lighting. These kinds of infrastructure problems result in higher energy use with the resulting cost passed onto taxpayers. The Corinth Town Hall was audited in May, 2009, and a partial program of mechanical, air sealing, and moisture control improvements has been done since. However, the audit's recommendations have not been fully implemented. The Blake Library has seen installation of cold climate heat pumps, which carry heating cooling and humidity control loads with relatively benign electricity from GMP. The Town Garage had extensive upgrades in 2011 under which it was insulated and air sealed to residential specifications, and a waste oil boiler was installed. Its heat load is quite low, and the Road Foreman reports that the building is nearly freeze proof with bay doors closed. There are no

other town buildings with heating and cooling loads at this time, but a proposed fire station will require attention to meet CBES and employ renewable heating sources, along with a potential solar electric system.

Property Assessed Clean Energy (PACE)

Vermont has legislation that authorizes local governments to create districts (Clean Energy Assessment Districts) to provide financing to property owners for renewable energy and energy-efficiency projects such as solar water and space heating, photovoltaic (PV), biomass energy heating systems, small wind systems, and micro-hydroelectric systems. Property-Assessed Clean Energy (PACE) financing effectively allows property owners to borrow money to pay for energy improvements. The amount borrowed is typically repaid via a special assessment on the property over a period of up to 20 years.

Voter approval is required to establish a financing district and Corinth has voted to do so, but has not moved ahead with implementation due to concerns about its feasibility and whether it might put the town in the "foreclosure" business if repayments were not made. Many communities have voiced concerns over what could be potentially difficult and expensive administration of the PACE program, Corinth among them. Recognizing that small towns such as Corinth do not have the funds nor the staff to administer a complicated program like PACE, there are efforts to create a state-level clearinghouse for municipal PACE programs. If implemented it is likely that Efficiency Vermont might become responsible for administration on behalf of communities that have voted to create a PACE district.

G. Renewable Energy

The State of Vermont has adopted a statutory energy policy, codified at 30 V.S.A. § 202a, that encourages the "efficient use of energy resources" and the "wise use of renewable resources and environmentally sound energy supply." It also had adopted various statutory goals and requirements that promote increased use of renewable energy to meet the energy needs of Vermonters. These include:

- By January 1, 2017, 55 percent of the State's electricity consumption to be from renewable sources, rising to 75 percent by 2032. Ten percent of sales must be met from in-state renewables by 2032; and the equivalent of 12% of sales, in fossil-fuel reductions for customers, also by 2032.

- Reducing total fossil fuel consumption across all buildings by one-half percent each year, leading to a total reduction of six percent annually by 2017 and 10 percent annually by 2025. 10 V.S.A. § 581.

- By 2025, at least 25 percent of all energy consumed in Vermont to be from renewable sources. 10 V.S.A. § 580.

- By 2028, reducing greenhouse gas emissions by 50 percent from a 1990 baseline. 10 V.S.A. § 578.

In the 2011 Comprehensive Energy Plan (CEP), the DPS set out an ambitious goal that, by 2050, 90 percent of all energy consumed in the State be from renewable resources. The 2016 CEP kept and further fleshed out that goal. The CEP sets an energy policy vision for Vermont and issuing the CEP every six years is a statutorily required duty of the DPS. The information attached in the Appendix lays out information on our energy use and goals to meet regional efforts and those of the state.

Vermont law defines renewable energy generally as energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate. It allows methane or other flammable gases produced by landfills or anaerobic digestion of agricultural or food wastes to be considered renewable, but nuclear, coal, oil, propane, and natural gas may not be considered renewable.

The commercial generation of energy through renewable resources is controlled at the state level by the Public Utility Commission (PUC). Energy generation facilities must apply to PUC for a "Certificate of Public Good" (CPG). The Certificate of Public Good supplants local land use regulations, though local land use considerations are incorporated in the criteria reviewed by the PUC. Corinth has the ability to be involved with the permitting of a commercial energy generating facility through its up-front energy planning work, during the pre-filing notice period provided prior to the start of the CPG process, and in the CPG process itself. The recommendations of the municipality are given due consideration in that process, unless the municipality has an approved energy plan, in which chase they are given substantial deference.

H. Goals, Policies and Recommendations

Goals

1. A continued pattern of settlement and land use that uses energy efficiently.
2. Installation and use of energy efficiency measures that are cost-effective over their life and to encourage the use of renewable energy to meet the remaining demand.
3. Responsible development of local, renewable energy sources and reduced dependence on "outside" energy sources imported from overseas or other, distant, domestic regions.

Policies

1. The town encourages the use of energy sources that are the most energy efficient and cost-effective and the least environmentally damaging sources of energy. Those factors shall be determined on a life cycle basis, including all costs related to extraction, processing, refinement, transportation, transmission, reliability, and generation and disposition of waste and pollutants.
2. Major public investments, such as public recreational areas, and municipal facilities, as well as major commercial or residential developments need to be situated within or in close proximity to the village, hamlets, or designated growth districts, if any.
3. Compliance with the RBES and CBES and any RBES and CBES "stretch" codes adopted by the Department of Public Service is encouraged.
4. The PACE program should be revisited in Corinth to see if it is a practical way to leverage installation of cost-effective residential energy efficiency measures.
5. Residents and owners of existing buildings, including the town, are encouraged to obtain an energy audit of the buildings with a focus on identifying and making cost-effective improvements in energy efficiency.
6. More carpooling, increased use of public transportation, telecommuting, and home businesses that do not require commuting are all encouraged.

7. The use of renewable energy systems for self-generation in both off-grid and net metering scenarios is encouraged.
8. New construction is encouraged to be solar and EV ready, sited for solar gain, and thermally efficient.
9. Generation, transmission, and distribution facilities or service areas must complement the recommended land use patterns set forth in this Plan.
10. Power generation projects in town, the purpose of which is primarily to sell power onto the electrical grid, shall be sited in town only provided each of the following is true:
    a. The generation facilities involved in the project use renewable fuels, and the renewable energy credits from the facilities are applied toward the Renewable Energy Standard.
    b. The project meets other policies of this plan
11. New energy generation, transmission, and distribution projects shall be excluded from the following areas because of their distinctive value:
    a. Floodways shown on FEMA Flood Insurance Rate Maps (except as required for hydroelectric facilities),
    b. River Corridors (fluvial erosion hazard areas) shown on the ANR river corridor maps (except as required for hydroelectric facilities) and Special flood hazard areas identified by National Flood Insurance Program maps (except as required for hydroelectric facilities)
    c. Wetlands as indicated on Vermont State Wetlands Inventory maps or identified through site analysis,
    d. Rare, threatened or endangered species habitat or communities,
    e. For projects over 15kW, highest priority or priority forest blocks or habitat connectors (Vermont Conservation Design dataset), except as when measures to mitigate habitat loss or wildlife movement are part of a project, (see also 12.g. below) and
    f. Prime agricultural soils, except as project build outs allow co-production by cropping or grazing.
12. All new generation, transmission, and distribution projects shall avoid or, if no other reasonable alternative exists, minimize and mitigate adverse impacts to the following:
    a. Historic districts, landmarks, sites and structures listed, or eligible for listing, on state or national registers.
    b. Public parks and recreation areas, including state and municipal parks, forests and trail networks.
    c. Scenic roads, vistas, and view sheds (when such have been determined by the town).
    d. **Public and private drinking water supplies, including mapped source protection areas.**
    e. **Primary agricultural soils mapped by the U.S. Natural Resources Conservation Service.**
    f. Forest land. For the purpose of this policy, intrusion by clearing, roads or buildings more than 300 feet into highest priority forests blocks constitutes an adverse impact.
    g. Necessary wildlife habitat, natural communities, and wildlife migration and travel corridors. For the purpose of this policy, fragmentation of these resources

constitutes an adverse impact. Project designers must gather information and analyze the effects of the project on habitat and natural communities in the project area, and wildlife residing in the area and its migratory routes.

13. Ground mounted generation projects of 15kW or less shall be set back from property lines at least 20 feet and should coordinate with neighboring properties to minimize visual impact.
14. Ground mounted generation projects shall use screening to reduce the visual impacts of energy generation, transmission, and distribution projects as seen from public roads and neighboring properties in accordance with the following:
    a. **Without interfering with the project's function, make the maximum use possible of preexisting vegetation, structures, and topographical features that screen the project on site.**
    b. Install screening such as vegetation or topographic features to distract the viewer from the project and break up the view of the project.
15. Distribution line reconstructions and extensions subject to Act 250 jurisdiction must demonstrate that reasonable measures have been taken to minimize the visual impact and avoid and, if not avoidable, minimize the natural resource impact of the reconstructed line or line extension.
16. This plan shall be used to provide input on behalf of the citizens of Corinth in any Public Utility Commission Certificate of Public Good application relative to the generation of energy.
17. Any commercial energy generation facility proposed in Corinth should be developed so as to avoid negative impacts on the rural character of the area in which they are proposed to be located, and shall be 5 acres or less in order to be of a scale that is commensurate with our built environment.

Recommendations

1. The town should increase public awareness and use of energy efficiency and conservation practices, financial incentives, and generation and storage methods through educational efforts.
2. The town should consider renewable energy sources when building or renovating public facilities.
3. The town should consider reinstituting a Town Energy Committee to investigate ways to reduce the cost of municipal energy use and the Town's carbon footprint.
4. The Planning Commission should identify areas in town that are appropriate as "preferred sites" for energy production.
5. Corinth should include energy efficiency and use of renewable energy when planning for capital investments.
6. Municipal officials should participate in the Public Utilities Commission review of new and expanded generation and transmission facilities in Corinth to ensure that local energy, resource conservation and development objectives are identified and considered in future utility development.
7. The town should consider ways to ensure that RBES and CBES standards are followed, and that the required certificates are issued and filed in the land records.

XI. Natural Resources

The forested, farmed and open lands of Corinth are essential elements of the Town's rural heritage. Moreover, the quality and quantity of these natural resources create the character of the town and are highly valued for their own sake. The 2005 and 2018 surveys showed strong support for these two sentiments. The natural beauty of the landscape and the presence of many wildlife species and plant communities are important features to many residents.

Corinth’s natural resources are the primary attraction to tourists, retirees and second home owners who generate business and revenues that are important to the Town. These natural resources are of vital importance to a major sector of the region's economy.

Natural resources provide a major source of income for many of Corinth's residents. Jobs based upon natural resources are part of the region's cultural heritage. Protection of the vigor and variety of Corinth's natural resources is considered vital to the security of its cultural heritage and economic future.

At one time, the primary land use in the town was agriculture and agriculture related industry. People provided for themselves through full use of the land, producing dairy products, timber, firewood, and maple syrup. Today the primary land use is residential, but agriculture and forestry remain an active presence in the town.

Residential development has spread from a concentration in the town's seven hamlets to a wider distribution of residences, including seasonal residences.

The Town has to be prepared for increased pressures in the form of residential development by individuals and commercial developers. Large parcels of open land, particularly former farmland, will be seen for their potential by developers.

The percentage of forest land in the Town has grown to an estimated 80%. A considerable amount of commercial logging is done on this acreage. In addition, many landowners manage their own woodlot for firewood production for personal use.

The land's physical characteristics should be considered when determining its capability to support a proposed use. Some of the most important physical characteristics are as follows:

A. Water Resources

Corinth's inhabitants and visitors rely on wells and springs for their primary water supply. Protection of groundwater requires protection of surface waters, watersheds and recharge areas in a coordinated, ecologically-sound fashion. Recharge is the process by which ground water is replenished. A recharge area is where water from precipitation is transmitted downward to an aquifer.

Withdrawal of ground water or surface water by any party should not interfere with the reasonable withdrawal by other users. The waters of Corinth are for use by all its people, whether

for drinking, swimming, or fishing and with no single user having the right to diminish the quality or quantity for others.

Our village centers are seeing increasing water quality problems. Well pollution is on the upswing and the failure of older septic systems in East Corinth bordering the Tabor Branch of the Waits River is a worsening problem. In recent years, underground fuel storage tanks have been identified as major threats to water quality. Studies conducted by the U.S. Environmental Protection Agency (EPA) have shown that the average fuel tank is likely to leak within 15 years from installation. To lessen the risk of contamination, the Vermont Agency of Natural Resources has promulgated rules to monitor underground tanks with a capacity of 1,100 gallons or more. Tanks in excess of this capacity must be registered with the town. In addition, replacement of underground tanks are subject to rigid standards.

The health of Corinth's surface waters is essential to maintaining quality groundwater, as well as an important element for outdoor recreation and natural beauty. There are many state and federal programs that help fund stream-management projects, such as the Conservation Reserve Enhancement Program (CREP). CREP provides funds to farmers for preserving lands once used for agriculture, with the goal of introducing and encouraging plant life to prevent erosion and provide habitat. Stream instability can lead to excessive flooding and other types of damage due to increased flow velocity.

Riparian buffers are strips of bankside vegetation along waterways that provide a transition zone between water and land use. Construction or development along shorelines, or removal or disruption of vegetation within these areas can create increased water pollution, higher water temperatures, destabilization of banks, higher soil erosion rates and loss of fish or wildlife habitats. Damages from extreme weather events have indicated a need for stream buffers, particularly in areas outside of the Flood Hazard Area.

Goals

1. Maintain or enhance the quality and quantity of groundwater resources.
2. Prevent the depletion of groundwater resources by new development to protect the public right to adequate quality and quantity of the resource.
3. Consider surface water and groundwater impacts and effects related to proposed or existing uses of land.

Policies

1. Water withdrawal from underground sources should not adversely affect groundwater users.
2. Aquifers and surface waters should not be significantly depleted and water should be properly allocated between actual and potential uses.
3. Land use activities which threaten groundwater quality should be carefully reviewed and monitored to prevent loss of groundwater quality.

4. Maintenance or enhancement of water resources for recreation, fisheries, necessary wildlife habitats and quality aesthetics are high priorities. Water resource policy and practices should protect these uses.
5. Support the remediation of the Pike Hill Mine Superfund site.
6. The location, sizing and density of on-site sewage disposal facilities should be determined by the capacity of the soil, the natural limitations of the site, and underlying substrata conditions, such as depth to bedrock and seasonal high water tables.
7. Preservation of the natural state of streams should be encourage by:
    i. Protection of adjacent wetlands and natural areas;
    ii. Protection of natural scenic qualities; and
    iii. Maintenance of existing stream bank and buffer vegetation including trees, together with wildlife habitat.
8. Municipal buildings and highways shall be situated and maintained as to avoid potential contamination of the water supply.
9. Support the goals of the recently implemented Municipal Roads General Permit (MRGP).
10. Water quality should be maintained and improved according to the policies and actions developed in the Waits River basin Plan (Basin 14).
11. Sound agricultural management practices are encouraged to increase water quality.

Recommendations

1. Develop a community water quality monitoring program for the Waits River Watershed.
2. Investigate maintaining and improving public access to the river for recreational use. Support efforts to map aquifer recharge areas.
3. Identify current underground fuel storage tanks in Corinth and seek possible removal or remediation if it is a risk to water quality.
4. Consider creating a public wastewater and potable water system in East Corinth.
5. The Selectboard should review options to protect the Town from potential hazards on the Pike Hill Mine Superfund site.

B. Wildlife and Forest Resources

Forests

Healthy forests provide a significant number of benefits to our communities, including environmental benefits (such as clean water supply, clean air, mitigation against climate change, wildlife habitat, and biological diversity), and economic benefits (such as tourism, recreation, and the wood products industry).

Trends in forest health have changed over the past decade. In the 2013 US Forest Service's National Forest Inventory and Analysis Program report, figures indicated that since 2007 there has been a continuing, though gradual, loss of about 75,000 acres of forestland in Vermont. Developed land in Vermont increased significantly between 1980 and 2010 (67%). The pattern of development growth has led to significant forest fragmentation throughout the state.

Forest Fragmentation

Forest fragmentation is the breaking of large, contiguous forested areas into smaller pieces of forest. For natural communities and wildlife habitat, the continued dividing of land with naturally occurring vegetation and ecological processes into smaller and smaller areas creates barriers that limit species' movement and interrupt ecological processes. Since the 1980s, Vermont has experienced "parcelization," which is the result of larger tracts of land being divided into smaller ownerships or land holdings. The more individuals that own smaller parcels of forest, the more likely that the land will ultimately be developed with infrastructure (such as roads and utilities) and buildings.

Forest fragmentation affects water quality and quantity, fish and wildlife populations, and the biological health and diversity of the forest itself. When many small habitat losses occur over time, the combined effect may be as dramatic as one large loss. Forest fragmentation can disrupt animal travel corridors, increase flooding, promote the invasion of exotic vegetation, expose forest interiors, and create conflicts between people and wildlife. Habitat loss reduces the number of many wildlife species and totally eliminates others. Forests are also an important resource in combating climate change as they act as a carbon sequestration tool.

To help mitigate the effects of human population growth, land development and climate change, many scientists and conservationists urge governments to establish protected corridors, which connect patches of important wildlife habitat. These corridors, if planned correctly, allow wildlife to move between habitats and allow individual animals to move between groups, helping to restore or maintain genetic diversity that is essential both to the long-term viability of populations and to the restoration of functional ecosystems. Important corridors have been mapped in Corinth, in relation to work done by the Linking Lands Alliance.

Wildlife is one of the popular attractions to the area and provides some citizens of Corinth with direct and indirect livelihoods from sports, tourism or direct harvest of wildlife. Additionally, the interconnection of wildlife with their environment has an impact on the natural environment.

Wildlife management requires management of human activities around animals as much as management of animals around human activities. Managing for specific species is not as desirable as managing for the entire ecosystem supporting the species.

Corinth's fields, forests, wetlands and streams are home to a diverse and robust wildlife population. Nearly all open space provides habitat for game and non-game species. There are, however, some areas in Corinth which provide critical habitat that should remain intact. These areas include wetlands, deer wintering areas, bear mast stands, and edge zones (the transition zone between two cover types, such as field and forest). Development or logging in or adjacent to these areas should consider wildlife implications during the planning process.

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

Goals

1. Maintain the natural diversity and population of wildlife, including natural predators in proper balance by reducing the fragmentation of forestlands and habitat connectors.
2. Restore stable populations of endangered or threatened wildlife in appropriate habitat areas.
3. Maintain or improve the natural diversity, population, and migratory routes of fish.
4. Provide the community with access to forestland for recreational use including sport and subsistence hunting and fishing.

Policies

1 Encourage long-term protection of high priority forest habitats.

2 Deer wintering areas and endangered species sites should be protected from developments and other uses that adversely impact the resources.

3 Development shall be designed so as to preserve continuous areas of wildlife habitat.

4 Fragmentation of wildlife habitat is discouraged. Effort shall be made to maintain connecting links between such areas.

5 Preference shall be given to development that utilizes existing roads and field lines.

6 Development including the construction of utilities and roads in high priority forest blocks and habitat connectors is incompatible with this Plan.

7 Encourage sound forest management practices.

8 Public investments should be planned to minimize development pressure on agricultural and forest lands.

Recommendations

1 Consider enacting a suitable setback from all state-defined wetlands, and state-defined necessary wildlife habitat for endangered species.

2 Work with the Conservation Commission to encourage owners of rare and irreplaceable species habitat to contact the state for assistance in developing a management plan for these sites.

C. Soil Types and Mineral Resources

The depth of soil over bedrock and its degree of wetness are two of the most important characteristics affecting development of a land parcel.

Shallow soils are those which have a depth of less than 20 inches over bedrock and are susceptible to erosion. Soils which are called wet soils are wet nearly all year or have a seasonal highwater table within four inches of the surface. Wet soils are not to be confused with wetlands, which are discussed below. Wet soils have severe limitations for development, partly because they are not suitable for septic systems. Please see Map 5 (attached) for an indication of areas that are suitable for septic systems.

Prime agricultural soils are potentially valuable resources that are essential for most kinds of farming. The town has many areas of rich soils that support valuable stands of timber, as shown on Map 5.

The use and management of Corinth's earth and mineral resources are matters of public good. Maintenance of sustainable quantities of gravel, sand, crushed rock, and other materials are essential for the development industry as well as state and local highways. Currently there are no

operating gravel pits in Corinth. It is in the interest of the Corinth's business owners and residents to enable utilization of these resources when such uses do not significantly inhibit or conflict with the other goals or objectives of this plan.

In the past, Corinth was a copper mining town. The last copper was mined in 1919 and has left Corinth with a Superfund site, a federally designated place under control of the Environmental Protection Agency (EPA) to remediate the toxins that still flow out to this day.

Goals

1. Allow the extraction and processing of sand and gravel resources where such activities are appropriately managed and the public interest is clearly benefited.

Policies

1. Mining operations, excluding sand and gravel, are not compatible with the character of Corinth and the policies of this Town Plan.
2. Existing and proposed sand and gravel extraction and processing facilities should be planned, constructed, and managed:
   - So as not to adversely impact existing or planned uses within the vicinity of the project site;
   - To not significantly interfere with the function and safety of existing road systems serving the project site;
   - To prevent any adverse effects on water quality, fish and wildlife habitats, and adjacent land uses; and
   - To reclaim and re-vegetate sites after their useful life.

D. Air Quality

Air quality is an important feature in our overall quality of life. Clean air contributes to our health and to clear skies and extended views. Corinth is heavily forested with limited development, but air quality can be affected by vehicle emissions, heating sources, backyard burning, commercial activities, and dust from construction projects.

Goals

1. Maintain healthy air quality.
2. Support state and federal programs directed at the reduction of air pollution and encourage enforcement of air-quality standards to prevent deterioration of the region's air quality.

Policies

1. Adopt policies consistent with state and federal policies regarding carbon neutrality and carbon drawdown.
2. Encourage all efforts that assist with carbon drawdown.

E. Wetlands

Wetlands are identified and designated by the federal and state governments and use is severely restricted. Wetlands are important to water quality, wildlife, rare and endangered plants, flood storage, and natural filtering. There are 783 acres in town that are designated wetlands by the State of Vermont. There are many other areas in town that are considered 'wet' areas but do not have a state classification.

Wetlands are ecologically fragile areas and how these lands are managed have a direct bearing on the quality and quantity of water resources.

The Vermont Agency of Natural Resources estimates that wetlands comprise less than 5 percent of the surface area of Vermont. In addition to being Vermont's most productive ecosystem, wetlands serve a wide variety of functions beneficial to the health, safety and welfare of the general public, including the following:

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

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

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

For Corinth, as well as the State, the most significant wetlands have been mapped and are included as part of the National Wetlands Inventory (NWI) prepared by the U.S. Fish and Wildlife Service. These wetlands have been delineated on U.S. Geological Survey (USGS) topographic maps, and by reference are made a part of this Plan. Other smaller wetlands often do not show on these maps, so a field determination by a qualified biologist is needed for most activities that involve state permits. It is important to note that future investigations of wetlands within Corinth may result in additional areas being determined as significant or important for conservation.

Goal

1. Identify and encourage land use development practices that avoid or mitigate adverse impacts on Class I and II wetlands.

Policies

1. Structural development or intensive land uses are discouraged from locating in Class I and II wetlands or within buffer zones to Class I and II wetlands.
2. Developments adjacent to wetlands should be planned so as not to result in disturbance to wetland areas or their function. Mitigating measures to protect the function of a wetland are acceptable.

F. Invasive Species

Invasive non-native species are a growing problem throughout Vermont. Invasive plants are defined as those exotic species that typically spread from disturbed areas into natural communities, but many of these species are also impacting yards, agricultural fields, and working forests. The spread of invasives is negatively impacting the rural character of the town, reducing native plant populations and consequently affecting wildlife populations, creating economic impacts by dominating other plants in agricultural fields and inhibiting reproduction of trees in sugarbush areas and other forests, destroying the scenic quality of roadsides, reducing property values, and potentially posing health risks. At the present time, the greatest threats are posed by wild chervil (fields, roadsides and recently logged areas), Japanese knotweed (streams, rivers, roadsides, and yards), the Emerald Ash Borer (ash trees) and Japanese barberry (forests), but there are increasing threats throughout the region from garlic mustard, giant hogweed, and other invasives.

Some of these invasives, especially wild chervil and knotweed, have proliferated to such an extent that eradication from many sites is impossible, but there are still portions of the town that have not been infested. Diligence is necessary from town residents and employees to prevent the further spread of these species, and the introduction of new species that could pose more serious threats. For example, giant hogweed has been identified from several towns in Central Vermont. This Federally listed noxious weed produces a sap that, in combination with moisture and sunlight, can cause severe skin and eye irritation, painful blistering, permanent scarring and blindness. The Emerald Ash Borer (EAB) is a relatively new invasive species in Vermont, although it has been in the mid-west for several decades. At the time of this writing, EAB has been identified in the North West Corner of Corinth as a risk area.

One of the more common ways in which invasive species spread to new locations is when seeds or root segments are transported on vehicles, especially construction and logging machinery, mowers, etc. Best management practices have been identified for reducing the accidental spread of invasives including avoiding using fill from invaded sites, washing of equipment before leaving infected sites, stabilization of disturbed sites, timing of mowing, etc.

Goal

1. Reduce the impact of invasive species on agriculture and native ecosystems.

Policy

1. New occurrences of invasive species should be controlled to prevent further infestation.

Recommendations

1. Town employees and contractors should become familiar with the best management practices to prevent the accidental spread of invasives.
2. The town should develop an action plan to deal with the Emerald Ash Borer.
3. The town should consider developing criteria for new development projects that reduces the potential for new invasive plant infestations. (e.g., source of imported materials such as fill, hay bales, ornamental plantings, etc.)
4. The Town should time roadside mowing to minimize the spread of invasive species.
5. The Town should conduct an inventory of invasive species that can be used as baseline data to assess the future spread.

G. Slopes

There are physical limitations inherent in developing land on steep slopes. Steep slopes may affect access, utilities, sewage disposal and soil erosion. Steep slopes are considered to be those with a grade greater than 25%. Slopes with a grade of less than 25% but more than 12% are considered to be at risk. Generally speaking, as the slope increases, the suitability for development decreases.

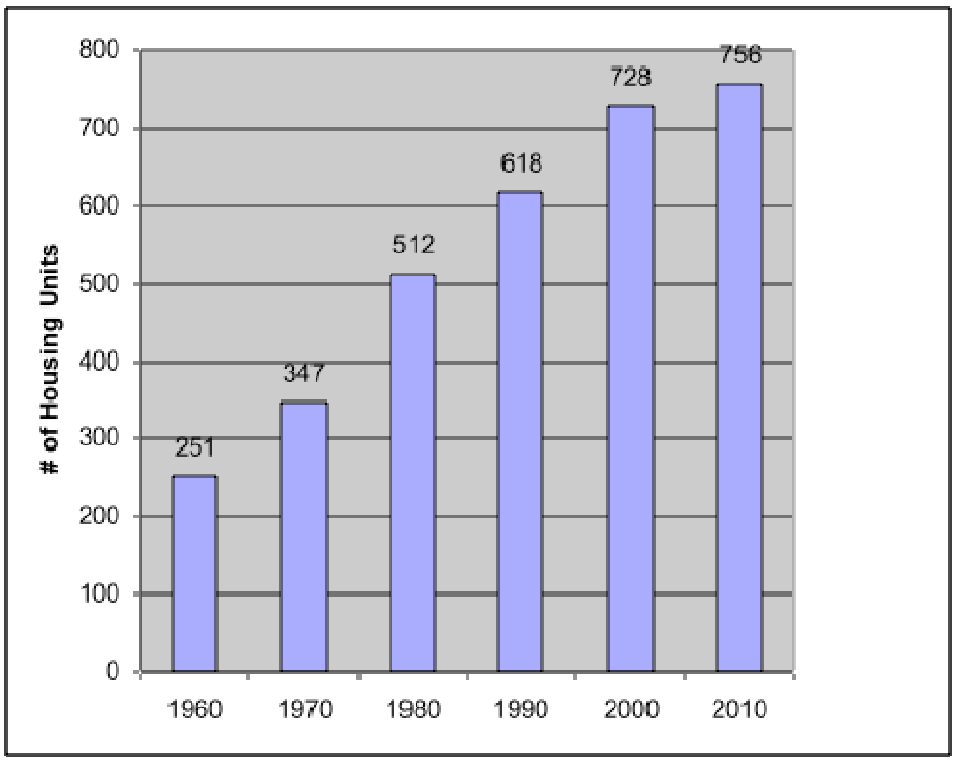
Steep areas, especially cliffs, are important to several wildlife species (bobcat and snowshoe hare) and sometimes home to unusual plants.

XII. Housing

A. Current Housing

The majority of the townspeople (83%) live in single family units of various types of construction. According to the 2012-2017 American Community Survey, there were 790 housing units in Corinth, including permanent residences. This breaks down to year round residences (that is; houses, multi-family houses, and mobile homes) and vacation homes (mobile homes, camps and summer residences) or 77% full time residences and 23% vacation homes. In 2006 this split was 70% full time and 30% vacation homes. There are only two multifamily dwellings and about 10% of all residential units are rental properties. The figure below illustrates how housing capacity in Town has increased over the last 35 years.

Figure 8 - Housing Growth in Corinth



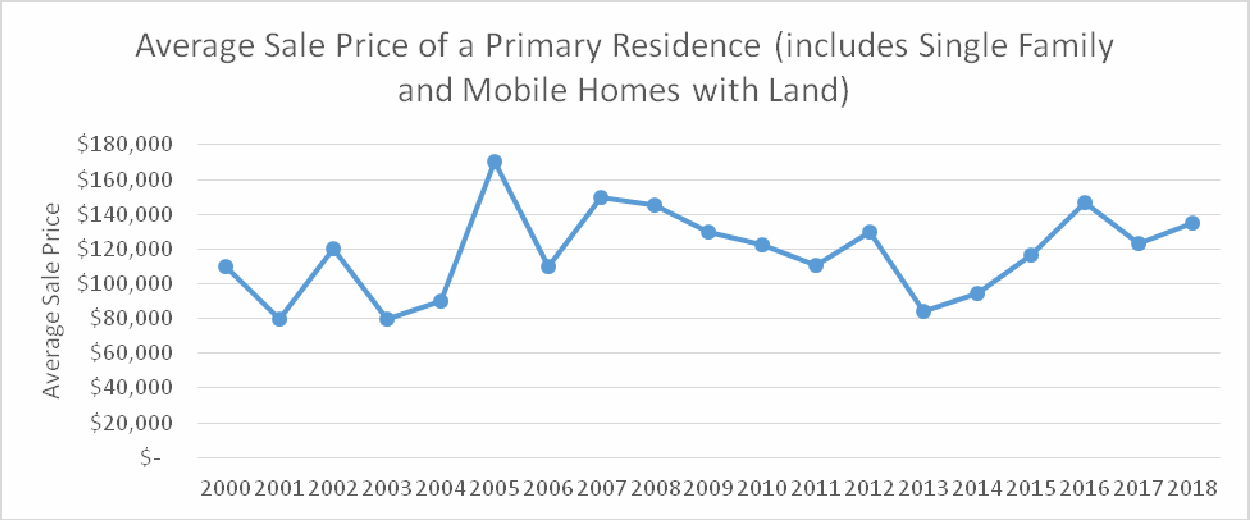
(Source: Corinth Listers files)

The housing growth rate in Corinth for the period 2000-2010 was less than 4%, less than half the rate in Orange County during that same period (10.9%).

Family or household size is decreasing, similar to the rest of the State. The average household size in Corinth was about 2.46 persons in the year 2010, down from 2.73 in 2000 and 2.99 in 1990.

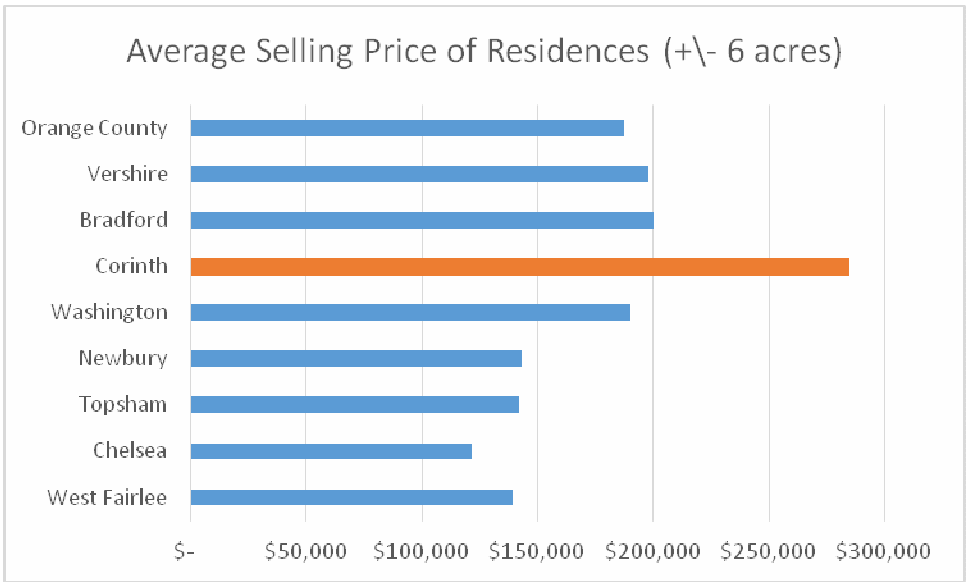
In 2018, the Vermont Department of Taxes reported that 33 primary residences in Corinth sold. The average sale price for these primary residences was between $163,621 – 176,516 (residential with land) and $63,975 for mobile homes with land, compared to the average for Orange County of $158,187 – 216,895 (residences with land) and $61,736 for mobile homes with land. Sales not deemed valid (have not been exposed to the open market) are not included.

Figure 9 - Average Sales Price of a Primary Residence



(Source: Vermont Tax Department)

Overall, home values are higher in Corinth than in most neighboring towns, but lower than the state average. Here are average sale prices of residential properties (less than or more than 6 acres) in and surrounding Corinth for 2018.



(Source: Vermont Tax Department)

As the Economic Development chapter (#3) indicates, more than 90% of Corinth's workforce is employed outside of town, and many travel considerable distances. Over time, housing prices have risen near employment centers, forcing many employees to live farther away. The mean travel time to work for Corinth residents is almost 40 minutes long because it is more affordable to live in Corinth. Comparatively, the average sale price of residences is still higher than many of the surrounding towns in 2018. In 2010, the average in Corinth was considerably lower, but was still higher than most of the surrounding towns.

This data attests to the Town's desirability as a place to live and speaks to the problems that young families face in moving to Corinth. Starter homes are affordable only for middle income families, not young families. Young people starting families are likely to have educational debt and little savings, and they may suffer stagnant household income which has characterized the last decade for many. Homes with large amounts of land is another barrier for first time homebuyers. Low income home buyers can neither afford the asking price of most houses on the market in Corinth today, nor can they afford to pay the taxes on these properties. This situation presents a challenge to the Town as it continues to plan for the future.

B. Housing Needs

From the information presented above it is unclear whether additional housing is needed in Corinth. It does appear clear, however, that there are few opportunities to rent. Older persons who might downsize to smaller quarters have few options locally or nearby. Whatever market conditions are generally, housing for low and moderate income households is always a challenge. What the town can do, however, is take steps to increase the supply of housing, which is the only durable solution to high prices. This can be done to ensure that timing and rate of new housing construction does not exceed the community's ability to provide adequate public facilities (e.g. schools and municipal services). Policies that discourage additional roads, maximize existing roads and encourage village style densities will control Highway Department costs while expanding the tax base. Corinth must find ways to encourage quality, attractive

housing that maximizes open space and energy efficiency if it has any hope of preserving its rural character and values implicit and explicit here and in other parts of this Plan.

Affordable Housing

The State of Vermont, through Chapter 117, requires towns to address affordable housing needs. Affordable housing is defined by the U. S. government as housing that costs less than 30% of the total household income. The median household income in Corinth is just over $50,000 according to Vermont Housing Data. This means that monthly costs should not exceed $1,250 a month, including utilities. In Corinth, 15% of households are currently paying more than 50% of their income on housing costs. Therefore it is reasonable to conclude that some households cannot afford rental or owner occupied housing in Corinth. According to HousingData.org, there are no affordable rental housing properties in Corinth.

Community housing trusts and loan programs to assist qualified persons or families have had success in Vermont towns. Creation or maintenance of well-paying jobs in Corinth and surrounding area will help increase incomes, thus lessening the housing affordability gap facing many families or individuals.

Housing can be made affordable by planning for appropriately sized lots, accessory apartments, and clustered developments. Options being used in other towns to address the affordability gap are condominiums, apartments, manufactured housing, and multifamily houses. The most recent survey shows that Corinth residents do not favor these types of housing. Nevertheless, the economics of density and factory production are compelling and likely to be determinative over decades. Although the options listed here describe a lot of alternatives, they hardly exhaust possibilities of thoughtful, tasteful design.

A community revolving loan fund exists to help low-income residents with needed home improvements. A very low interest rate is applied to these loans, after qualifying guidelines are met. The maximum loan amount is $5,000.

To ensure that housing in Corinth does not become entirely unaffordable, it is important for the community to maintain diverse types of housing stock. A reasonable mix of single family (including mobile homes), multi-family and rental units is necessary to provide housing options for residents with varying income levels.

Elderly and Disabled Housing

According to the 2012-2017 American Community Survey 5-Year Estimates, there are 215 individuals in Corinth who are 65 or older. 9.9% of homeowners in Corinth are 65 or older. There are no options for elderly housing in Corinth. Given the aging population the need for such housing, both assisted and unassisted, will only increase. Several municipalities have benefited from planned retirement communities which provide for older persons. A brief, informal, survey would show that there are facilities for assisted living in Bradford, Chelsea and Randolph in addition to several in the “river towns” in and near Hanover, Lebanon, White River Junction and Wilder. Such land uses are best located near existing village centers where basic services are available rather than in outlying areas. Therefore, Corinth might consider elderly housing

cooperatively with nearby towns, or perhaps to invite a corporation specializing in such developments to locate in a village center to be established. East Corinth offers a clinic, Post Office, Library, Church, and a presently remote convenience store. Accessory dwelling units attached to single family homes can provide a low cost alternative to elderly and disabled housing. This option can allow close proximity to cost-effective care and the close supervision of these individuals.

Goals, Policies and Recommendations

Goals

1. Housing that is safe, efficient, sanitary and affordable for all residents.
2. Retain existing housing and construction of new housing which meets the natural population growth.
3. Preserve historic structures in ways that appropriately serve the need for housing.
4. Encourage additional affordable rental properties, especially in village or hamlet settings, provided that they do not put an undue burden on Town services and facilities and provided that they are of a scale and design that respects existing character of villages and hamlets.
5. Encourage the development of affordable senior and disabled housing either within Corinth or jointly with nearby towns.

Policies

1. Ensure that the timing and rate of new housing construction or rehabilitation does not exceed the community's ability to provide adequate public facilities (e.g. schools and municipal services).
2. Keep housing affordable by planning for appropriate sized lots, accessory apartments and clustered developments.
3. Encourage the location of future housing so as to complement existing or planned employment patterns, travel times, and energy requirements.
4. Location of housing, related amenities and land uses should be planned with due regard to the physical limitations of the site and location to current or planned public and private services such as roads and commercial/service centers.
5. Ensure new, existing and rehabilitated residential rental housing is safe, energy efficient and sanitary.
6. Encourage the rehabilitation of damaged and dilapidated buildings to become affordable housing at all socioeconomic levels.
7. All new homes should be energy retrofitted and built to high standards to conserve more energy.
8. Allow multi-family, manufactured, and accessory dwelling units where all other housing is allowed provided it keeps with the character of the neighborhood.

Recommendations

1. The Selectboard should form a housing committee to:
    a. suggest ways to encourage the creation of additional rental properties throughout town, provided that they do not put an undue burden on Town services and facilities, and to meet minimal safety standards.
    b. assess the need for senior housing within the Town.

    c. work with the Two Rivers-Ottauquechee Regional Commission to better understand housing needs and options for addressing these needs.
2. The Planning Commission should seek grant funding to do a building trend analysis, looking at suitability of soils for septic systems, water supply, steep slopes, and other environmental conditions to determine where development would best be done and how many homes might be built in town.
3. The Planning Commission should suggest some development regulations and an appropriate permitting process to be considered by the town. These regulations could be designed to:
4. Manage development at appropriate, acceptable scale through innovative planning
    a. promote design and construction of houses that minimize costs, energy consumption, and environmental and town services impacts .
    b. encourage the location of future housing so as to complement existing or planned employment patterns, travel times, and energy requirements.
    c. allow the physical limitations of the site and distance to current or planned public and private services such as roads, telecommunications and commercial/service centers to be taken into account.
    d. encourage the conservation and rehabilitation of existing housing including infill development, obsolete, and deteriorating dwelling units.
    e. encourage any new dwelling units to be compatible with existing neighborhoods.
5. The Selectboard should maintain the Loan Fund Committee.
6. Explore rental housing standards to be implemented in Corinth.
7. The town should record all RBES certifications.
8. The town should look into funding sources for energy retrofits.

XIII. Compatibility with Local and Regional Plans

Each Town Plan that is developed and approved at the local, regional and state level is required to be compatible with other local plans, especially those of surrounding towns with common borders.

The town of Corinth is bordered by the towns of Washington, Chelsea, Vershire, West Fairlee, Bradford, Newbury, Orange and Topsham. All of these towns have Planning Commissions, and with the exception of Corinth and Topsham, all have Town Plans that have also been approved by the appropriate Regional Planning Commission.

The Two Rivers-Ottauquechee Regional Plan adopted in 2017 is the Regional Plan that is in effect for the Town of Corinth. After reviewing the proposed Corinth Town Plan and comparing it with the adopted Two Rivers-Ottauquechee Regional Plan, no conflicts were apparent. In fact, the two plans have similar policy statements regarding the need for development that does not overburden services. In addition, no specific development goals in this plan conflict with any regional goals.

The neighboring plans have been reviewed in the context of the proposed Corinth Town Plan. Once again, no conflicts exist in either general philosophy or specific development proposals along town borders.

Recommendations

1. Encourage continued communication and cooperation between Corinth and its neighboring towns.
2. Continue participation in the Two Rivers-Ottauquechee Regional Commission.
3. Exchange planning information and development data with neighboring communities.

XIV. Plan Implementation

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

Planning for change is a continual process for the town and will require the involvement of the Planning Commission and the public to ensure that the goals and policies of the Plan are integrated into the decisions affecting land use, taxation, and public investments in Corinth.

The Corinth Town Plan is not a permanent document on community desires or values. Its life is limited to 8 years by statute (24 V.S.A., Section 4387). The Planning Commission is responsible for the maintenance, implementation, and amendment of the plan. Within the next five years following adoption of the plan, the Planning Commission will need to evaluate the plan in light of new conditions and needs. Re-adoption of an updated plan will require notice to the townspeople and finally action by the Selectboard.

At any time following adoption of the plan, the Selectboard may request the Regional Commission to approve the Plan or amendments to a plan. Before approving a plan, the Regional Commission shall find that the plan meets four basic tests [24 V.S.A., Section 4350(b)].

Approval of the plan provides an improved legal standing for the town to influence and integrate its planning policies with State agency planning affecting land use. After January 1991, State agency plans will need to be adjusted to the policies and priorities of this plan to the extent feasible.

A. Responsibility for Implementation

In order to ensure that the policies of this Plan are implemented, it is essential to identify what municipal panel, organization or citizen is most suited to act on them. Throughout this Plan, the Planning Commission has identified recommendations for action. Generally, responsibility for implementation of the Plan will rest with the Planning Commission in areas relating to land use such as implementing changes to land use bylaws and to the Selectboard in areas such as implementing municipal policy for town roads. However, advisory committees as well as other community organizations could also have responsibilities for implementation.

In addition to assigning responsibility, the Planning Commission should also keep track of progress made toward implementing the goals, policies and recommendations of this Plan. This information will be useful to identify areas where additional effort needs to be applies to achieve implementation. It can also be used to describe how successful the community has been at implementation in the next iteration of this Plan, and to guide future policy. Appendix B of this Plan displays the implentation matrix with assigned responsible parties and a timeline of completion.

1

[i] https://www.firewood-for-life.com/firewood-btu.html
[ii] https://en.wikipedia.org/wiki/Gasoline_gallon_equivalent
[iii] 2017 Efficiency Vermont
[iv] Municipal Energy Template, TRORC 2019.
[v] WEC 2018 Integrated Resource Plan
[vi] GMP 2018 Integrated Resource Plan
[vii] Hansen et al, https://arxiv.org/abs/0804.1126
[viii] Municipal Energy Template, TRORC 2019.
[ix] www.driveelectricvt.com and https://www.statista.com/statistics/196074/number-of-registered-automobiles-in-vermont/
[x] https://en.wikipedia.org/wiki/Cost_of_electricity_by_source