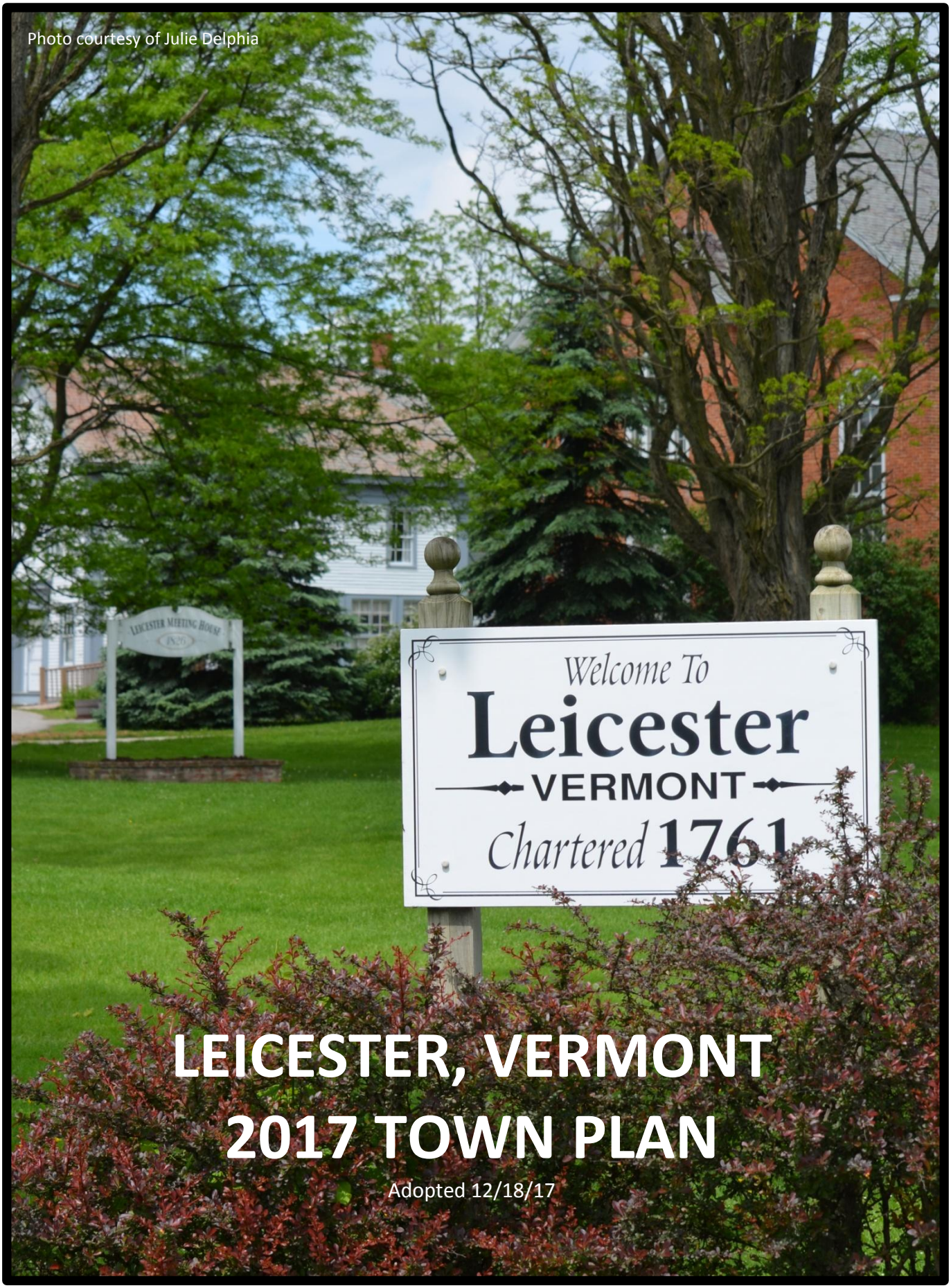


LEICESTER, VERMONT
2017 TOWN PLAN

Adopted 12/18/17

This 2017 Plan update was developed by the Leicester Planning Commission and the Addison County Regional Planning Commission.

This document incorporates diverse perspectives and is intended to aid Leicester residents, the Planning Commission, Town Staff, and Selectboard in their planning decisions.

The Planning Commission wishes to thank everyone who contributed to the development of the 2017 Leicester Town Plan.

The Leicester Planning Commission:

Donna Swinington – Chair
Peter Fjeld
Jeff McDonough
Bill Shouldice
Suki Fredricks
Hannah Sessions (Alternate)

TABLE OF CONTENTS

Adopted 12/18/2017

INTRODUCTION

The Leicester Selectboard adopted the first Municipal Town Plan in 1971. Since then, Leicester's Town Plan has been revised at regular intervals. The 2017 update is not only a vision for Leicester's future, but a strategic road map for current and future planning decisions. The Town Plan is a living document, which can be amended and updated as needed. Its purpose is to reflect the environmental, social, and economic issues and opportunities of the town, celebrate the many aspects of Leicester's unique character, and provide guidance for protecting and cultivating the things that residents value most.

Leicester's Town Plan serves a number of planning and legal purposes. It serves as a visionary guide for the town. As such, it should be a reference for town officials to aid their decision making processes. It establishes goals for action and implementation, and suggests specific implementation steps. Vermont's Planning and Development Act, Title 24 VSA Chapter 117, governs municipal planning and zoning activities. 24 VSA § 4387 requires municipalities to review, revise and readopt their plans at least once every five years in order to keep plans current.

Zoning and subdivision bylaws are built on the foundation of the Plan's policy and documentation (24 VSA § 4401(a)(1)). The Town Plan is also the basis for testimony before the District and State Environmental Boards under Criterion 10 in Act 250 hearings (10 VSA § 6086 (10)). State law requires State agency plans to be compatible with properly adopted and reviewed municipal plans (24 VSA § 4350).

HOW TO USE THE PLAN:

The Table of Contents outlines the topic sections into which the Plan is divided. The selection of topics is guided by Vermont's Planning and Development Act (24 VSA Chapter 117) and by issues and concerns raised by Leicester's residents. Each topic has goals and recommended actions to guide associated planning tasks. Recommended actions should promote discussion and potential solutions for specific planning choices and challenges. The implementation section gives the Planning Commission a guideline for future action.

LEICESTER'S PAST, PRESENT, & FUTURE

In 1761, Governor Benning Wentworth granted the charters to Leicester and several other towns to John Everts of Salisbury, Connecticut. In Leicester, as in many other communities, the town charter was granted without proper surveying. As a result, disputes quickly arose between Leicester and the neighboring towns of Whiting and Salisbury.

Whiting claimed the area now known as Leicester Junction and land to the west. Salisbury claimed land north from the farm known as "Oliver Hill." The boundary dispute with Whiting was resolved by 1784. The competing claims between Leicester and Salisbury were not finally settled until 1911.

After the end of the Revolutionary War, settlement began mainly on the west side of the town close to Otter Creek. The first plank schoolhouse in Addison County, known as the "Jerusalem" school, was built in this area. The building was moved to property now owned by Blue Ledge Farm and has since been dismantled.

Due to the lack of waterpower to operate mills, Leicester never experienced the level of economic development of neighboring towns. John Deere had a forge at the Four Corners until it was destroyed by fire in 1823. He then moved the operation to Hancock.

By 1825, there was a post office, shoe shop and general store at the Four Corners. Leicester Junction had its own post office until the mid-1980s. Leicester is currently served by the Brandon, Whiting, and Salisbury Post Offices.

Daily railroad service began in 1849. The stop in Leicester Junction was known as Whiting Station. In 1871, the Addison Branch of the Rutland Railroad began operation between Leicester and Port Henry, NY, crossing Lake Champlain at Larrabee's Point in Shoreham to Ticonderoga. The last train traveled the Addison branch in May of 1951 and the tracks were removed in the 1960s. Trains still travel the tracks of what was the mainline of the Rutland Railroad.

Leicester Junction had its own hotel, livery stable, general store and school. It was home to the Lime Kiln and Mineral Works that shipped their products throughout the country by rail.

Leicester Junction Station May 21, 1951 Courtesy of http://railweb.ch/then_now

Silver Lake/Chandler Hotel postcard, circa 1900. Built in 1886 and destroyed by fire in 1942
Courtesy of Don Shall Flicker Photo Site

Lake Dunmore, Fern Lake, and Silver Lake have been popular vacation destinations since the Victorian era. *Leicester Vermont's Silver Lake: Beyond the Myths* by William J. Powers, Jr. provides a detailed history of the latter. In 1879, Leicester resident Frank Chandler realized his dream of holding nondenominational revival meetings on his property at Silver Lake. Over time, a hotel, chapel, boathouses, and various outbuildings were constructed to accommodate hundreds of summer visitors who combined a religious retreat with a summer vacation in an idyllic spot. These meetings continued at least until 1908 and the Chandlers operated the hotel there even longer.

In 1916, the Hortonia Power Co. acquired the rights to develop a hydroelectric project which was completed shortly thereafter. Frank Chandler's heirs sold Silver Lake and its surrounding land (a total of 2,275 acres) to the United States Forest Service in 1937. The remaining buildings at the site burned in 1942.

Today, the area offers no vehicular access and is enjoyed by many hikers and campers every year who experience the beautiful natural setting which so affected Frank Chandler one hundred and fifty years ago. While much has changed, Leicester's natural beauty remains. The pastoral landscape west of Route 7, abundant forests of the Green Mountains, picturesque lakes, and historic buildings contribute to its enduring character.

Most year-round Leicester residents commute to other towns to work. Many homeowners, primarily in the lake area, live in Leicester only in the summer months. These factors must be considered as Leicester plans for its future. The sections that follow provide a more detailed look at the town's demographics and outline areas of importance in future planning.

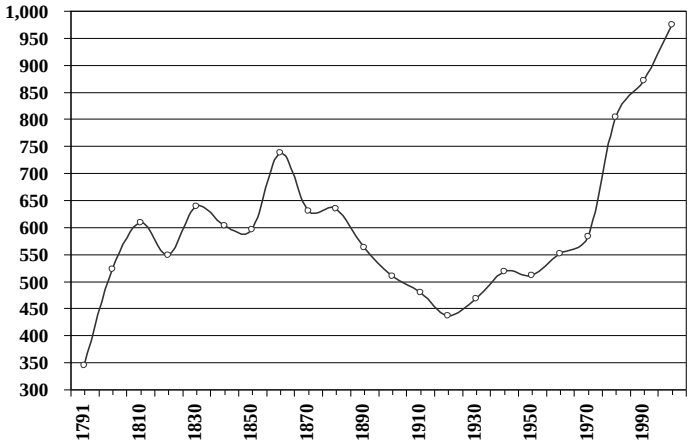
Like most communities in the region, Leicester's population increased from the first Census in 1791, when there were 344 people, through the mid-1800s. It reached a peak of 737 people in 1860. Throughout the second half of the 19th century and the early decades of the 20th, Leicester's population declined, reaching a low of 436 in 1920. From the 1930s through the 1960s, the population increased slowly.

In the 1970s, Leicester experienced an unprecedented population growth of 220 people. By 1980, the population was approximately 800 people, which exceeded the historic peak of 1860.

In 2000, Leicester's population was 974 people. According to the US Census Bureau, over the next 10 years the population of Leicester grew to 1,100. Leicester has a significant seasonal summer population on Lake Dunmore and Fern Lake that is not reflected in the Census.

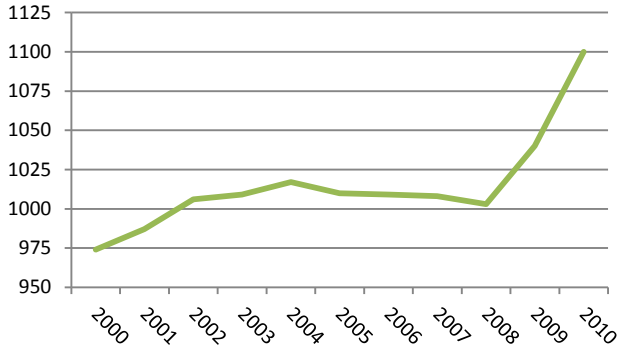
Future growth projections estimate Leicester's population to be up to 1,400 by 2025. Reaching these population levels may require local government to reevaluate town services like law enforcement.

Leicester Population 1791-1990



Source: U.S. Census Bureau

Leicester Population 2000-2010

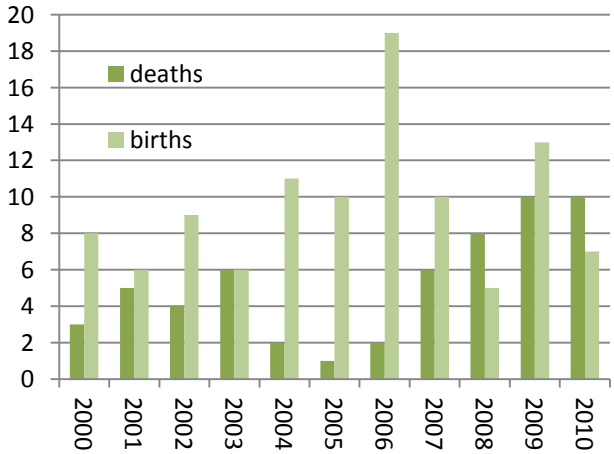


Source: U.S Census Bureau

VITAL STATISTICS

Population change is caused by natural increase (births minus deaths) and migration (people moving in minus those moving out). In the 1970s, Leicester's rapid growth was due mainly to in-migration, while in the 1980s it was due mostly to natural increase. In the 1990s, the two factors were more evenly responsible for population growth. The higher birthrates that began in the 1970s and reached a peak during the 1980s were part of the phenomenon described as the echo baby boom. By the early 1990s, many schools in the region were dealing with record enrollment levels. Birthrates declined in the late 1990's and stayed consistently lower with the exception of a spike in 2006.

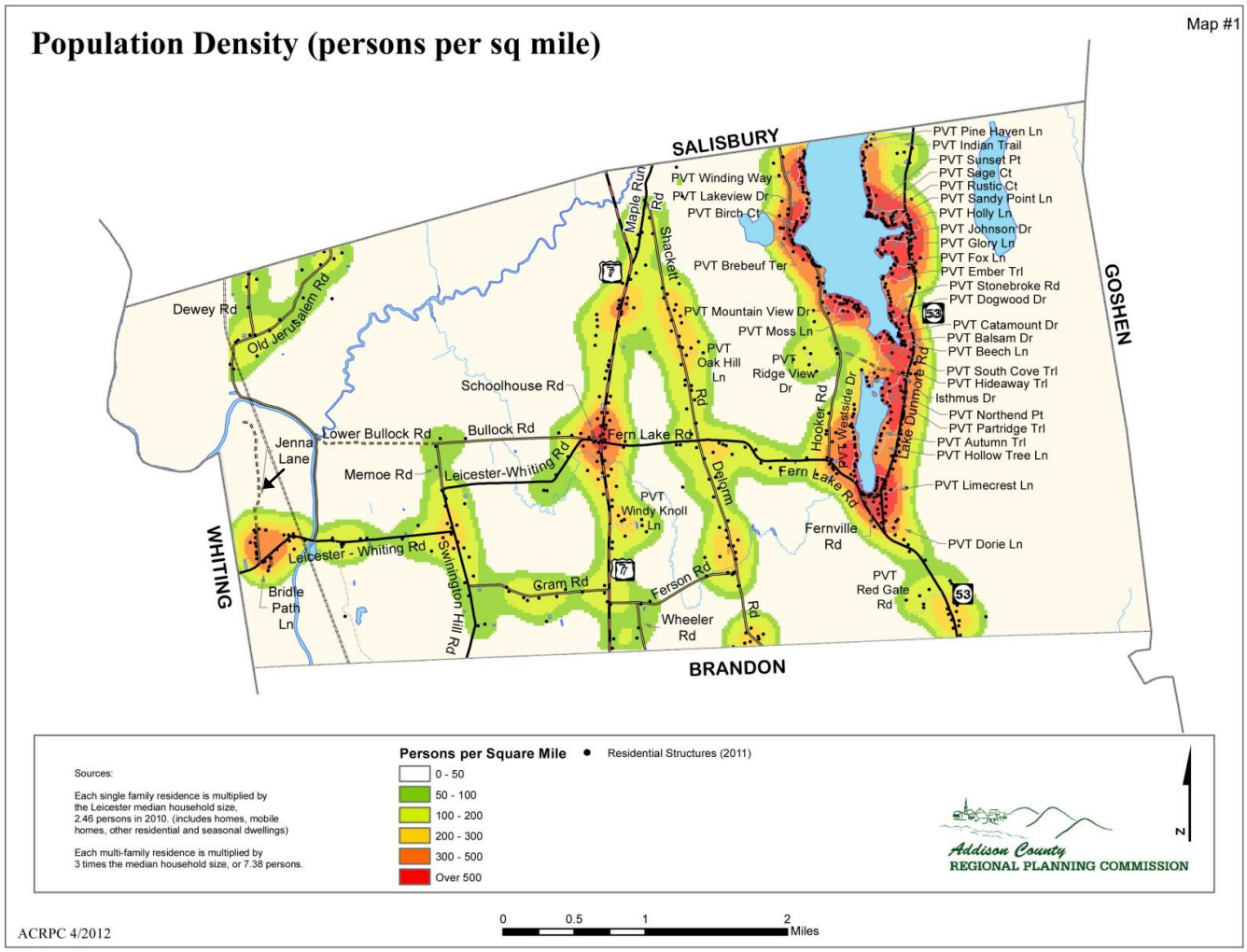
Birth & Death Rates 2000-2010



Source: U.S Census Bureau

POPULATION DENSITY

Leicester's town-wide population density was just under 47 people per square mile in 2000, an increase of nearly 19 people per square mile since 1970. In the ring immediately surrounding the Lakes, density ranges from 300 to over 500 people per square mile. Leicester has several areas with higher densities of population; Leicester Junction and the Four Corners have densities ranging from 300 to 500 people per square mile.

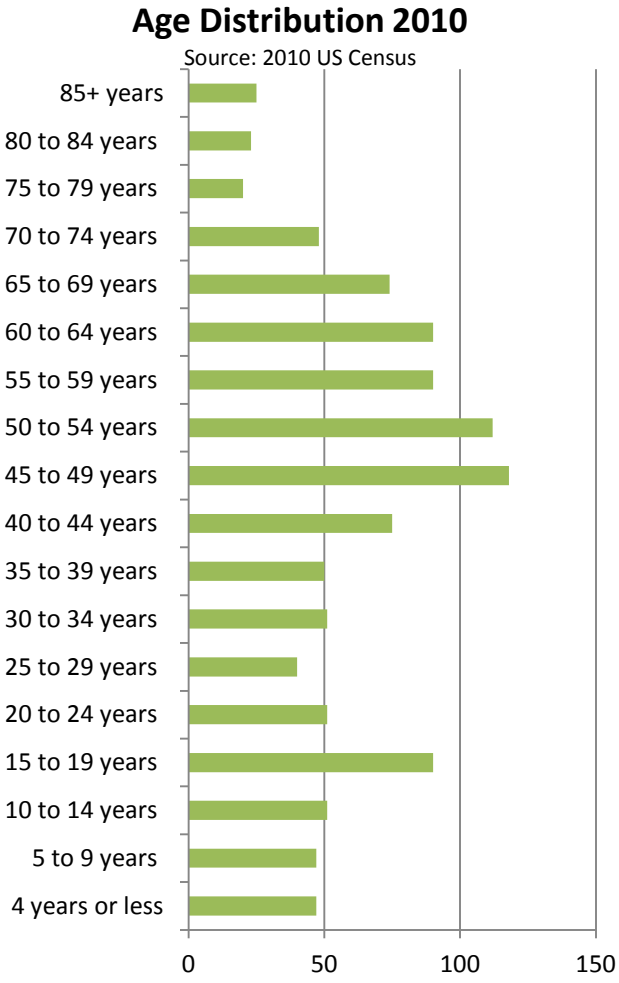


AGE DISTRIBUTION

The median age in Leicester in 2010 was 46.7, rising from 38.7 in 2000. In the 1980's 25.9 was the median age. Leicester's population, like those of other communities in the region, is growing older as a result of several factors. The largest age group in Leicester is the baby-boom generation, who are now in the 45 to 64 age range. The average life span continues to rise and the number of people over age 65 in Leicester rose to 102 in 2000. Ten years later, there were 190 residents over the age of 65.

Another factor leading to an aging population is a declining birthrate. The number of children under age 4 has declined noticeably from 78 in 1990, to 52 in 2000, then to 45 in 2010.

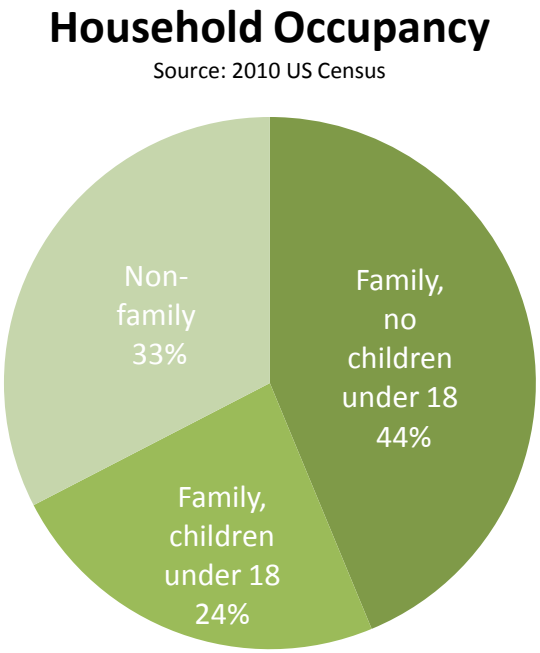
Patterns of age distribution and median age of the population should be monitored as they influence the character of Leicester and the needs of its residents. In the Addison County Region, few small towns currently have services or housing to meet the needs of elderly residents. This raises the question of whether the elderly, many of them life-long residents, will be able to continue to live in their communities or whether they will have to move to places that provide such services.



HOUSEHOLDS

In the past 40 years, Leicester's average household size has declined by one person and the number of households has more than doubled. In 2010 Leicester had a total of 448 year-round households, an increase from 391 in 2000. Of those 448 households, 377 are owner occupied, and 71 are renter occupied. The average household size in 2010 was 2.51 for owner occupied households and 2.17 for renter occupied households.

Total *family* households account for 302 of the 448 households. Of those 302, 65% are families with no children at home (under age 18) and 35% are families with children under 18. In the 10 years from 2000-2010, the number of households made up of married couples with no children (18 or younger) increased by 29.3% and the number of households with children decreased by 3.3%. This trend is correlated to the aging of the population mentioned in the previous section.



The amount and type of housing that Leicester's residents will want is highly influenced by the nature of their households. As people grow older, they may want a home that is smaller, easier to maintain and closer to needed services. People living alone or in non-family types of households may want to rent rather than own a home. People with young children may want space for their growing families.

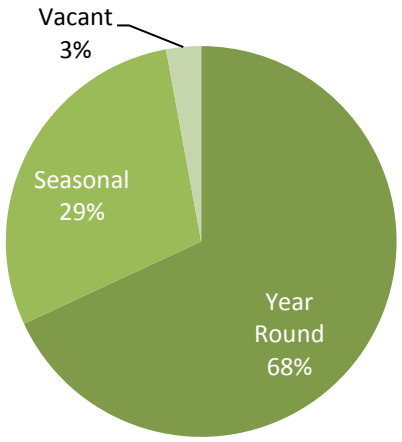
As the characteristics of the population and of households change over time, the policies guiding future growth and development should reflect these changing needs.

YEAR-ROUND VS. SEASONAL

The first Census count of housing in 1940 reported a total of 234 housing units in Leicester, of which a significant proportion was seasonal. Between 1970 and 2000 there was little change in the amount of seasonal housing, ranging from around 210 to 230 units, but a significant increase in year-round homes. According to the 2010 US Census, there are currently 658 total housing units in Leicester. Of those, 448 units are year-round, 191 units are seasonal, and 19 are vacant. From 2000, this represents an increase of 40 total units, an increase of 57 year-round units, a decrease of 22 seasonal units, and an increase of 5 vacant units.

Year-Round vs. Seasonal 2010

Source: 2010 US. Census



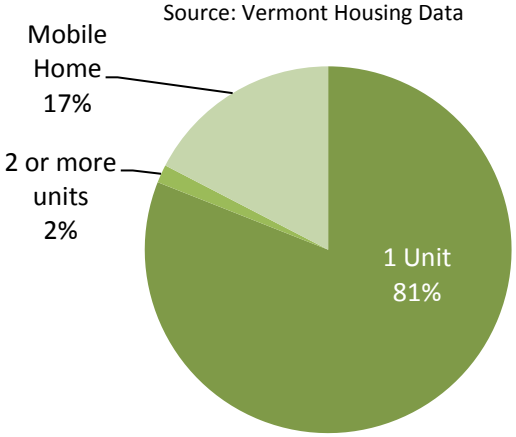
Conversion of homes from seasonal to year-round use should be monitored carefully. As housing is converted, there is increased demand on municipal facilities and services. Conversion also raises concerns about the capacity of private water and septic systems to support increased usage, and affects the quality of life in the Lake Districts region. The discussion of this issue is raised elsewhere in this Plan.

HOUSEHOLD TYPE

The vast majority of year-round housing in Leicester is owner-occupied, single-family homes. 84% of year-round housing is owner-occupied and 81% of all units in Leicester are single-family. 17.4% of housing units is mobile homes and only 1.6% is multiple unit housing, such as duplex rentals.

Household Type 2005-2009

Source: Vermont Housing Data



HOUSING COSTS

There are three main sources of information for tracking housing costs: the Census, the Grand List, and property sales records.

The Community Survey, administered by the Census Bureau, asks people about the value of their home and their monthly housing costs. Since these figures are available historically, they can be used to track changes in value over time. These values tend to be higher than the data from other sources.

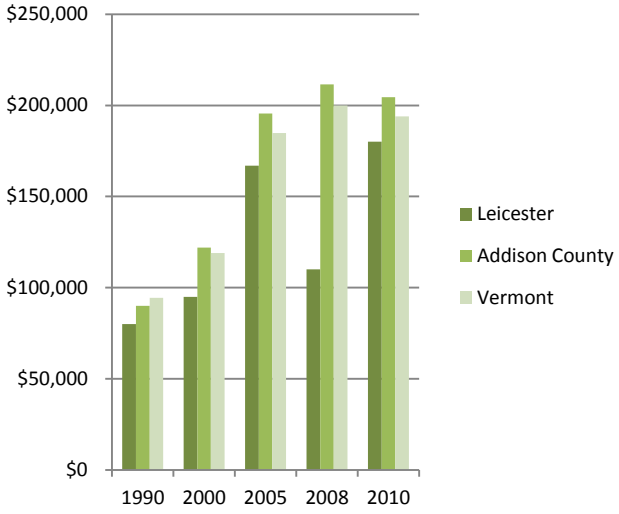
In 1990 the median price of homes sold in Leicester was $80,000 (equivalent to $131,000 in 2010). The chart to the right shows Leicester's house prices are below both the County and State median prices, with a sharp decline during the 2008 economic recession. During this year, home prices in Leicester dipped to a median of $110,000 and two years later soared to $180,000. The median household income in Leicester is around $40,000 a year, for home owners, and $33,000 for renters. Although more affordable than a number of other Addison County towns, home prices in Leicester are disproportionately high in comparison to median income.

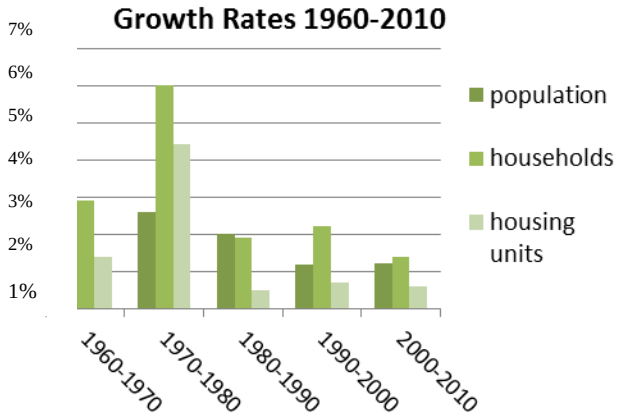
Looking at growth rates in households and in housing, over the past 30 years in Leicester, the number of households has increased at a faster rate than the number of new homes being built. This trend in part reflects conversion of seasonal residences to year-round use.

Affordable housing will continue to be an issue for rural towns, such as Leicester, in which the average annual income is below that of the County and State. This should be considered in every aspect of planning in order to support a diversity of housing types available to residents, first time home-owners, those with young families, and retirees.

Median Price of Homes Sold

Source: Vermont Housing Data, U.S.Census, Center for Rural Development





Source: Vermont Housing Data ,U.S.Census

Housing

Goals

1. Provide a diversity of housing options to meet the needs of a diverse population of Leicester residents, including young families and seniors.
2. Support residential developments that are compatible with Leicester's community character and fit well with the land use and natural resource goals.

Recommended Actions

1. Permit PUDs as the preferable alternative to the standard, major subdivision to minimize the loss of forested and agricultural land and other natural resources.
2. Encourage any major subdivisions to offer affordable housing.
3. Encourage any permitted lake-side development to adhere to the design guidelines in the *2005 Leicester Lakes Area Pattern Book* and the requirements of Shoreland Protection.

ECONOMY

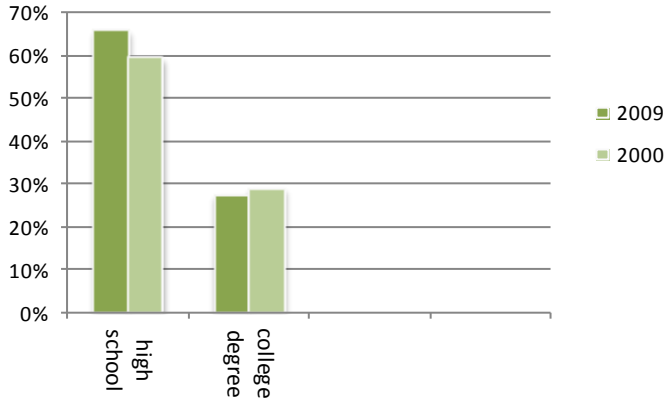
The interrelationships between population, jobs, and housing must be considered when planning for the future. This section of the Leicester Town Plan describes employment patterns in Leicester, and how the creation of jobs in the region could result in population and housing growth in Leicester.

WORKFORCE

In 2000, Leicester's workforce was just over 500 people. Ten years later, in 2010, the workforce was 580, a rise that can be correlated to the increase in population. The education level of Leicester's workforce has risen over the past two decades. In 2000, about 25% of people age 25 or older had some type of college degree, an increase from less than 10% in 1980. In 2010 closer to 30% of this age population had a college degree. The percent of the population without a high school diploma has dropped dramatically from more than 40% in 1980, and less than 30% in 2009.

Education Levels of Labor Force 2000-2009

Source: U.S. Census



EMPLOYMENT

In 2000, about 60 people reported to the Census that they both lived and worked in Leicester. Approximately 60 people also stated that they were self-employed. The vast majority of Leicester's workforce, 85%, works outside of Leicester. Most work in Middlebury, Salisbury, Brandon, or Rutland. (See Labor Shed map for detailed information on where Leicester residents work).

In 2000, manufacturing was the largest single employment sector for Leicester residents employing just under 20% of the workforce. In 2010, the largest employment sector was Health and Social Services at a 17.6%. Manufacturing had decreased to 14%.

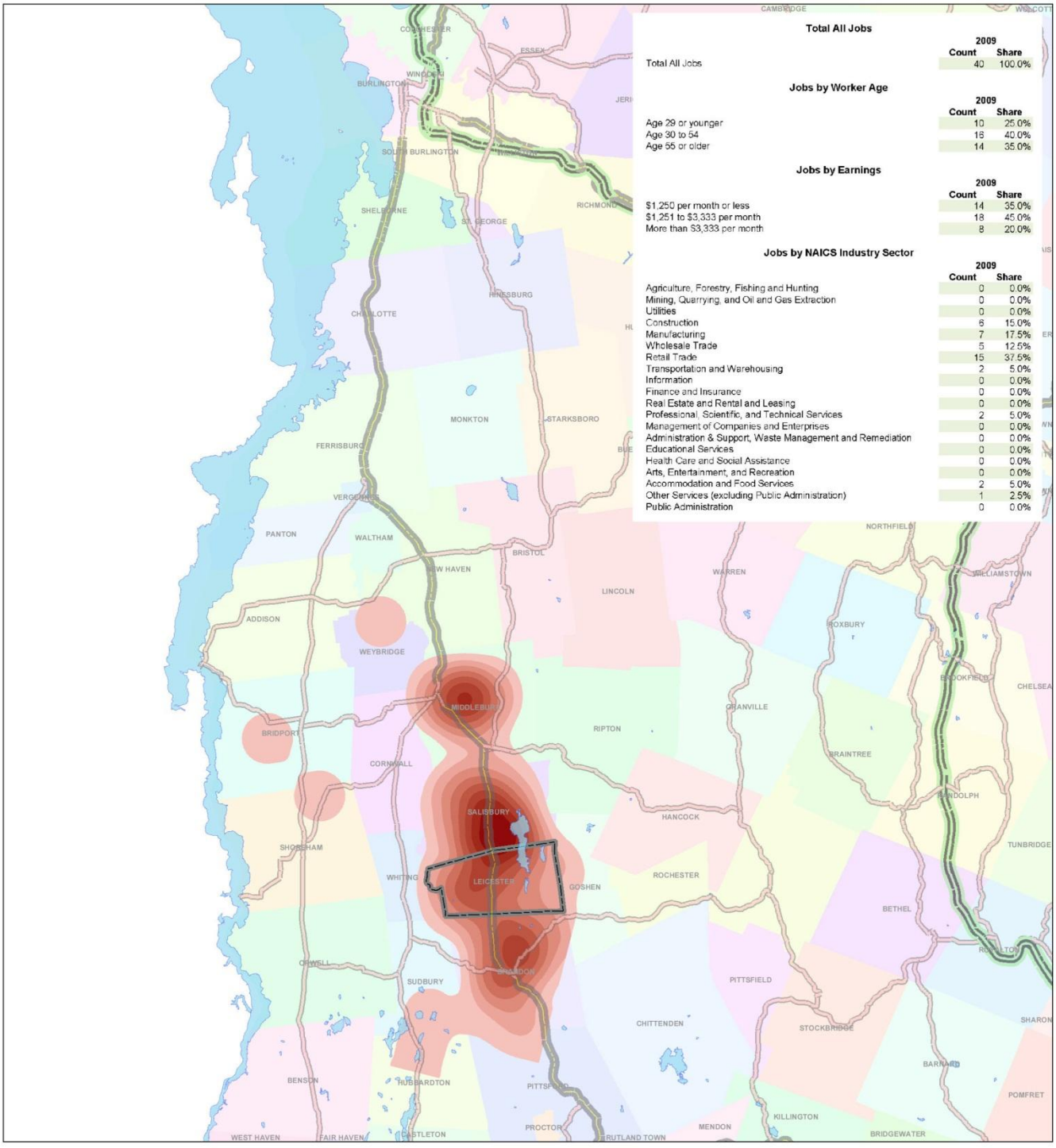
In the 2000 Census, 18 people reported that they worked in agriculture or forestry. In 2010, 7 people reported that they worked in agricultural or forestry occupations. Many Leicester residents, however, still see agriculture as a primary characteristic of the town. This discrepancy is discussed in greater detail in the *Economic Development* and *Natural Resource* sections of this Plan.

2010 Labor Industries , Leicester	%
Ag/Forestry	1.3
Utilities	.8
Construction	8.3
Manufacturing	14.4
Wholesale	2.1
Retail	13.6
Transportation/Warehouse	2.5
Finance and Insurance	2.8
Real Estate	1.1
Information	1.3
Professional/Technical Services	4.7
Admin and Support Services	3
Education	12.5
Social/Health Services	17.6
Hospitality Services	7.6
Recreation, Arts, Entertainment	.8
Public Administration	3.4

Town of Leicester

Labor Shed - where people live who work in Leicester (40 jobs)
(only employment covered by insurance)

Map #2



Sources:
US Census Bureau
Longitudinal Employer-Household Dynamics (LEHD, 2009)

0 1 2 4 6 8 10 12 Miles

N

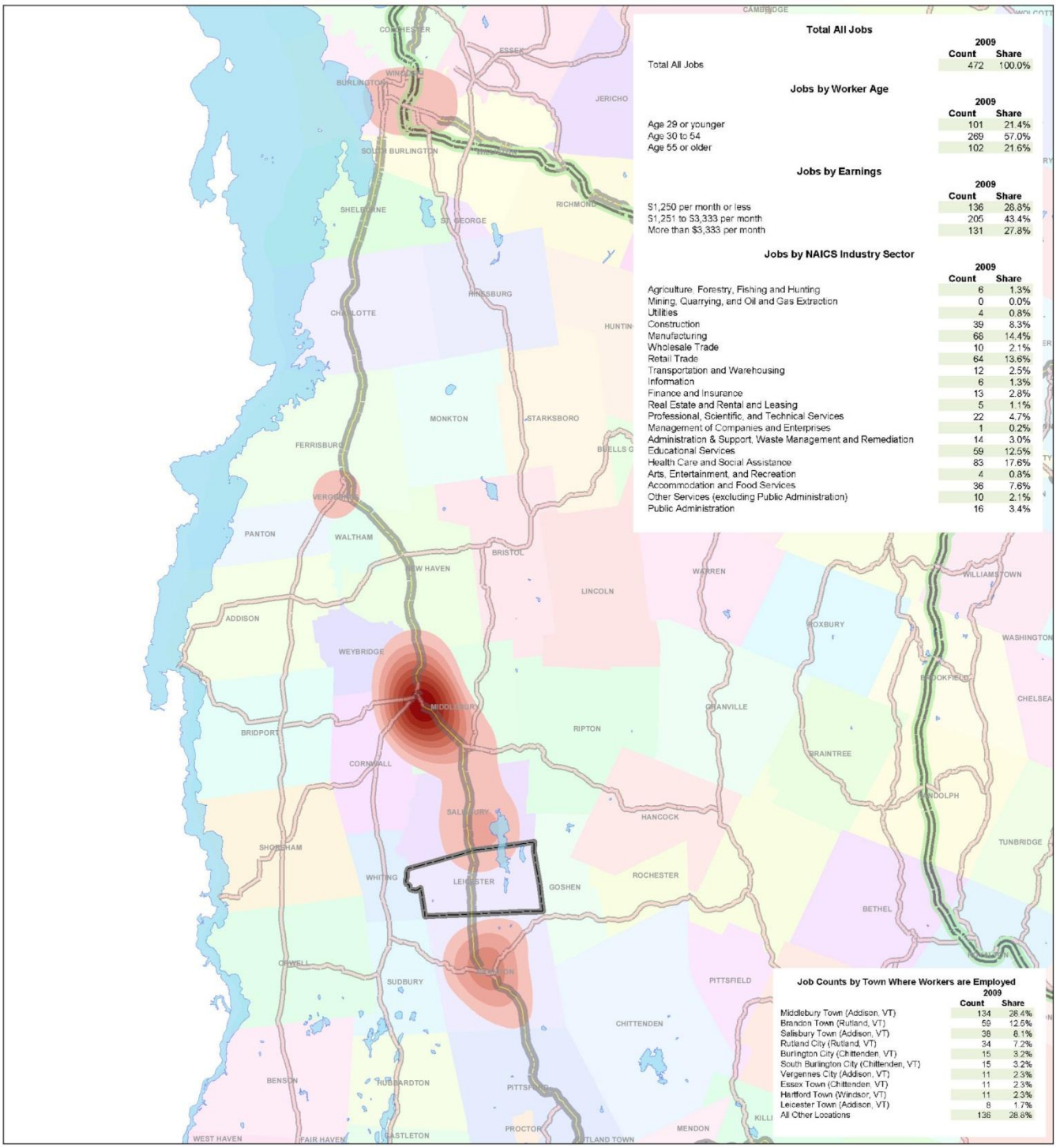
Addison County
REGIONAL PLANNING COMMISSION

ACRPC 4/2012

Town of Leicester

Commute Shed - where people work who live in Leicester (472 jobs)
(only employment covered by insurance)

Map #3



Total All Jobs

	2009 Count	2009 Share
Total All Jobs	472	100.0%

Jobs by Worker Age

	2009 Count	2009 Share
Age 29 or younger	101	21.4%
Age 30 to 54	269	57.0%
Age 55 or older	102	21.6%

Jobs by Earnings

	2009 Count	2009 Share
$1,250 per month or less	136	28.8%
$1,251 to $3,333 per month	205	43.4%
More than $3,333 per month	131	27.8%

Jobs by NAICS Industry Sector

	2009 Count	2009 Share
Agriculture, Forestry, Fishing and Hunting	6	1.3%
Mining, Quarrying, and Oil and Gas Extraction	0	0.0%
Utilities	4	0.8%
Construction	39	8.3%
Manufacturing	66	14.4%
Wholesale Trade	10	2.1%
Retail Trade	64	13.6%
Transportation and Warehousing	12	2.5%
Information	6	1.3%
Finance and Insurance	13	2.8%
Real Estate and Rental and Leasing	5	1.1%
Professional, Scientific, and Technical Services	22	4.7%
Management of Companies and Enterprises	1	0.2%
Administration & Support, Waste Management and Remediation	14	3.0%
Educational Services	59	12.5%
Health Care and Social Assistance	83	17.6%
Arts, Entertainment, and Recreation	4	0.8%
Accommodation and Food Services	36	7.6%
Other Services (excluding Public Administration)	10	2.1%
Public Administration	16	3.4%

Job Counts by Town Where Workers are Employed

	2009 Count	2009 Share
Middlebury Town (Addison, VT)	134	28.4%
Brandon Town (Rutland, VT)	59	12.5%
Salisbury Town (Addison, VT)	38	8.1%
Rutland City (Rutland, VT)	34	7.2%
Burlington City (Chittenden, VT)	15	3.2%
South Burlington City (Chittenden, VT)	15	3.2%
Vergennes City (Addison, VT)	11	2.3%
Essex Town (Chittenden, VT)	11	2.3%
Hartford Town (Windsor, VT)	11	2.3%
Leicester Town (Addison, VT)	8	1.7%
All Other Locations	136	28.8%

Sources:
US Census Bureau
Longitudinal Employer-Household Dynamics (LEHD, 2009)

0 1 2 4 6 8 10 12 Miles

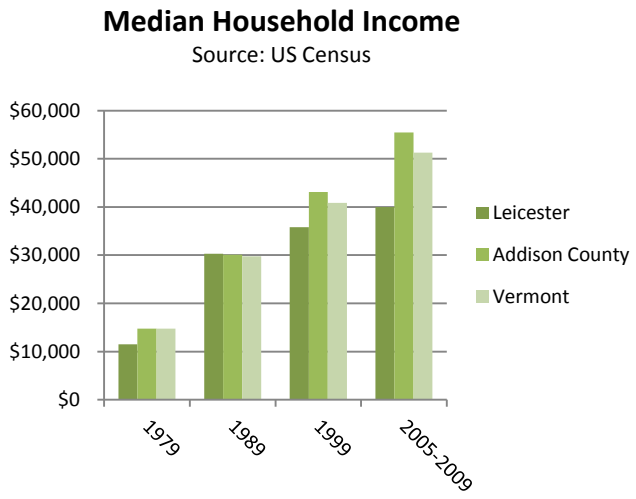
N

Addison County
REGIONAL PLANNING COMMISSION

ACRPC 4/2012

INCOME

Median household income in Leicester rose from around $12,000 in 1980 to just over $35,000 in 2000, and $40,000 in 2010. When adjusted for inflation, this is about a $9,000 increase from 1980 to 1990, a $5,000 *decrease* from 1990 to 2000, and another $4,000 *decrease* in median household income from 2000 to 2010. This pattern shows that Leicester residents have faced an increasing challenge in matching income to the cost of living over the past 20 years. Beginning in the late 1990s, Leicester's median household income fell below that of both Addison County and the State of Vermont. In 2010, 9% of the population of Leicester lived below the poverty line, defined at the Federal level as making less than $22,050 a year for a family of four, or approximately $11,000 a year for a single person.



ECONOMIC DEVELOPMENT

The Town of Leicester has never had a particularly strong economic base like that provided by the mills that developed in Salisbury, or the manufacturing that occurred in Brandon. For many years, Leicester had been predominately an agriculturally based community.

At present, the town has more than 4445 acres of agricultural land including open agricultural land, woodlands, and swampland. Currently at least 24 farms (dairy, beef, goat, hay, and diversified farms) utilize much of this land base. This provides sources of income for the landowners, local renters of agricultural and farm facilities, local forestry consultants, and agriculturally-related and timber service businesses in the area.

The economic base for organic farms has been growing in Leicester. With current acreage of more than 1260 acres (certified organic - 1064 acres, organic but not certified - 196 acres), organic farming utilizes 28% of the total agricultural land in Leicester. The Organic Agriculture Industry is predicted to continue growth at a positive rate in Vermont.

Based on current statistical information, Leicester now depends greatly on outside sources of income, operating largely as a bedroom community to other towns and cities in the state. The town is still characterized by its agricultural landscape and steps should be taken to protect this resource and support the diversity of agricultural businesses.

Tourism and recreation are also key components to Leicester's local economy and character. Lake Dunmore, Fern Lake, and the Green Mountain National Forest bring many visitors and seasonal residents to Leicester, especially in the summer months. There is potential to develop more tourism or recreation based businesses around these resources (see the Recreation section of this Town Plan). While Leicester has historically been more of a summer destination, there is potential to establish winter activities such as snowmobiling, cross country skiing, and snowshoeing.

Existing local businesses and home occupations should also be supported by flexible zoning policies and needed technology/telecommunication infrastructure.

Economy

Goals

1. Nurture a strong and diverse economy in the region that provides satisfying and rewarding job opportunities for residents and maintains high environmental and social standards.
2. Maximize Leicester's potential for local economic development, aligned with our Land Use, Historic, and Natural Resource goals and strategies.
3. Promote year-round tourism.

Recommended Actions

1. Encourage use of locally grown and/or produced agricultural and forestry products.
2. Participate in Act 250 and Act 48 reviews that could positively or negatively impact Leicester.
3. Encourage potential business partners for Leicester's Industrial District.

250th Celebration Float created for the Town of Leicester by the Foxcroft Farm Harvest Program and the Leicester Central School Summer Program. Courtesy of Julie Delphia

UTILITIES & SERVICES

TELEPHONE AND INTERNET

Like many rural Vermont towns, Leicester has an increasing need to have up-to-date communication technology. While some residents may be content to remain without high speed internet and cable television, the majority of the population depends on these technologies for daily communication and information gathering.

Increasingly these services are vital to the economic vitality of local businesses, including those based out of the home. Currently, the majority of Leicester's land-line services are provided by FairPoint. Cable services for high speed internet, cable television, and digital phone options are primarily provided by Comcast. Access to the latter depends on how remote the location and how much a resident is willing to spend. There are a number of Federal and State initiatives underway to provide internet access and assist Vermonters with securing services. Future assistance programs could be possible through the Vermont Public Service Board. Visit their website for more information: http://psb.vermont.gov/.

The quality of cell phone reception varies throughout the town. Currently there are two cell phone towers. One of the towers is a tree-like tower located off of Shackett Road and the other is an antenna placed on top of the Cole Barn on Route 7.

Proper siting and educational outreach should take priority when new infrastructure is needed or proposed. These proactive measures will ensure that structures will not be a visual blight or pose health risks.

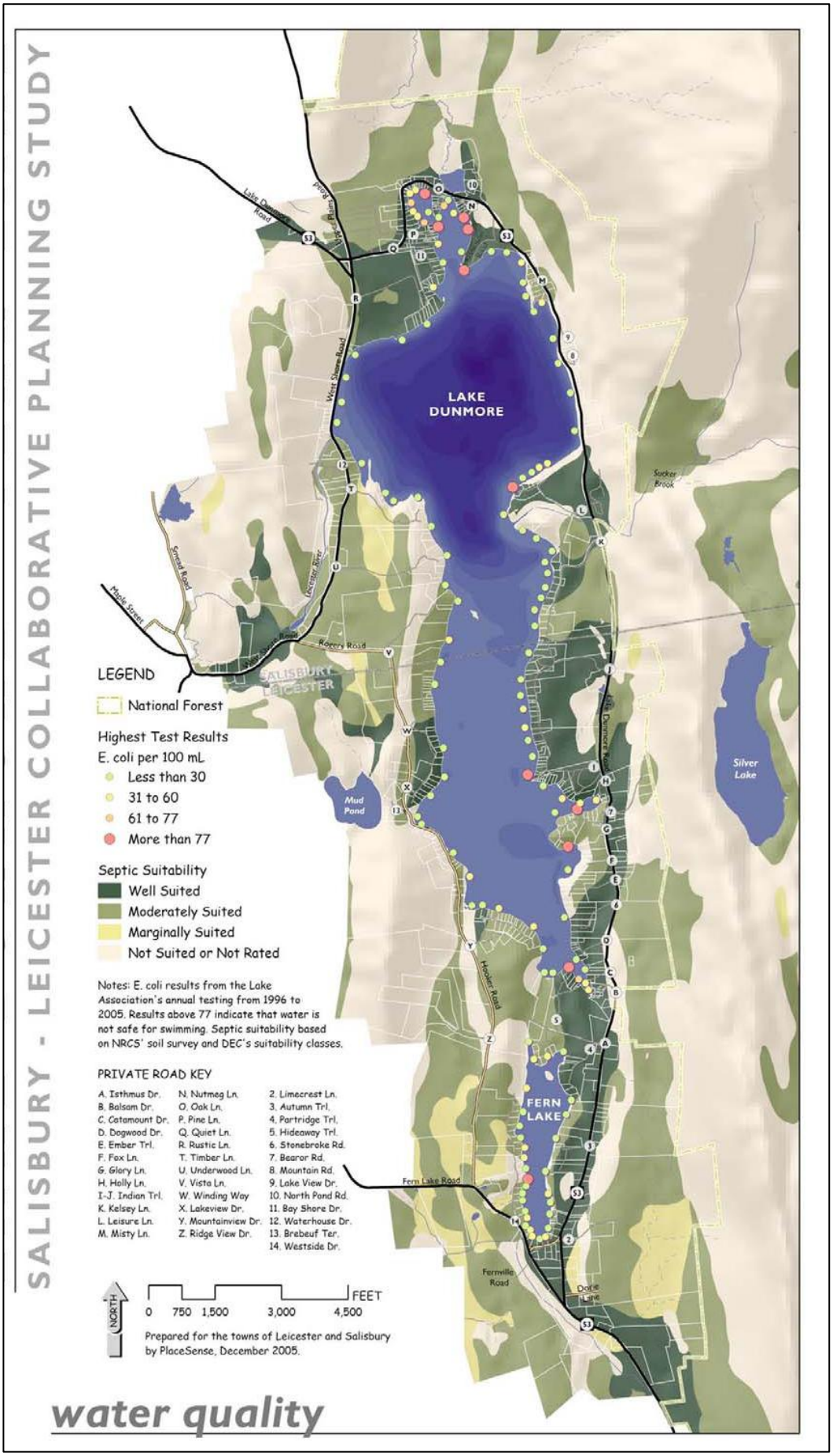
SOLID WASTE

Leicester is a member of the Addison County Solid Waste Management District (ACSWMD) and disposes of its mixed trash and food scraps through the transfer station in Middlebury. Several times a year ACSWMD collects special recyclables and household hazardous waste and takes them to the Middlebury Transfer Station. Pick-up can also be arranged through private haulers. Recyclable materials are collected at the Leicester Recycling Center at the Town Garage on the 1st and 3rd Saturday of each month from 9am-12pm. The Recycling Center is run by a private contractor, paid for by the town. During recycling hours, a contractor is also available for trash and food scrap drop-off at a per bag rate. This is a private service, not subsidized by the town.

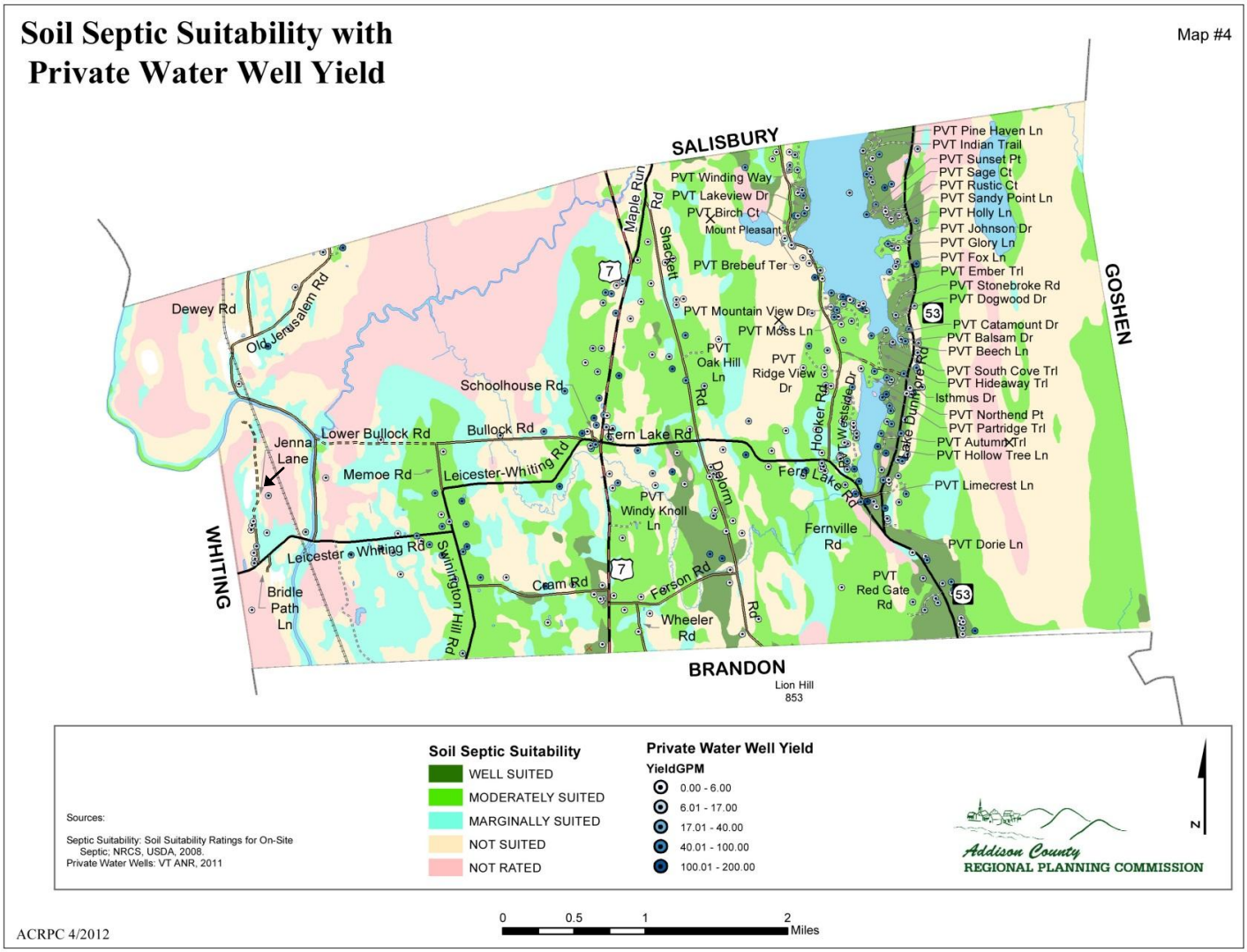
WATER SUPPLY AND WASTEWATER SYSTEMS

All Leicester households rely on private well water and septic systems. There is no plan to make either of these available from a public system and there is no significant industry requiring a public system. Community septic systems could be considered for any PUD developments in order to create more affordable and efficient waste water systems for our rural communities. Aquifer maps for Leicester and Addison County can be found through the Vermont Agency of Natural Resources.

The high-density residential areas of the Lake Districts present the greatest concern regarding the septic capacity of soils. In 2005, a planning study, The 2005 *Salisbury-Leicester Collaborative Planning Study*, was done for Leicester and the neighboring Town of Salisbury. One section of the study compared development growth and septic suitability of the surrounding soils. Care must be given to aging septic systems in this area due to the potential negative impacts leaching can have on a lake-shore environment especially with the increased storm and flood activity.



This map from the 2005 *Salisbury – Leicester Collaborative Planning Study* shows septic suitability of soils and e-coli levels surrounding Lake Dunmore.



Utilities and Services

Goals

1. To protect and preserve our natural, cultural and scenic resources, by encouraging responsible installation and maintenance of wells and waste water systems.

Recommended Actions

1. Provide necessary information to landowners and developers regarding septic regulations.
2. Provide town service information on the Leicester Town website.
3. Ensure that existing structures, such as farm silos, be used for cell reception devices whenever possible.

EMERGENCY MANAGEMENT

The Town of Leicester, while not home to any first response agencies, provides necessary services and basic protections for the health and safety of its residents.

The Vermont State Police provide primary law enforcement coverage to the town from their offices 15 miles north in New Haven. In addition, the Addison County Sheriffs' office is available on a contract basis for traffic enforcement services when requested by the Selectboard.

Coverage for fire related incidents are provided under contract with the Town of Brandon Fire Department who are able to access additional resources through mutual aid agreements with surrounding departments. Calls for structure fires occur on the average of one per year but narrow and poorly constructed driveways and private roads have always hindered response to incidents at camps along the lakeshores. As fire equipment continues to increase in size, access to many camps is becoming problematic.

Emergency medical service is provided by the independent Brandon Area Rescue Squad with support from the Middlebury Area Ambulance Association. Patients are generally transported to Porter Medical Center in Middlebury, 10 miles north or to the Rutland Regional Medical Center 22 miles south. More critical patients are transported to Fletcher Allen Medical Center in Burlington, VT or to Dartmouth Hitchcock Medical Center in Hanover, NH. The Town of Brandon is the source of the closest doctors' offices. Additionally, Leicester is served by an appointed Town Health Officer whose responsibilities include water testing, septic system inspection, and management of infectious disease outbreaks in the town.

Leicester has an Emergency Management Coordinator who regularly attends training sessions and is active in county emergency planning efforts. Leicester has adopted a Basic Emergency Operations Plan and an All-Hazards Mitigation Plan. This Plan ensures eligibility for federal funds for mitigation projects. There are two potential significant risks in Leicester: flooding and a hazardous material spill. There are portions of Old Jerusalem Road along Otter Creek which have been identified as being at risk during particularly severe flood events. Concerns of a hazardous material spill are generally limited to the Route 7 corridor and to the propane storage facility located in Leicester Junction.

The town participates in the National Flood Insurance Program. This program allows residents to purchase flood insurance at subsidized rates in return for zoning limitations on development in mapped floodplains. These floodplain regulations primarily affect Otter Creek and Leicester River floodplains on the western side of the town. Since these areas flood one or two times every year, and no septic systems could be installed, demand for development there is minimal. Efforts to conserve these floodplains further ensure that Leicester residents will be protected into the future. Unfortunately the area around Leicester Junction was developed long before any flood protection systems were put in place. While these residences and businesses exist on slightly higher ground than surrounding lands, they are still at risk during the greatest flood events. Recent improvements to the Leicester-Whiting Road have elevated it above all but the worst flood events but, as a consequence, increased traffic has occurred during periods when State Route 73 in Brandon/Sudbury is closed due to flood conditions.

While natural disasters and other emergencies cannot be totally prevented, damages associated with them can be reduced through the process of municipal planning. The Town of Leicester has taken the initial steps toward limiting potential damage and is committed to continuing this process to protect the health and safety of its residents.

Emergency Management

Goals

1. Ensure the health, safety and welfare of Leicester's residents and visitors.

Recommended Actions

1. Provide educational information to residents regarding emergency contact information and procedures in the event of an emergency.
2. Maintain an active Emergency Management Coordinator position to ensure Leicester stays current with Regional and State resources and procedures.
3. Continue communication with the community regarding the maintenance of public and private roads for access in emergencies.

Fern Lake 2011 – Photo courtesy of Julie Delphia

COMMUNITY FACILITIES

LEICESTER FOUR CORNERS

Leicester's town owned buildings are clustered at the junction of Route 7 and the Whiting-Leicester Road (this area is also known as 'Leicester Four Corners'), and include the Town Clerk's Office, the Town Hall, the Town Shed, and the Meeting House. These buildings, along with the adjacent 'Town Green' and Leicester Central School (an OVUUSD building), create the civic center of the town.

The Town Clerk's Office was built in 1968 and was expanded in 2001 with the addition of a new meeting room. This expansion doubled the size of the office. The Town Hall was built in 1858 to be used both as a school and town meeting place. It is now used for community meetings and Bingo night, and houses the Leicester Historical Society. It is also rented out to Leicester residents for private use.

The brick Meeting House was built by a group of townspeople in 1829. Since that time it has been through a number of restorations. In the past it has been rented to church groups and used for other community activities. It is currently used for Town Meetings and community gatherings. The Meeting House is restricted by a deed conveyance and must continue to be used for religious, educational or municipal purposes.

These buildings offer ample space for community events such as concerts, community suppers, classes and meetings.

BROOKSIDE CEMETERY

The Brookside Cemetery is located along the Leicester-Whiting Road. There is a Cemetery Committee made up of volunteers. Funding for maintenance is provided by the town or by grants. The committee, along with willing residents, has facilitated installation of a new fence, cleaned up invasive weeds/shrubbery, planted flowers, and continues to clean headstones. There is ample capacity for future use of the cemetery for burial services.

PLACES OF WORSHIP

St. Agnes Roman Catholic Church, located on Leicester Whiting Road, was constructed in 1883 to serve local families. The Leicester Church of the Nazarene met at the Meeting House for several years before constructing their current building on Route 7.

Both facilities offer a number of public worship services.

Community Facilities

Goals

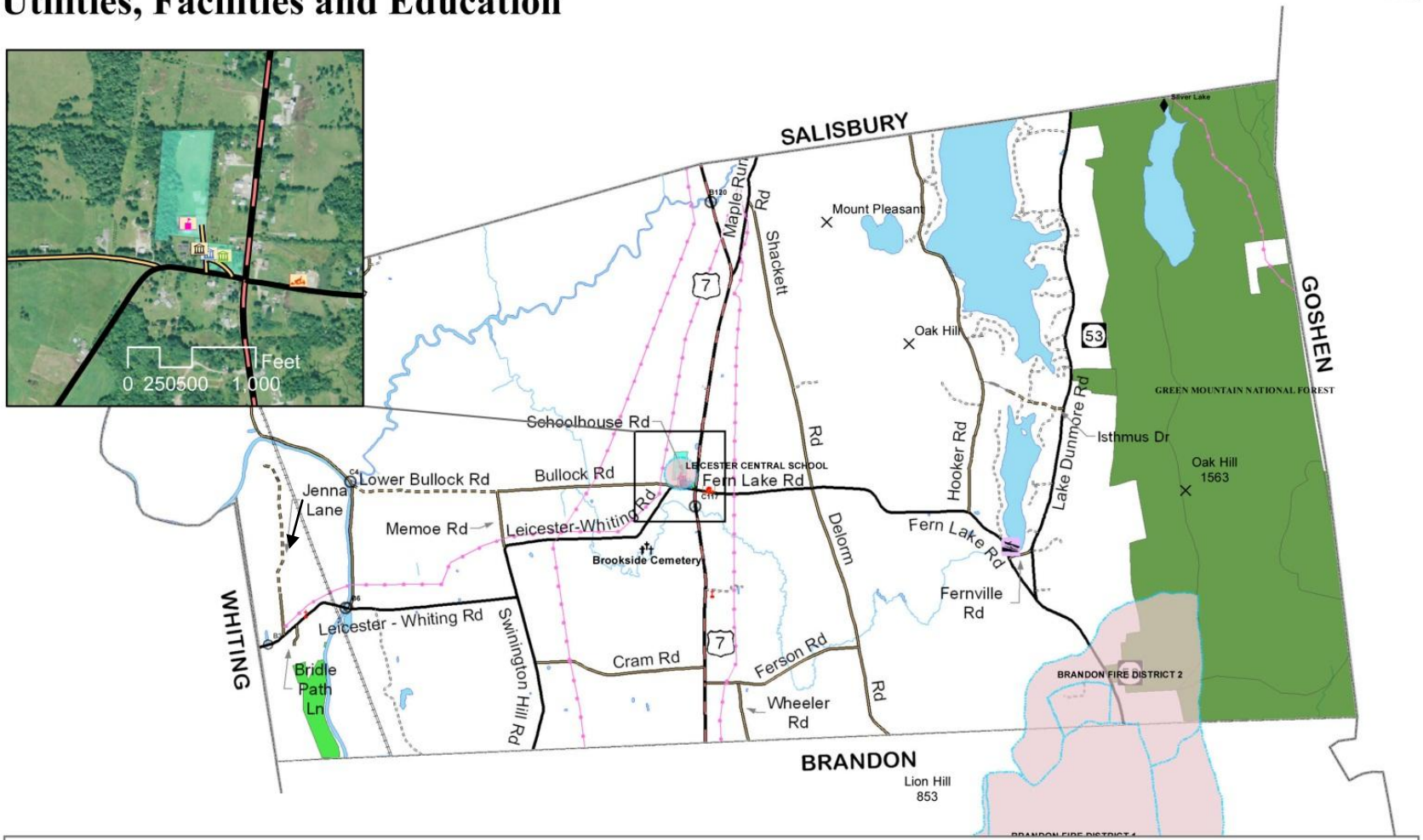
1. Promote Leicester's town owned facilities and town green as the hub of community life.
2. Maintain the town owned public places for future generations.

Recommended Actions

1. Implement a maintenance plan for all town owned community facilities.
2. Continue to routinely check roof and foundations of all town owned buildings.

Utilities, Facilities and Education

Map #5



Public Lands
- Green Mountain National Forest
- State Of Vermont
- Municipal

Community Facilities
- Leicester Central School
- Town Office
- Meeting House
- Town Hall
- Town Shed

- Fern Lake Access
- ParkRide
- Local Bridges
- State Bridges
- Railroad
- Electric Transmission Lines

- Silver Lake Hydropower Dam
- Water Source Protection Area (groundwater)

Sources:

Public Lands: UVM Conserved lands Database, 2009.
Community Facilities: VT E911 structures, 2011
Park & Ride Lots: ACRPC data.
Bridges and Railroad: VT Agency of Transportation, 2010
Electric Transmission: VCGI, 2003
Water Supply Source Protection Area: VT ANR, 2011

Addison County REGIONAL PLANNING COMMISSION

N

0 0.5 1 2 Miles

ACRPC 4/2012

RECREATION

Recreational opportunities abound in Leicester's landscape of rolling meadows, forests, rivers, and lakes. Hunting, fishing, kayaking, canoeing, swimming, cycling, and hiking are just some activities enjoyed by residents and visitors. Public access to the lakes includes an access to Lake Dunmore on Indian Trail, and a swimming area and boat access on Fern Lake. The Green Mountain National Forest provides Leicester with numerous walking and hiking trails. Popular trails include those to Silver Lake, the Minnie Baker trail, and the VELCO line trails. VAST snowmobiling trails also run through areas of Leicester. The Leicester Central School (an OVUUSD school) offers a playground, basketball court, soccer field, and baseball field to the community.

Cycling has become very popular on the roads in Leicester. Because there are no designated cycling areas or painted shoulder striping, this is a planning issue that needs additional attention to ensure the safety of all road users. See '*Cycling and Pedestrian*' section in the Transportation section of the Plan for further information on this topic.

Mountain biking is another popular sport in Leicester, and adjacent areas. In the spring of 2011, the United States Forest Service, in partnership with the Vermont Mountain Bike Association and the Vermont Youth Conservation Corps, allocated $154,000 towards the creation of a 9 mile mountain bike loop trail which will begin and end at the Silver Lake campground in Goshen. This trail will be accessible from the Branbury State Park in Salisbury, and also the Blueberry Hill Ski Center in Goshen.

There are many outdoor recreation opportunities available, but there is minimal public access to the Lakes and to Otter Creek. It would be beneficial for Leicester to partner with groups such as the Youth Conservation Corp, the Middlebury Land Trust and ACRPC to identify other potential public trails and canoe launches to make the most of the natural environment.

Recreation

Goals

1. Provide Leicester residents with a diversity of recreational opportunities.
2. Establish and maintain public access, including views, to Leicester's Lakes and shorelines, and the surrounding natural landscape.

Recommended Actions

1. Keep abreast of on-going grant and partnership opportunities to increase public access to foot trails and waterways, such as those offered by the Youth Conservation Corp.
2. Look for volunteers to explore recreation options.

EDUCATION AND CHILDCARE

SCHOOLS

Otter Valley Unified Union School District

In 2016, the Otter Valley Unified Union School District (OVUUSD) was created. The new district merged all schools in the towns of Brandon, Pittsford, Leicester, Whiting, Sudbury, and Goshen. OVUUSD is part of the Rutland Northeast Supervisory Union.

Leicester Central School

Leicester's preK-6 students currently attend the Leicester Central School although school choice has been implemented to allow for students throughout the OVUUSD to attend any in-district school. Every year, several Leicester students are home-schooled. The Leicester Central School is located in the town center and is a six-classroom structure built in 1956.

Otter Valley Union High School

All Junior High and High school students in OVUUSD attend Otter Valley Union High school on Route 7 in Brandon.

ALTERNATIVE EDUCATION OPTIONS

There are many continuing and alternative educational programs in Brandon, Rutland, and Middlebury. All three towns have public libraries with a full listing of events and workshops each month. The Hannaford Career Center and the Community College of Vermont in Middlebury and the Stafford Technical Center in Rutland offer classes to the non-traditional student. Community classes and workshops can also be offered at one of Leicester's community buildings.

CHILDCARE AND PRESCHOOL FACILITIES

In order to attract and retain young families in Leicester the community should strongly encourage childcare and pre-school options. Young families look for childcare and preschool options both in Leicester and in surrounding communities. The in-town options for Leicester residents include home based, licensed day care. New Leaf Montessori preschool is on Maple Run Road and offers full or half day options for ages $2^{1/2}$ - 5. The Addison County Childcare Services in Middlebury has a full listing of Childcare services for the region. This organization offers free assistance in finding the right daycare. A Referral Specialist is available by calling: (802) 388-4304 or e-mail referral@mjccvt.org.

The Addison County Parent Child Center provides extensive support for many services related to alternative education, preschool, and childcare. (www.addisoncountypcc.org)

Education

Goals

1. Provide high quality educational opportunities and regional resources to all ages and abilities in Leicester.
2. Provide the school access to Town buildings for educational opportunities.
3. Support affordable housing for young families and childcare in zoning regulations.

Education

Recommended Actions

1. Discuss with Town officials and residents the possibility of offering educational classes/events in Town community buildings.
2. Work with School Board when education/planning and zoning issues overlap.
3. Ensure childcare is a permitted use in all zoning districts (except the Conservation district).
4. Develop zoning regulations that promote affordable housing for young families.

TRANSPORTATION

EXISTING INFRASTRUCTURE AND TRAFFIC PATTERNS

Leicester's public and private roads are shown on the Transportation Map below. There are 3.4 miles of state highway, Route 7, and just over 11 miles of Class 2 roads. There are about 13.5 miles of Class 3 roads and little more than a mile of Class 4 roads. There are a large number of private roads, especially around the Lakes. The town does not wish to assume ownership of any existing or proposed private roads at this time. Route 7, which runs through Leicester, is an important north-south corridor through the State. Route 7 traffic volumes increased by approximately 20% during the 1990's, and have continued this dramatic increase since then. More than 6000 vehicles travel on this road daily. Given the heavy traffic and high speeds, any development proposal requiring access onto Route 7 should be carefully reviewed.

The Leicester-Whiting Road is used as a detour when flooding of Otter Creek closes Route 73 between Brandon and Sudbury. Flooding happens fairly regularly in spring and greatly increases detoured traffic onto this town road.

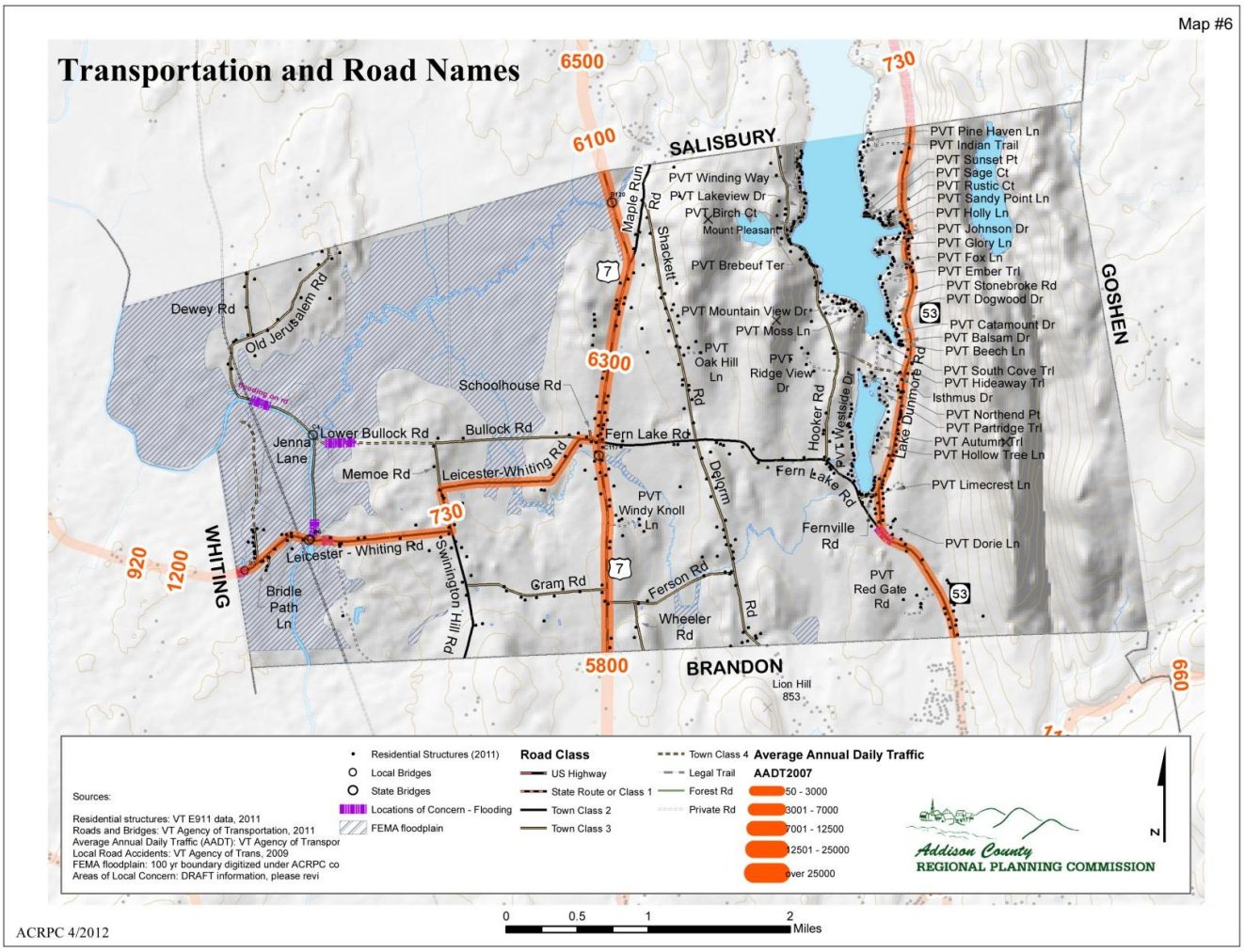
Flooding also regularly occurs on Old Jerusalem Road, and there is active discussion regarding the feasibility of moving this road further away from the banks of Otter Creek.

PUBLIC TRANSPORTATION

Addison County Transit Resources (ACTR), in partnership with the Marble Valley Transit District, serves Leicester with the north and south bound 'Rutland Connector' bus at least four times daily. This service began in 2006, and ridership has proven strong enough to secure continued funding for this Route. Buses on this route travel from Rutland to Middlebury and back. For FY17, ACTR had 366 Leicester pickups and Marble Valley had approximately 350. This service offers Leicester residents travel to Rutland, Pittsford, Brandon, Salisbury, East Middlebury and Middlebury. ACTR has a number of free ridership programs for the elderly, disabled, visually-impaired and for qualifying young families with children. On average, 855 Dial-a-Ride (DAR) services are offered throughout the year. DAR offers individualized pick-up and drop-off services for qualifying riders. For more information, visit ACTR's website: http://www.actr-vt.org/. Leicester's bus stop and Park-and-Ride are located next to the town offices.

Access to public transportation allows residents to save on family transportation costs, cut down on energy and oil consumption, and provides access to services and amenities to the otherwise homebound. Leicester

encourages the use of carpooling and the use of public transportation whenever possible. The addition of weekend services could be beneficial to families travelling to and from home and school, and connect to other weekend public transportation services in Vermont.



TRANSPORTATION CHALLENGES

In the 2005 *Salisbury-Leicester Collaborative Planning Study*, three transportation issues were identified specifically in the Lake Districts. These included the following:

1. The existence of 40 plus private roads which were not built to the currently acceptable road standards, nor originally intended for year-round use.

2. A large number of curb cuts intersecting town highways.

3. The lack of space allocated on rights-of-way for pedestrians and cyclists. These issues are compounded in the Lakes District, and can be found throughout Leicester. A more detailed discussion of these issues is shown below.

Private Roads

As mentioned in the Emergency Management section of this Plan, emergency vehicle access to private roads, driveways and homes is an important issue to include in present and future planning initiatives. Discussion of this issue is particularly critical in the Lake Districts, where properties are close together, roads are narrow, and accessing them with wide emergency vehicles is sometimes questionable. While it is important to conserve the

aesthetics of vegetated, country roads and driveways, the maintenance of minimum widths and turn-arounds are life-saving measures.

Driveway Cuts Intersecting Town Highways

Fast moving traffic and increased curb cuts intensify the potential for dangerous intersections, congestion, and driver confusion. *Access management* is a group of strategies, tools and techniques that work to optimize the safety and efficiency of roads. One of the most basic access management strategies is to limit the addition of new access points along roads and encourage use of shared driveways. Other simple access management techniques include the following:

1. Locating driveways away from intersections
2. Locating driveways on side roads, where appropriate
3. Establishing a minimum spacing distance between driveways
4. Consolidating driveways and connecting parking lots, where applicable

Pedestrians and Cyclists

Leicester is one of many rural Vermont villages offering its residents and visitors astounding views of landscape, mountain trails, various water sports, and lakeside relaxation. Many of these amenities are within walking and cycling distance from residences and summer camps. Although a number of residents and visitors do walk and bike on roads such as Hooker Road and Lake Dunmore Road/Route 53, speeding traffic, extensive driveway cuts, and blind corners raise numerous safety issues.

Community surveys conducted before the 2012 town plan implementation indicated there has been an increase in walkers and cyclists on the Lake Districts roads; however, there were mixed views on how to overcome the challenges associated with road-sharing. The majority of participants agreed that wider cycling shoulders on Route 7 and other town roads, and a biking/walking trail around Lake Dunmore and Fern Lake would be appropriate. Unfortunately, the road layout around the lakes does not easily allow for such extensive changes.

Residents regularly voice concern regarding the *Vermont Sun Triathlons* which happen during the summer. Special attention needs to be given to such events in order to address safety issues and alleviate tensions between drivers, athletes, and spectators.

Recreational trail studies and trail construction projects are eligible for grant funding through the Recreation Trails Program of the Vermont Department of Forests, Parks and Recreation, Lake Champlain Basin Program and ACRPC Transportation Advisory Council (TAC) grants. Exploring partnerships with organizations such as the Green Mountain National Forest Service, Keewaydin Foundation, Middlebury Area Land Trust, Moosalamoo Association, and the Youth Conservation Corp. would also increase future opportunities for cyclists and pedestrians.

Wildlife and Lake Roads

The Lakes and the surrounding woodlands provide essential spawning habitat to reptiles and amphibians, as well as habitat for mammals such as bear, deer, coyote, fox and bobcat. The Salisbury Swamp lies north and west of Leicester, and is one of the most important salamander breeding grounds in the State.

For more recommendations pertinent to the transportation section of this Plan, please see the *2005 Salisbury-Leicester Collaborative Planning Study* available on the town website or at the Town Office.

Transportation

Goals

1. Provide residents and visitors with safe, well maintained roads that support vehicular, bicycle, and pedestrian traffic.
2. Continue to support alternative transportation options for residents of all ages and abilities.
3. Maintain and design public roads to reduce their negative impact on local wildlife populations, wildlife habitat, and water quality.

Recommended Actions

New Roads

1. Encourage minimization of road cuts during development of subdivisions.

Road Maintenance

1. Promote the road construction and maintenance practices illustrated in the Vermont Better Backroads Manual for use on private roads and drives in the Lakes area. Demonstrate best practices in road maintenance and construction by following the methods outlined in the manual when working on the town roads around the Lakes.
2. Educate and inform property owners about road issues through existing channels such as the municipal websites, and other local media.
3. Utilize the resources of the *Better Backroads Program*, VTrans, ACRPC and other organizations to identify problems with the transportation system in the Lakes area and develop solutions that will improve conditions.
4. Improve ditch and culvert conditions on Hooker and Lake Dunmore Road.
5. Ensure property owners refrain from making changes that significantly increase run-off into ditches adjacent to wetlands and shorelines.

Public Transportation

1. Work with ACTR to increase ridership opportunities for Leicester residents.
2. Maintain the Park and Ride at the Town Offices.

ENHANCED ENERGY PLAN

INTRODUCTION

Intent of this Energy Plan

The Town of Leicester recognizes its individual and collective responsibility to help reduce and conserve the energy we all use. Leicester believes it serves its citizens' interests by conserving energy, reducing consumption of non-renewable energy and shifting usage to carbon free or carbon neutral renewable energy sources. Leicester believes its Town Plan must create a vision and clear policy statements for the town to follow concerning energy conservation, consumption, and generation within town.

One of the principal ways for Leicester to gain more control over its energy policies is to meet the municipal determination standards for enhanced energy planning enabled in 24 V.S.A. 4352. By pursuing enhanced energy planning Leicester agrees that its energy plan will further regional and state energy goals, including the goal of having 90% of the energy used in Vermont obtained through renewable sources by 2050 ("90 x 50") and the following:

- *Vermont's greenhouse gas reduction goals under 10 V.S.A. § 578(a);*
- *Vermont's 25 by 25 goal for renewable energy under 10 V.S.A. § 580;*
- *Vermont's building efficiency goals under 10 V.S.A. § 581;*
- *State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal energy planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b (State energy plans); and the distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005.*

To receive a positive determination of energy compliance, an enhanced energy plan must be duly adopted, regionally approved and must contain the following information:

- An analysis of current energy resources, needs, scarcities, costs, and problems.
- Targets for future energy use and generation.
- "Pathways," or implementation actions, to help the municipality achieve the established targets.
- Mapping to help guide the conversation about the siting of renewables.

A positive determination of compliance with the requirements of enhanced energy planning will enable Leicester's Plan to achieve "substantial deference" from the Public Utilities Commission in Section 248 applications for energy generation facilities (ex. wind facilities, solar facilities, hydro facilities, etc.) under Criteria (b)(1)-Orderly Development of the criteria the Public Utilities Commission uses to evaluate proposed generation and transmission projects seeking Certificates of Public Good authorizing the construction of the proposed project. Substantial deference increases the respect the Public Utilities Commission will need to provide to clearly articulated policies in this plan (The current standard is "due consideration").

This chapter includes the required analysis, target data, the goals, policies and implementation actions, and associated mapping. Topics covered include energy conservation and efficiency as it relates to thermal and electrical energy usage, transportation and land use planning. The plan also includes energy generation and siting standards. In addition to satisfying the required criteria, this plan also contains a number of policies and statement proclaiming the type, size and locations in which Leicester will support energy generation and the

goals, policies and actions Leicester will undertake to help implement conservation and efficiency policies to help meet the State's larger renewable goals.

Leicester Energy Coordinator

The Town of Leicester appoints an Energy Coordinator after the annual Town Meeting. The position was created in 1975, during the height of the previous national energy crisis. Leicester's Energy Coordinator is charged with addressing energy conservation and alternative energy practices in Leicester. Leicester's Energy Coordinator should also address transportation alternatives through education and advocacy. Lastly, the coordinator desires to explore business models that will allow all participating residents of Leicester to profit from any generation the municipal government chooses to support. A more complete description of the Coordinator's duties and contact information for the Coordinator are located on the Town of Leicester's website at: http://www.leicestervt.org/index.asp?SEC=57885F61-5134-45F2-AC36-3D797D334B44&Type=B_BASIC

Outline of How to Read this Plan

This plan breaks Leicester's energy demand and usage into the following four chapters:

1. Thermal Use: This Chapter focuses mostly on Energy used for space heating.
2. Electrical Use: This Chapter focuses mostly on energy used for operating equipment, but is predicted to expand significantly to include transportation and heating equipment.
3. Transportation Use: This Chapter focuses on energy used for Transportation.
4. Land Use, Generation and Transmission: This Chapter focuses on planning land uses to reduce vehicle trips and on siting energy generation and transmission resources.

Each chapter noted above will be broken into three sub-sections. The first sub-section, entitled, "Use Analysis" will analyze current usage data in Leicester for each of the four energy sectors. It includes charts of usage and a discussion concerning the usage data. The second sub-section will look at future projections of usage assuming Leicester intends to meet the State goals of using 90% renewables by 2050. This sub-section, entitled "Targets" contains projections of usage targets. In 2016 Addison County Regional Planning Commission worked with the Vermont Energy Investment Corporation (VEIC) and the Vermont Department of Public Service to develop regional targets for future energy use and generation. The intent of these targets is to meet the State of Vermont's 90 x 50 goal. The targets represent one scenario of what meeting this goal may look like. However, there could be numerous different ways for Vermont to achieve the 90 x 50 goal. For more information about the regional targets, please see the Addison County Regional Energy Plan (www.acrpc.com). The third sub-section in each chapter provides goals, policies and recommended actions to implement the plan. Additionally, the Land Use, Generation and Transmission chapter will include a mapping analysis of Leicester's energy resources and constraints and a siting policy for new generation.

THERMAL USE ANALYSIS

An estimate of current residential thermal energy demand in Leicester, based on data from the American Community Survey (2011-2015), is shown in Table 1. The data shows that the largest number of residences in Leicester currently heat with fuel oil, (about 43%), followed by wood (30%), and propane (25%). Together these three heating sources account for about 98% of residential thermal heating fuel usage in Leicester.

Table 1. Current Municipal Residential Heating Energy Use

Fuel Source	Municipal Households (ACS 2011-2015)	Municipal % of Households	Municipal Square Footage Heated	Municipal BTU (in Billions)
Natural Gas	0	0.0%	0	0
Propane	125	25.3%	213,157	13
Electricity	3	0.6%	3,255	0
Fuel Oil	210	42.5%	388,452	23
Coal	0	0.0%	0	0
Wood	148	30.0%	280,570	17
Solar	2	0.4%	4,016	0
Other	6	1.2%	9,279	1
No Fuel	0	0.0%	0	0
Total	494	100.0%	898,729	54

Wood constitutes a carbon neutral renewable resource that is currently abundant in much of Leicester. Both fuel oil and propane gas constitute fossil fuels. In order to meet State targets, their use will need to be largely eliminated by 2050. Making homes more thermally efficient is one way to reduce fossil fuel use. Another is to improve the technology to make it work more efficiently. The third, and over the long-term best solution is to replace the fuel source with technology using an alternative, renewable fuel source, like electricity produced through renewable generation. The cost of the change, both capital investment in new equipment and the price of the fuels being used, constitute the major barrier to entry. While the Town of Leicester has little control over the costs of energy, it can work to encourage conservation, efficiency, and lower local generation costs.

Estimates for commercial and industrial thermal energy use are more difficult to calculate. An estimate of total commercial energy use (thermal and electricity) is provided in Table 2 and based on data from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (VT DPS).

Table 2. Current Municipal Commercial Energy Use

	Commercial Establishments in Municipality (VT DOL)	Estimated Thermal Energy BTUs per Commercial Establishment (in Billions) (VT Dept. of Public Service)	Estimated Thermal Energy BTUs by Commercial Establishments in Municipality (in Billions)
Municipal Commercial Energy Use	11	1	8

As the tables immediately above show, Leicester has a very limited number of commercial establishments. Further analysis of electrical use in the next Section and depicted in Table 3, below calculates that residential structures consume 10 times as much electrical energy as the commercial entities within town. Accordingly, most of the thermal energy changes that will need to take place in Leicester to meet the targets will need to be done by individual home owners.

Energy conservation is the most cost-effective way to reduce energy costs in Vermont. A wide variety of state and federal subsidies and rebates are currently available for Vermont residents to conserve energy. Efficiency Vermont, the nation's only efficiency utility, has an informative home page at Efficiencyvermont.com. Visit it to learn about their current programs, including energy audits, incentives for Home Performance with Energy Star, information on appliances and compact fluorescent and LED bulbs, building an Energy Star home, home heating help, rebate information, and Efficiency Vermont's reference library.

Vermont also has residential energy standards. Officially called the "Residential Building Energy Standards" (RBES), the Residential Energy Code is a minimum standard of energy efficiency for all new residential construction in Vermont. The Vermont Residential Energy Code Handbook edition 4.1 March 1, 2015. REBS encompasses two requirements:

1. A technical requirement that includes minimum standards for energy-efficient building components and construction practices.
2. A certification requirement for reporting compliance. Upon completion state law requires every Vermont builder to self-certify that the home complies with the Code as built. The builder must complete and sign a certificate and submit it to the Town Clerk for filing. This should be on record before the Zoning Administrator issues a Certificate of Occupancy.

THERMAL TARGETS

Thermal targets for Leicester include increasing weatherization of homes, increase in new efficient wood heat systems and switching to efficient heat pump systems. See tables below for one example of targeted changes necessary to meet the 90 X 50 State goal.

Table 3A. Residential Thermal Efficiency Targets	**2025**	**2035**	**2050**
Residential - Increased Efficiency and Conservation (% of municipal households to be weatherized)	2%	9%	47%

Table 3B. Commercial Thermal Efficiency Targets	**2025**	**2035**	**2050**
Commercial - Increased Efficiency and Conservation (% of commercial establishments to be weatherized)	17%	18%	51%

Table 3C. Thermal Fuel Switching Targets (Residential and Commercial) - Wood Systems	**2025**	**2035**	**2050**
New Efficient Wood Heat Systems (in units)	1	2	18

Table 3D Thermal Fuel Switching Targets (Residential and Commercial) - Heat Pumps	**2025**	**2035**	**2050**
New Heat Pumps (in units)	51	123	243

To hit the goal of 90% renewable energy use in Leicester, targets have been established for each of the three major strategies to reduce or change the type of fuel used for space-heating. In order to hit the targets, by 2050 property owners in Leicester will need to have made significant improvements to their homes and businesses. Approximately half of the houses and businesses in Leicester will need to have been weatherized to conserve energy by using it more efficiently to heat those spaces. Additionally, a number of homes currently using wood as a heating source will need to invest in new technology to burn that wood more efficiently. Lastly, nearly all of the houses currently heating with oil or propane will need to have switched fuel sources to cleanly generated electrical heat by installing efficient electric heat pumps.

THERMAL PATHWAYS TO IMPLEMENTATION

Given the significant changes, noted above, that Leicester will need to adopt to conserve energy and switch fuels in order to meet statewide targets, Leicester promotes the following Goals, Policies and Recommended Actions for itself and its citizens.

GOALS

1. Reduce annual fuel needs and fuel costs for heating structures, to foster the transition from non-renewable fuel sources to renewable fuel sources, and to maximize the weatherization of residential households and commercial establishments.

POLICIES

1. Support energy conservation efforts and the efficient use of energy.
2. Promote energy efficiency and increased use of renewable fuels in all buildings, especially new ones.
3. Support the conversion of oil and propane heating to efficient wood heating or electric heat pump systems.
4. Conserve forest land as a renewable energy resource, tempered by the responsible use of wood for biomass energy production.

RECOMMENDED ACTIONS

1. Coordinate with ACRPC, *Efficiency Vermont* and any other weatherization service provider to encourage Leicester residents to participate in weatherization programs.
2. Promote the use of the residential and commercial building energy standards by asking the Zoning Administrator to distribute information about Vermont's Energy Codes to permit applicants and explaining options for energy efficiency.
3. Conduct an energy audit of municipal buildings to identify weatherization retrofits and incorporate the recommendations into the municipal capital budget.
4. Explore the funding opportunities and implementation possibilities to upgrade the efficiencies in all town buildings including the town hall, town garage, meeting house, and town offices.

ELECTRICAL USE ANALYSIS

An estimate of current electricity use in Leicester is shown in Table 4. This data is from 2015 and is available from Efficiency Vermont and Green Mountain Power, ("GMP") the electricity utility that serves the entire Town of Leicester.

Table 4. Current Electricity Use

Use Sector	Current Electricity Use (Efficiency Vermont)
Residential (kWh)	4278870
Commercial and Industrial (kWh)	440777
Total (kWh)	4719647

ELECTRICAL TARGETS

Like the thermal targets noted above, Leicester will need to focus on efficiency and conservation to impact the amount of electricity that it uses. Since most of the electrical consumption in Leicester is by residents, rather than commercial entities, the targets will largely require individual home owners to improve the thermal efficiencies of their structures, as noted in the previous chapter, and increase the efficiency of the electrical fixtures, motors and bulbs used in their homes and appliances.

Even with significant efficiency steps taken by businesses and residents, Leicester's electrical usage is predicted to increase, largely because many of the new technologies needed to reduce fossil fuel consumption, like heat pumps and electric cars, increase Leicester's consumption of electricity. This strategy only works to reduce greenhouse gases if one assumes the electricity stems from renewable generation. Table 5, below, shows that Leicester must increase its efficiency and conservation by nearly 60% by 2050 to meet the proposed targets. Technology advances, like better fuel or motor efficiency will drive this change. However, this plan anticipates that Leicester and its residents will also need to make significant improvements to meet the targets.

Table 5. Electricity Efficiency Targets	2025	2035	2050
Increase Efficiency and Conservation	10.8%	37.2%	59.2%

ELECTRICAL PATHWAYS TO IMPLEMENTATION

Given the significant changes, noted above, that Leicester will need to adopt to conserve energy and increase efficiency in order to meet statewide targets, Leicester promotes the following Goals, Policies and Recommended Actions for itself and its citizens.

GOALS

1. Conserve renewable and nonrenewable energy resources.
2. Reduce reliance on nonrenewable energy sources such as oil and gas, and shift reliance to renewable energy sources by encouraging conversion to electric heat pumps and cars.
3. Reduce emissions of greenhouse gases and substances that cause acid rain by switching from non-renewable resources to renewable electric resources.
4. Plan for increased electric demand with the support of Green Mountain Power and Efficiency Vermont.

POLICIES

1. Support energy conservation efforts and the efficient use of energy by installing efficient electric equipment.
2. Promote energy efficiency in all buildings, especially new ones.
3. Support the conversion of oil and propane heating to efficient wood heating or electric heat pumps systems.
4. Discourage the use of "always-on" street lamps and other outdoor lighting.
5. Encourage the transition to renewable and lower-emission electrical energy sources for transportation.

RECOMMENDED ACTIONS

1. Promote the use of the residential and commercial building energy standards by distributing code information to permit applicants and working closely with the Zoning Administrator.
2. Plan for and install electric vehicle charging infrastructure on municipal property.
3. Investigate the installation of a municipal solar and/or wind net-metering facilities to off-set municipal electric use.
4. Investigate installation of community-based renewable energy project(s) to allow Leicester's citizens to participate in the economic benefits of local energy production.
5. Explore the funding opportunities and implementation possibilities to upgrade the efficiencies in all town buildings including the town hall, town garage, meeting house, and town offices.
6. Incorporate EV ready standards into building code. (as simple as installing a 220v outlet in garages)

TRANSPORTATION USE ANALYSIS

More than any other sector, the transportation costs borne by Leicester's residential vehicle use demonstrate the scope of the change that will need to take place in Leicester to meet the State's energy goals. Based upon the number of registered vehicles in Leicester, assumed average vehicle miles travelled, gas mileage per vehicle

and assumed gas prices at their current level, the table shows Leicester residents spend over $1.4 million dollars per year on residential vehicle trips. While some money will go to local gas stations, the majority of the cost per gallon leaves the local economy. Reducing vehicle miles by transforming local infrastructure to provide for other choices than single family vehicles can aid conservation and efficiency savings for individuals. Converting to different, locally produced generation sources of energy for transportation could help reinvest some that money locally. Table 6, below, depicts Leicester's fuel usage for passenger vehicles (It does not include heavy trucks or farm vehicles).

Table 6. Current Municipal Transportation Energy Use

Transportation Data	Municipal Data
Total # of Vehicles (ACS 2011-2015)	1,010
Average Miles per Vehicle (Vtrans)	11,356
Total Miles Traveled	11,469,560
Realized MPG (2013 - VTrans 2015 Energy Profile)	18.6
Total Gallons Use per Year	616,643
Transportation BTUs (Billion)	74
Average Cost per Gallon of Gasoline (RPC)	$2.30
Gasoline Cost per Year	$1,424,445

Breaking the numbers down further, since we know Leicester has 496 households, this shows that on average, Leicester's citizens average just over two cars per household. If we divide the $1.4 million dollars spent by the number of households, it shows the average household spends, with two cars, approximately $2,872 per year on gasoline in addition to other expenses associated with the cost of owning a vehicle. When including maintenance and depreciation on the vehicle, Triple AAA estimated that in 2014 the cost per year of owning a single vehicle was nearly $9,000. Since the average household has two cars, that adds up to an average of $18,000 per household, per year.

TRANSPORTATION TARGETS

Hopefully, the costs quoted above will provide some incentive to move towards the proposed targets in Tables 7 A, B, and C below.

Table 7A. Use of Renewables - Transportation	**2025**	**2035**	**2050**
Renewable Energy Use - Transportation	2.7%	18.2%	83.5%

Table 7B Transportation Fuel Switching Target - Electric Vehicles	**2025**	**2035**	**2050**
Electric Vehicles	89	604	1177

Table 7C Transportation Fuel Switching Target - Biodiesel Vehicles	**2025**	**2035**	**2050**
Biodiesel Vehicles	19	33	47

As the tables show, to meet the proposed targets by 2050, over 83% (more than 4 out of 5) residential vehicles in Leicester will need to run on renewably generated electricity. Additionally, most commercial vehicles and farm equipment will need to switch from diesel to bio-diesel.

TRANSPORTATION PATHWAYS TO IMPLEMENTATION

Given the significant changes, noted above, that Leicester will need to adopt to switch fuel sources in order to meet statewide targets, Leicester promotes the following Goals, Policies and Recommended Actions for itself and its citizens.

GOALS

1. Reduce reliance on nonrenewable energy sources such as oil and gas, and shift reliance to renewable energy sources.
2. Reduce emissions of greenhouse gases and substances that cause acid rain.
3. Hold vehicle miles traveled per capita to 2011 levels through reducing the amount of single occupancy vehicle (SOV) commute trips, increasing the amount of pedestrian and bicycle commute trips, and increasing public transit ridership.

POLICIES

1. Support the reduction of transportation energy demand, reduction of single-occupancy vehicle use, and the transition to renewable and lower-emission energy sources for transportation.
2. Support regional efforts to increase access to safe every day walking and cycling within and across municipal borders.
3. Provide walking and biking paths in large developments.
4. Support state and regional public transportation programs serving Leicester and ask major employers wishing to construct or expand businesses in the region to promote energy efficient commuting.
5. Support use of the Park and Ride in Leicester and encourage Leicester residents to consider using ride-sharing programs in order to reduce use of fossil fuels.

RECOMMENDED ACTIONS

1. Work with ACTR to understand ways in which service to Leicester could be improved.
2. Plan for and install electric vehicle charging infrastructure on municipal property.
3. Review municipal road standards to ensure that they reflect all “complete streets” principles applicable to rural roads.
4. Nominate a Leicester representative to sit on the *Walk-Bike Council of Addison County* to foster safe and accessible opportunities for walking and cycling as an alternative SOV.
5. Incorporate EV ready standards into building code. (as simple as 220v outlet in garages)

LAND USE, GENERATION, AND TRANSMISSION ANALYSIS

Land Use

Leicester currently constitutes a largely rural, agricultural town with some density of vacation and year-round homes located on Lake Dunmore and a very small village area around the existing town office and school. Because of its existing settlement patterns and lack of a significant number commercial or industrial facilities, Leicester residents are probably more dependent on their cars, and the energy they use, than many Vermont towns. While Leicester desires to retain its rural feel, it can adopt land use policies that encourage more densely settled areas that have the capacity to allow for more transportation alternatives within those areas, potentially saving energy and promoting healthier options, like walking or biking. As with other conservation type goals, conserving energy by reducing the need for cars can be more cost effective for Leicester's citizens than fuel-switching to electric vehicles discussed in the previous chapter. Therefore, the Land Use Section of this Plan promotes greater density and housing options in Leicester's village area. Other Land Use policies to limit energy use are listed in the Policy Section below.

Current Energy Generation

Although Leicester's energy supply is largely consistent with statewide patterns, Leicester does have a number of alternative energy installations that tap local energy resources. A growing number of homes have photovoltaic systems that supply a portion of their electrical energy. Thanks to Vermont's net-metering law, owners of these systems can sell excess power back to the grid during periods of high solar production, and purchase grid power when needed. Thus, the grid serves as a kind of storage system for solar-produced electrical energy. A couple of other homes have solar domestic hot water systems. One homeowner uses wind energy to generate electricity. Table 8 depicts Leicester's existing generation resources as of 2015.

Table 8. Existing Renewable Generation (2015 GMP)	Sites	MW	MWh
Solar	20	0.13	153.30
Wind	1	0.01	30.66
Hydro	0	0.00	0.00
Biomass	0	0.00	0.00
Other	0	0.00	0.00
Total Existing Generation	21	0.14	183.96

As Table 8, demonstrates, 21 different sites create mostly renewable solar power within Leicester. The discussion below encompasses all of the types of renewable generation potentially available to Leicester's residents and how they might harness it to meet statewide generation targets for the community.

Types of Generation Potential

Solar Energy

Globally, the sun supplies energy to Earth at some 10,000 times the rate at which humankind uses energy. However, this energy is not distributed equally, and Leicester's location and climate mean its share of solar energy is less than average. Nevertheless, the rate of solar energy input to Leicester ranges from about 500 kilowatts per acre in January to 900 kilowatts per acre in June; these are for solar collectors tilted at an angle equal to our latitude, 44˚. (National Renewable Energy Laboratory, Solar Radiation Data Manual for Flat-Plate and Concentrating Collectors)

For comparison, Leicester's January figure is just over half that of Albuquerque, New Mexico—an excellent place for solar energy—and its June figure is more than three-quarters that of Albuquerque. Given the total energy consumption rate of 3,500 kW, this means that even in January Leicester could, in principle, meet our average energy demand with solar energy, using just 30 of our town's 13,952 acres. Inefficiencies would raise this figure

many times over, as would the increased energy consumption in January. Nevertheless, it's clear that the solar resource in Leicester is theoretically more than adequate for its energy needs.

Although technology exists to convert solar energy into heat and electricity, at this point it would be impractical to supply all of Leicester's energy with in-town solar installations. However, use of solar energy for electricity and/or heat in individual homes and for charging electric vehicles is technologically feasible and ranges from solidly economical to marginally so. Solar energy facilities ranging from 150 kW to 5MW are starting to be constructed in neighboring Addison County towns with varying visual and other impacts. Table 8, 'Existing Renewable Generation in Leicester' describes some of our town's current solar installations.

As noted earlier, Leicester supports renewable energy generation installations sized, sited and constructed pursuant to the community Siting Standards contained later in this section.

Biomass

Tree leaves act as solar collectors, storing solar energy through the process of photosynthesis. Although the efficiency is low, Vermont's large areas of forest make for a substantial rate of solar energy storage in the form of tree biomass. This biomass can be burned for heat or to generate electricity. Many homes in Leicester use wood either as the primary heating fuel or to supplement another heat source, usually oil but sometimes solar or geothermal. As Table 1 shows, about 30% of Leicester's households burn wood for heat, generating approximately 17 Billion BTUs. Burning wood for heat in Leicester makes a significant dent in the town's oil consumption.

Addison County and Middlebury College foresters agree that each acre of Addison County forest might sustainably yield about one-third of a cord of firewood each year. Given that the eastern portion of Leicester is generally wooded, if we assumed that 3,000 of Leicester's approximately 11,000 acres were sustainably harvested for firewood, that could yield nearly 1,000 cords per year, a little more than 2 cords per household.

Leicester also has significant land area devoted to farming. While not currently economical, biomass crops, for both space heating and as a liquid alternative to diesel fuel could support Leicester's farming economy in the future.

Accordingly, Leicester supports the use of biomass for residential and small commercial heating applications within town, and as a renewable biodiesel alternative to diesel fuel. As a cautionary note, widespread use of wood and other biomass materials as a heat-producing or energy producing fuel might result in unacceptable levels of air-born particulates and other forms of air pollution. Therefore, while supportive, Leicester should consider biomass in the context of public health impacts in addition to whether supplies are sustainable and effective to meet short and long term demands for renewable heat source energy.

Wind

Mapping of New England wind resources by the National Renewable Energy Laboratory (TrueWind Solutions, "Wind Energy Resource Map of New England," available through Massachusetts Technology Collaborative at: http://www.mtpc.org/rebates/green_power/NE_spd100m.pdf) shows that most of Leicester has average winds in the Class 1 category (speeds below 12 miles per hour). This is the lowest class, and is unsuitable for commercial-scale wind power.

A small portion of Leicester—probably the ridge south of Lake Dunmore ridge—appears to have class 3 winds (around 12 miles/hour at 100 meters above the ground), considered marginally suitable for larger-scale wind installations. However, all of Leicester is likely capable of producing significant wind energy at the smaller scales of individual or multiple-home wind turbines. Experience with wind installations in Leicester and surrounding communities confirms this; see the section "Alternative Energy in Leicester," below.

Accordingly, Leicester supports residential and community scale wind projects that are also able to meet its siting standards contained later in this chapter. Residential scale wind consists of a single tower less than 120 feet high generating less than 15kW of energy. Community scale wind consists of 1 or more towers all less than 200 feet high (so as not to require night lighting) and producing less than 1 MW of electricity. Industrial wind projects that have towers over 200 feet or generate over 1 MW of power are prohibited in the Town of Leicester.

Geothermal Energy

Energy trickles from Earth's interior to the surface at a modest average rate of about 350 watts per acre, far less than the solar input. For Leicester, far from major geological activity, that number is almost certainly significantly lower. In addition, solar energy warms the Earth, especially in the summer, and some of that energy is stored as heat in the upper layers of soil and rock. The result of these geothermal and solar effects is that soil temperatures just a few yards deep under Vermont average around 45˚F to 50˚F year-round. This temperature is too low for direct heating, although it can help with summer cooling. Nevertheless, the constant ground temperature represents a significant energy resource, and with appropriate technology it can be used as a heat source.

To date, no one has used geo-thermal systems relying on heat pump technology in Leicester. However, the technology is potentially viable and therefore included above.

Hydropower

Leicester possesses limited hydro resources. The most significant facility in Leicester is the Silver Lake hydro-electric plant run by GMP (formerly CVPS) on Lake Dunmore Road in Salisbury. This plant generates power from water stored behind Goshen Dam in the Sugar Hill Reservoir and in Silver Lake. Water flows from the reservoir through Sucker Brook to a diversion structure, Sucker Brook Dam, where it is piped into Silver Lake. It passes through a penstock that converges with the north branch of Sucker Brook before entering a generating station located in Salisbury. The facility has a name plate rating of 2.2 megawatts. The net generation of the plant is approximately 7,500 megawatt hours annually. This is a ponding plant, which means it can store water in both the reservoir and lake and release it to generate power on demand.

Energy Storage

Should Leicester permit large-scale generation in its jurisdiction, it should also negotiate to include some type of battery storage facility to supplement the power generated to improve its short-term resiliency. Battery storage, while expensive, is decreasing in price, is commercially available to support homeowners and may work well with generation assets.

GENERATION – POTENTIAL AND TARGETS

<u>Renewable Generation Potential</u>

As part of the mapping exercise described below, ACRPC created maps of places where resources were available to generate renewable generation resources within the Town of Leicester.

Map 1: "Known Constraints" depicts natural resource layers that will preclude renewable energy development. These "Known Constraints" depict places where, because of the natural resources located in the area, it would be prohibitive to secure a permit for energy development.

Map 2: "Possible Constraints" depicts places where natural resources exist, but may not prohibit development. Prime agricultural soils would be an example of a possible constraint. A lot of Prime Agricultural resources exist within Leicester, however, it may or may not prevent wind or solar development.

Map 3: "Renewable Energy Potential" depicts the transmission and distribution resources and constraints.

The next set of maps show the location of where solar resources, wind resources, and biomass resources exist in quantities that would support generation. These maps are depicted below as Map 4: Solar Resources, Map 5: Wind Resources, and Map 6: Biomass Resources. While these maps depict where resources exist, they depict baseline resources, not necessarily the "best" resources in the area. So, for example, the Wind Resource Map depicts where the wind blows at the minimum velocity necessary to support wind power. As noted in the wind discussion above, while many places may meet the minimum criteria for wind development, the best area of Leicester is probably the ridge south of Lake Dunmore ridge, which appears to have class 3 winds (around 12 miles/hour at 100 meters above the ground), considered marginally suitable for larger-scale wind installations. Accordingly, users are cautioned to read the maps in this context.

MAPPING

Mapping Energy Resources and Constraints

Leicester has incorporated maps provided by ACRPC. These maps show data as required by the Department of Public Service Determination Standards, including access to energy resources, and constraints to renewable development, and are a required element of enhanced energy planning.

The maps show areas that are potentially appropriate or inappropriate locations for future renewable generation facilities. The maps are a planning tool only and may not precisely indicate locations where siting a facility is acceptable. When a generation facility is proposed, the presence of all natural resources and other specific characteristics of the site shall be verified as a part of the application.

Mapping Methodology

Spatial data showing the location of potential energy resources (solar, wind, hydro, and biomass) formed the basis of the maps developed by ACRPC.

"Known" and "Possible" constraints were subsequently identified on the maps. Known constraints are conservation resources that shall be protected from all future development of renewable generation facilities. The presence of possible constraints on land does not necessarily impede the siting of renewable generation facilities on a site. Siting in these locations could occur if impacts to the affected possible constraints are mitigated, preferably on-site.

A full list of known and possible constraints included on the maps is located in Table 10. The known constraints and possible constraints used to create the maps include constraints that are required per the State Determination Standards from the Department of Public Service and constraints that were selected by ACRPC.

Table 10 – Mapping Constraints

Solar, Wind and Biomass Maps - Known Constraints

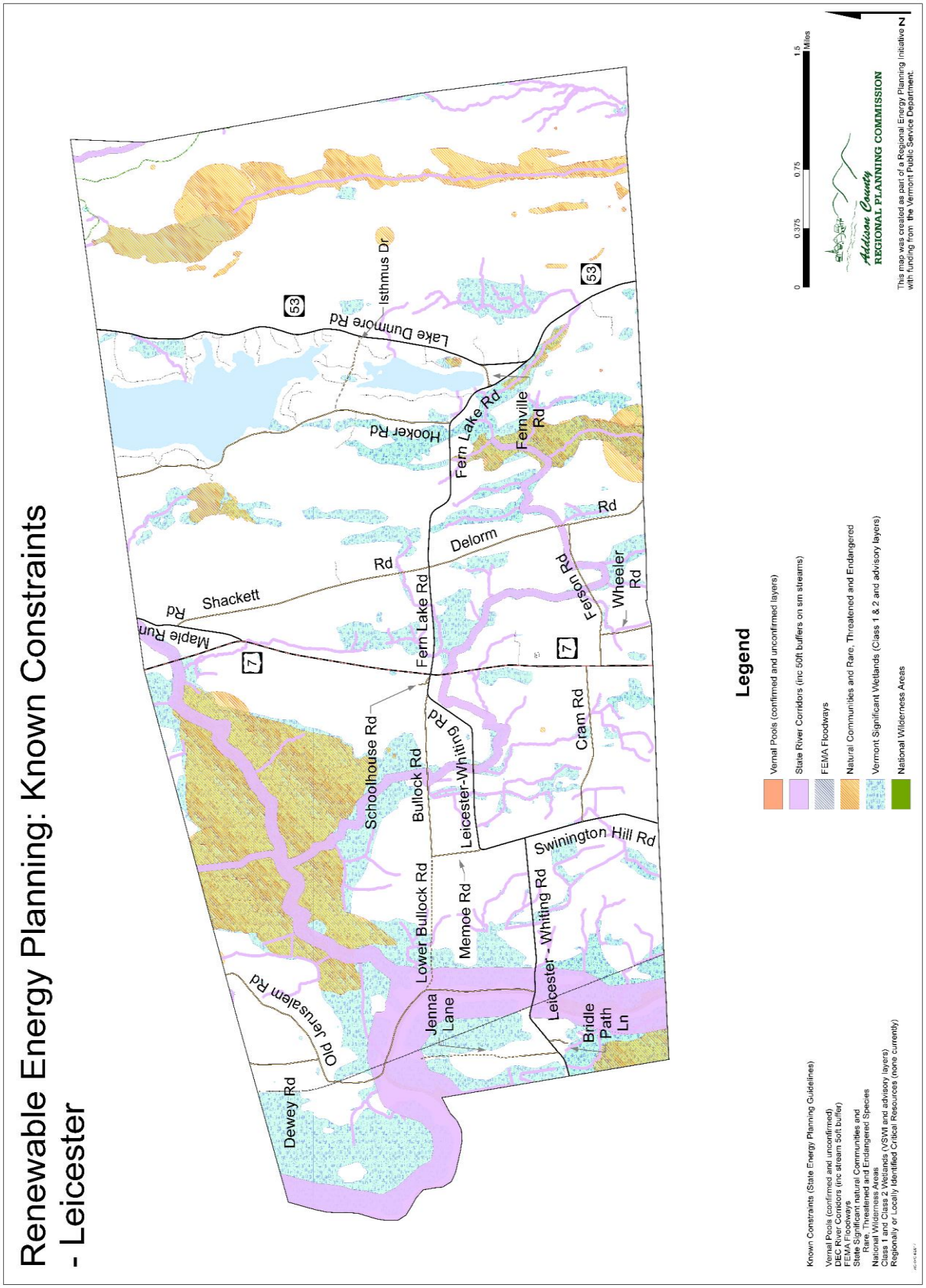
Constraint	Description	Source
Confirmed and unconfirmed vernal pools	There is a 600-foot buffer around confirmed or unconfirmed vernal pools.	ANR
State Significant Natural Communities and Rare, Threatened, and Endangered	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on	VCGI

Species	the specific rankings, explore the methodology for the shapefile.	
River corridors	Only mapped River Corridors were mapped. Does not include 50 foot buffer for streams with a drainage area less than 2 square miles.	VCGI
National wilderness areas		VCGI
FEMA Floodways		VCGI/NRPC
Class 1 and Class 2 Wetlands		VCGI
Designated Downtowns, Designated Growth Centers, and Designated Village Centers	These areas are the center of dense, traditional development in the region. This constraint does not apply to roof-mounted solar within such designated areas. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
FEMA Flood Insurance Rate Map (FIRM) special flood hazard areas	Special flood hazard areas as digitized by the NRPC were used (just the 100-year flood plain - 500-year floodplain not mapped). The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
Ground and surface waters drinking protection areas	Buffered Source Protection Areas (SPAs) are designated by the Vermont Department of Environmental Conservation (DEC). SPA boundaries are approximate but are conservative enough to capture the areas most susceptible to contamination. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Vermont Conservation Design Highest Priority Forest Blocks	The lands and waters identified here are the areas of the state that are of highest priority for maintaining ecological integrity. Together, these lands comprise a connected landscape of large and intact forested habitat, healthy aquatic and riparian systems, and a full range of physical features (bedrock, soils, elevation, slope, and aspect) on which plant and animal natural communities depend. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan. (Source: ANR)	ANR
Public water sources	A 200-foot buffer is used around public drinking water wellheads. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
National Natural Landmark – Chazy Fossil Reef	The Chazy Fossil Reef in Isle La Motte has been designated a National Natural Landmark by the US Department of Interior.	NRPC

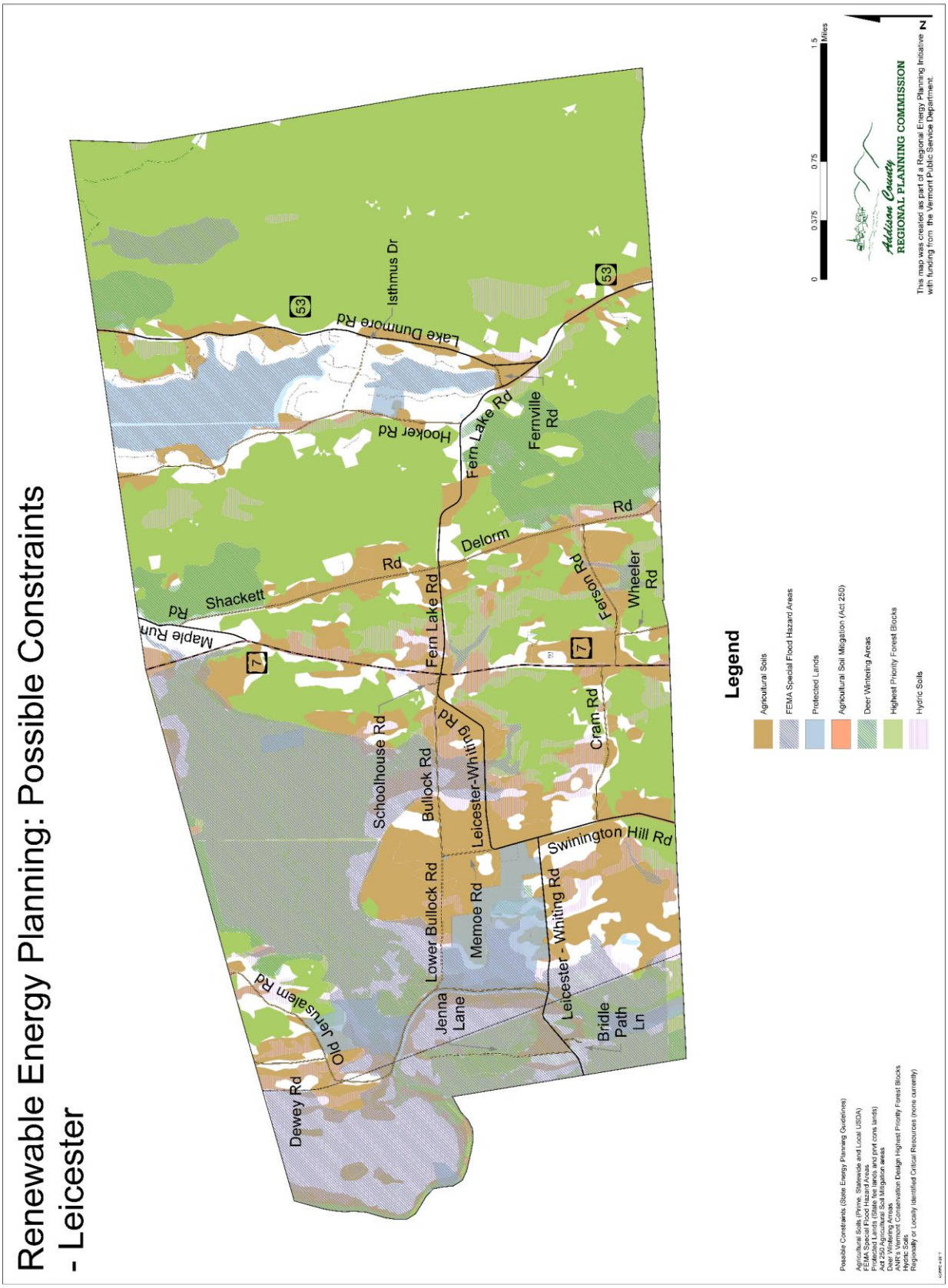
Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that strongly deters or prohibits development have been included as a regional known constraint. The inclusion of this resource as a regional constraint is consistent with the goals and policies of the Northwest Regional Plan. Specific municipal land use districts included are outlined in Section D. The Richford Recreation/Conservation District and Water Supply District are included in this category.	NRPC
Solar, Wind and Biomass Maps - Possible Constraints		
Constraint	**Description**	**Source**
Protected lands	This constraint includes public lands held by agencies with conservation or natural resource oriented missions, municipal natural resource holdings (ex. Town forests), public boating and fishing access areas, public and private educational institution holdings with natural resource uses and protections, publicly owned rights on private lands, parcels owned in fee by non-profit organizations dedicated to conserving land or resources, and private parcels with conservation easements held by non-profit organizations.	VCGI
Deer wintering areas	Deer wintering habitat as identified by the Vermont Agency of Natural Resources.	ANR
Hydric soils	Hydric soils as identified by the US Department of Agriculture.	VCGI
Agricultural soils	Local, statewide, and prime agricultural soils are considered.	VCGI
Act 250 Agricultural Soil Mitigation Areas	Sites conserved as a condition of an Act 250 permit.	VCGI
Class 3 wetlands	Class 3 wetlands in the region have been identified have been included as a Regional Possible Constraint. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that deters, but does not prohibit development, have been included as a regional possible constraint. Specific municipal land use districts included are outlined in Section D. The Forest/Conservation District was included in this category.	NRPC
Hydro Map - Known Constraints		
Constraint	**Description**	**Source**
National scenic and recreational rivers	Upper Missisquoi and Trout Rivers.	BCRC/NRPC

Hydro Map - Possible Constraints		
Constraint	**Description**	**Source**
"303d" list of stressed waters		ANR
Impaired waters		ANR
State Significant Natural Communities and Rare, Threatened, and Endangered Species	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on the specific rankings, explore the methodology for the shapefile.	VCGI

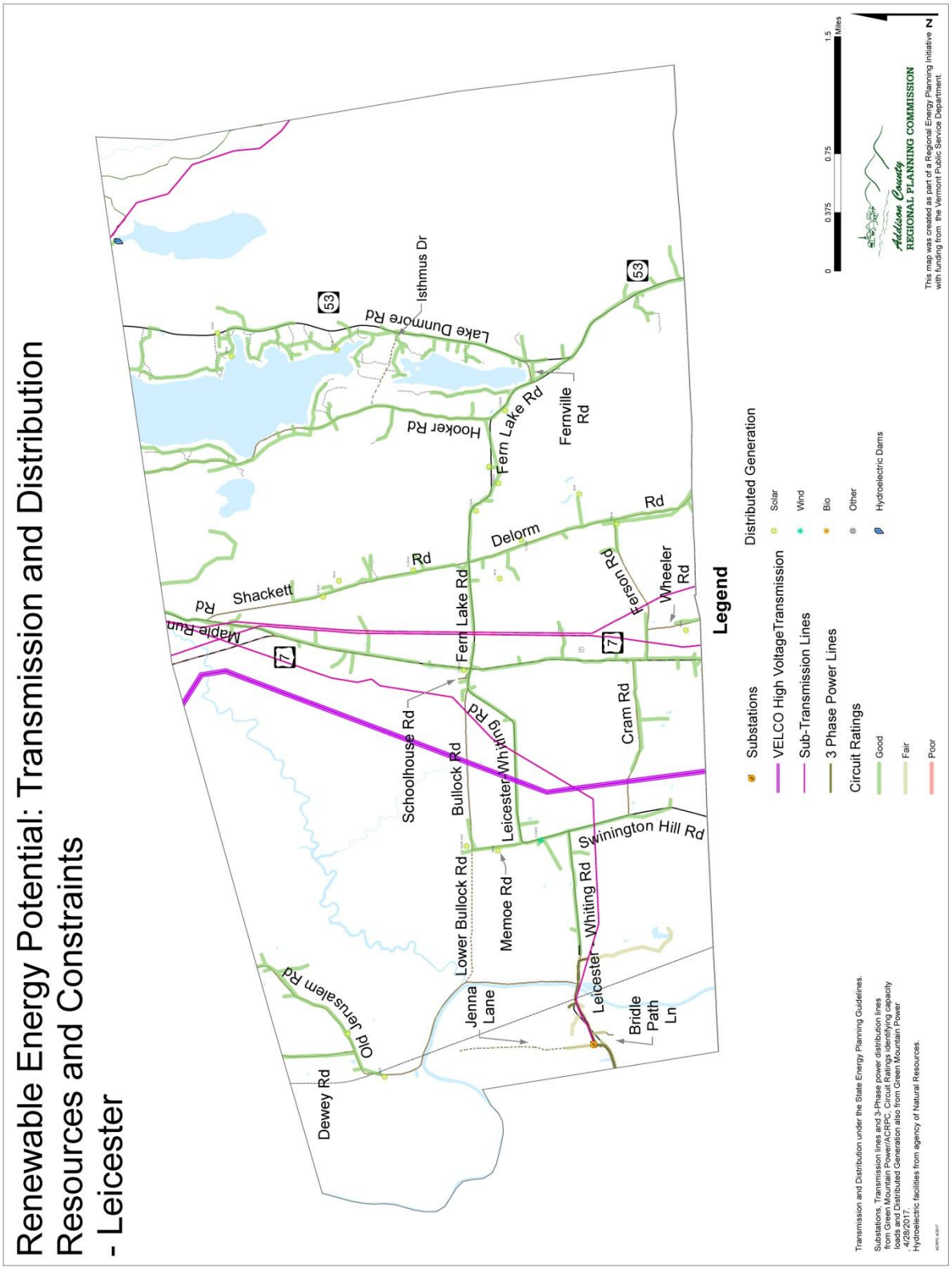
MAP 1


Renewable Energy Planning: Known Constraints
- Leicester
Legend
Vernal Pools (confirmed and unconfirmed layers)
State River Corridors (inc 50ft buffers on sm streams)
FEMA Floodways
Natural Communities and Rare, Threatened and Endangered
Vermont Significant Wetlands (Class 1 & 2 and advisory layers)
National Wilderness Areas
Known Constraints (State Energy Planning Guidelines)
Vernal Pools (confirmed and unconfirmed)
DEC River Corridors (inc stream 50ft buffer)
FEMA Floodways
State Significant natural Communities and
Rare, Threatened and Endangered Species
National Wilderness Areas
Class 1 and Class 2 Wetlands (VSWI and advisory layers)
Regionally or Locally Identified Critical Resources (none currently)
0
0.375
0.75
1.5
Miles
N
Addison County
REGIONAL PLANNING COMMISSION
This map was created as part of a Regional Energy Planning Initiative with funding from the Vermont Public Service Department.
Isthmus Dr
Lake Dunmore Rd
Hooker Rd
Fern Lake Rd
Fernville Rd
Delorm Rd
Shackett Rd
Maple Run
Fern Lake Rd
Ferson Rd
Wheeler Rd
Cram Rd
Leicester-Whiting Rd
Bullock Rd
Schoolhouse Rd
Swinington Hill Rd
Memoe Rd
Lower Bullock Rd
Leicester - Whiting Rd
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7

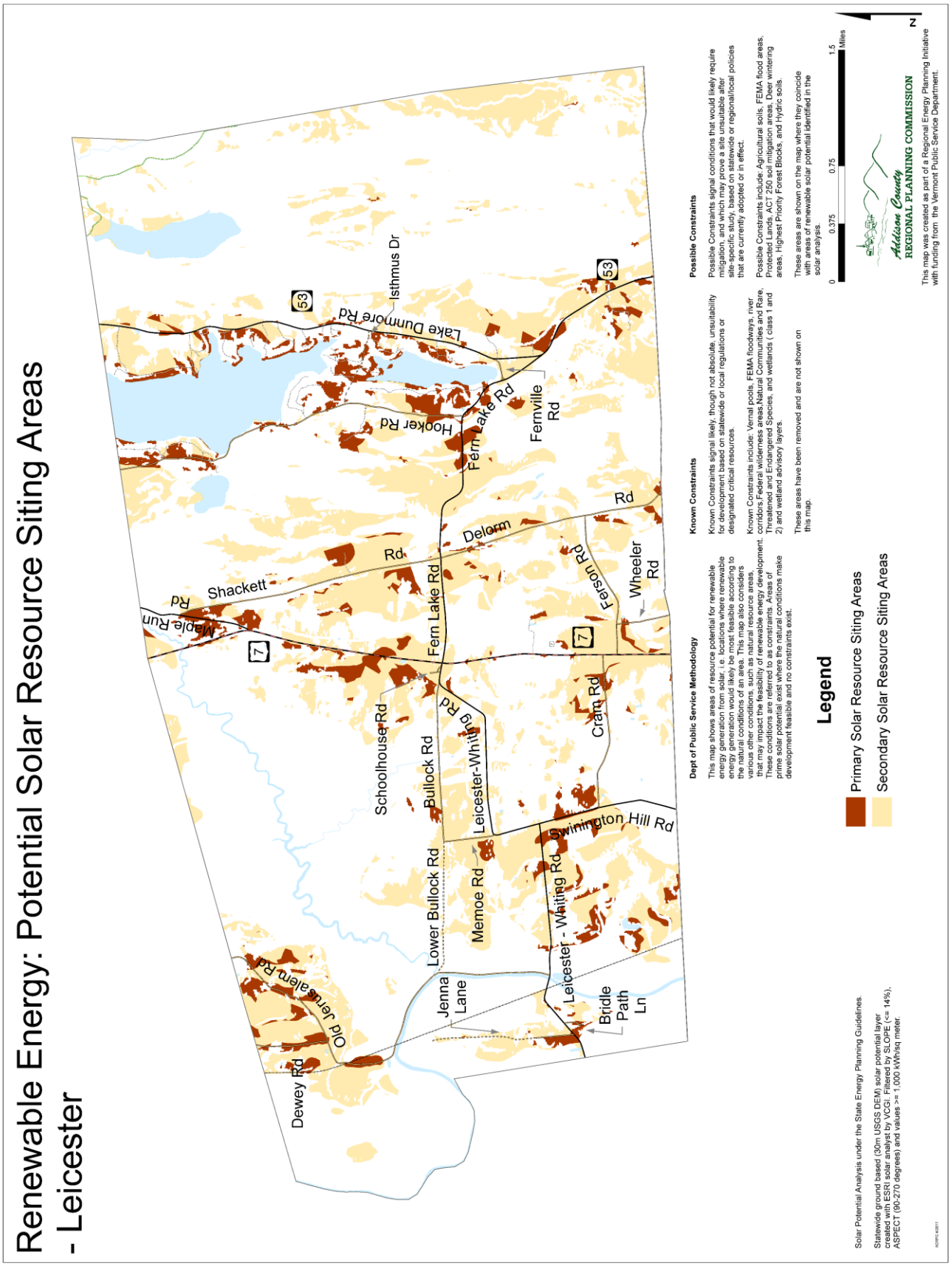
MAP 2


Renewable Energy Planning: Possible Constraints
- Leicester
Legend
Agricultural Soils
FEMA Special Flood Hazard Areas
Protected Lands
Agricultural Soil Mitigation (Act 250)
Deer Wintering Areas
Highest Priority Forest Blocks
Hydric Soils
Possible Constraints (State Energy Planning Guidelines)
Agricultural Soils (Prime, Statewide and Local USDA)
FEMA Special Flood Hazard Areas
Protected Lands (State, Federal, and private conservation lands)
Act 250 Agricultural Soil Mitigation areas
Deer Wintering Areas
Highest Priority Forest Blocks from Conservation Design
Hydric Soils
Regionally or Locally Identified Critical Resources (none currently)
0
0.375
0.75
1.5
Miles
N
Addison County
REGIONAL PLANNING COMMISSION
This map was created as part of a Regional Energy Planning Initiative with funding from the Vermont Public Service Department.
Lake Dunmore Rd
Isthmus Dr
Hooker Rd
Fern Lake Rd
Fernville Rd
Deform Rd
Ferson Rd
Wheeler Rd
Cram Rd
Swinington Hill Rd
Leicester - Whiting Rd
Leicester-Whiting Rd
Fern Lake Rd
Shackett Rd
Maple Run Rd
Schoolhouse Rd
Bullock Rd
Lower Bullock Rd
Memoe Rd
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7

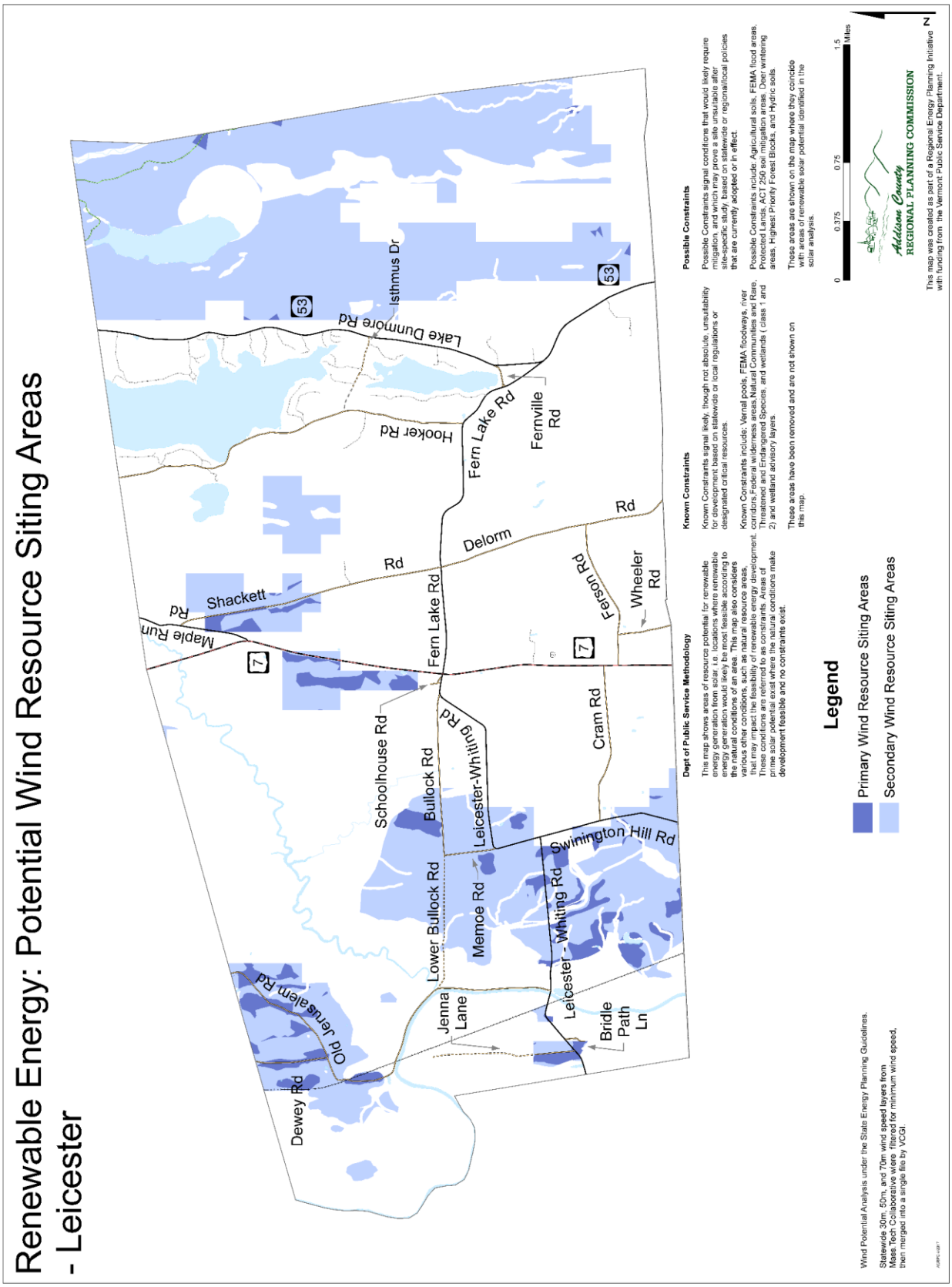
MAP 3


Renewable Energy Potential: Transmission and Distribution Resources and Constraints
- Leicester
Legend
Substations
VELCO High VoltageTransmission
Sub-Transmission Lines
3 Phase Power Lines
Circuit Ratings
Good
Fair
Poor
Distributed Generation
Solar
Wind
Bio
Other
Hydroelectric Dams
Addison County
REGIONAL PLANNING COMMISSION
This map was created as part of a Regional Energy Planning Initiative with funding from the Vermont Public Service Department.
Transmission and Distribution under the State Energy Planning Guidelines.
Substations, Transmission lines and 3-Phase power distribution lines from Green Mountain Power/ACRPC. Circuit Ratings identifying capacity levels and Distributed Generation also from Green Mountain Power 4/28/2017.
Hydroelectric facilities from agency of Natural Resources.
Isthmus Dr
Lake Dunmore Rd
Hooker Rd
Fern Lake Rd
Fernville Rd
Shackett Rd
Delorm Rd
Ferson Rd
Wheeler Rd
Cram Rd
Schoolhouse Rd
Bullock Rd
Leicester Whiting Rd
Lower Bullock Rd
Memoe Rd
Swinington Hill Rd
Whiting Rd
Leicester
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7

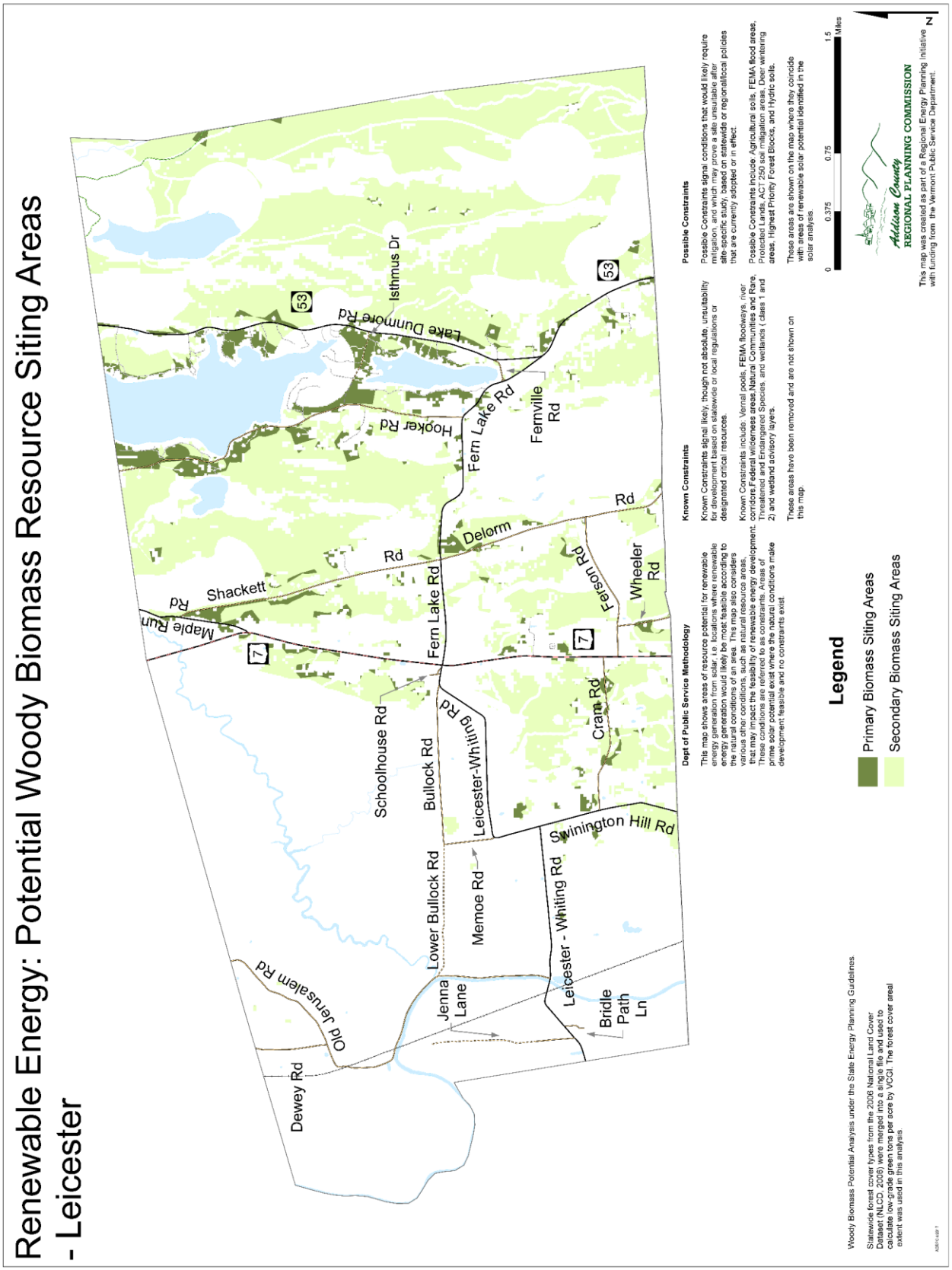
MAP 4


Renewable Energy: Potential Solar Resource Siting Areas
- Leicester
Isthmus Dr
Lake Dunmore Rd
Hooker Rd
Fern Lake Rd
Fernville Rd
Shackett Rd
Maple Run Rd
Fern Lake Rd
Delorm Rd
Ferson Rd
Wheeler Rd
Schoolhouse Rd
Bullock Rd
Leicester-Whiting Rd
Cram Rd
Swinington Hill Rd
Lower Bullock Rd
Memoe Rd
Leicester - Waiting Rd
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7
Legend
Primary Solar Resource Siting Areas
Secondary Solar Resource Siting Areas
Dept of Public Service Methodology
This map shows areas of resource potential for renewable energy generation from solar, i.e. locations where renewable energy generation would likely be most feasible according to the natural conditions of an area. This map also considers various other conditions, such as natural resource areas, that may impact the feasibility of renewable energy development. These conditions are referred to as constraints. Areas of prime solar potential exist where the natural conditions make development feasible and no constraints exist.
Known Constraints
Known Constraints signal likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources.
Known Constraints include: Vernal pools, FEMA floodways, river corridors,Federal wilderness areas,Natural Communities and Rare, Threatened and Endangered Species, and wetlands (class 1 and 2) and wetland advisory layers.
These areas have been removed and are not shown on this map.
Possible Constraints
Possible Constraints signal conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect.
Possible Constraints include: Agricultural soils, FEMA flood areas, Protected Lands, ACT 250 soil mitigation areas, Deer wintering areas, Highest Priority Forest Blocks, and Hydric soils.
These areas are shown on the map where they coincide with areas of renewable solar potential identified in the solar analysis.
0 0.375 0.75 1.5 Miles
N
Addison County
REGIONAL PLANNING COMMISSION
This map was created as part of a Regional Energy Planning Initiative with funding from the Vermont Public Service Department.
Solar Potential Analysis under the State Energy Planning Guidelines.
Statewide ground based (30m USGS DEM) solar potential layer created with ESRI solar analyst by VCGI. Filtered by SLOPE (<= 14%), ASPECT (90-270 degrees) and values >= 1,000 kWh/sq meter.

MAP 5


Renewable Energy: Potential Wind Resource Siting Areas
- Leicester
Wind Potential Analysis under the State Energy Planning Guidelines.
Statewide 30m, 50m, and 70m wind speed layers from
Mass Tech Collaborative where filtered for minimum wind speed,
then merged into a single tile by VCGI.
Dept of Public Service Methodology
This map shows areas of resource potential for renewable energy generation from solar, i.e. locations where renewable energy generation would likely be most feasible according to the natural conditions of an area. This map also considers various other conditions, such as natural resource areas, that may impact the feasibility of renewable energy development. These conditions are described in the Known and Possible Constraints sections. Areas of prime solar potential exist where the natural conditions make development feasible and no constraints exist.
Known Constraints
Known Constraints signal likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources.
Known Constraints include: Vernal pools, FEMA floodways, river corridors, Federal wilderness areas, Natural Communities and Rare, Threatened and Endangered species, and wetlands (class 1 and 2) and wetland advisory layers.
These areas have been removed and are not shown on this map.
Possible Constraints
Possible Constraints signal conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect.
Possible Constraints include: Agricultural soils, FEMA flood areas, Protected Lands ACT250 and other areas, Deer wintering areas, Highest Priority Forest Blocks, and Hydric soils.
These areas are shown on the map where they coincide with areas of renewable solar potential identified in the solar analysis.
Legend
Primary Wind Resource Siting Areas
Secondary Wind Resource Siting Areas
0
0.375
0.75
1.5
Miles
N
Addison County
REGIONAL PLANNING COMMISSION
This map was created as part of a Regional Energy Planning Initiative with funding from the Vermont Public Service Department.
Isthmus Dr
Lake Dunmore Rd
Hooker Rd
Fern Lake Rd
Fernville Rd
Delorm Rd
Shackett Rd
Maple Run Rd
Ferson Rd
Wheeler Rd
Schoolhouse Rd
Bullock Rd
Leicester-Whiting Rd
Cram Rd
Swinington Hill Rd
Lower Bullock Rd
Memoe Rd
Leicester - Whiting Rd
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7

MAP 6


Renewable Energy: Potential Woody Biomass Resource Siting Areas
- Leicester
Legend
Primary Biomass Siting Areas
Secondary Biomass Siting Areas
Known Constraints
Possible Constraints
Dept of Public Service Methodology
Addison County
REGIONAL PLANNING COMMISSION
Isthmus Dr
Lake Dunmore Rd
Hooker Rd
Fern Lake Rd
Fernville Rd
Delorm Rd
Shackett Rd
Maple Run
Schoolhouse Rd
Bullock Rd
Leicester-Whiting Rd
Ferson Rd
Wheeler Rd
Crane Rd
Swinington Hill Rd
Lower Bullock Rd
Memoe Rd
Leicester - Whiting Rd
Jenna Lane
Bridle Path Ln
Old Jerusalem Rd
Dewey Rd
53
7
Miles
N

At the end of the mapping exercise, ACRPC calculated the amount of renewable resource generation possible in Leicester based upon the maps and some assumed values for the amount of land it took to produce specified amounts of solar and wind energy. The results of this analysis are depicted in Table 9, Renewable Generation Potential. As the table demonstrates, the amount of renewable generation potential is substantial, especially when compared to the numbers of actual generation that currently exists in Leicester, contained in Table 8.

Table 9. Renewable Generation Potential	MW	MWh
Rooftop Solar	1	976
Ground-mounted Solar	426	522,906
Wind	1,147	3,515,169
Hydro	0	0
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	1,574	4,039,052

Renewable Generation Targets

As part of the same exercise, DPS also provided Renewable generation targets that all municipalities would need to meet in the context of the State meeting its goal of producing half of its energy within the State. Those goals for Leicester, shown in Table 10, below, are based upon a combination of Leicester's population (Correlated to its potential use) and to the amount of potential resources available in Leicester.

When one compares the goals in Table 10 with the potential in table 9, it is readily clear, that at least theoretically, Leicester's resource potential dwarfs its generation goals.

Table 10. Renewable Generation Targets	2025	2035	2050
Total Renewable Generation Target (in MWh)	6396.8	12793.7	19384.4

Therefore, Leicester has chosen to use the following community land use standards to help guide energy projects to locate in areas it deems acceptable and to prohibit them in other areas.

COMMUNITY STANDARDS FOR SITING AND DECOMMISSIONING ENERGY PROJECTS

Leicester recognizes that financial considerations require large solar and wind projects be located in close proximity to electric power lines capable of transmitting the load proposed to be generated and with easy access to major transportation networks for construction. However, Leicester also desires to maintain the working and open landscapes, adopted conservation and habitat protection measures, and scenic rural views important to its economy and to the rural cultural aesthetic and quality of life. All commercial or community scale generation projects must meet the policies and standards set forth in this energy plan.

A. **Siting.** Where a project is placed on the landscape constitutes the most critical element in the aesthetic siting of a project. Poor siting cannot be adequately mitigated. Accordingly, all renewable energy projects must evaluate and address the proposed site's aesthetic impact on the surrounding landscape and significant viewsheds.

Good sites have one or more of the following characteristics:

- Roof-mounted systems.
- Systems located in close proximity to existing larger scale, commercial, industrial or agricultural buildings.
- Proximity to existing hedgerows or other topographical features that naturally screen the proposed array from view from at least two sides.
- Systems fit the scale and context of their location.
- Reuse of former brownfields or otherwise impacted property.
- Glare and noise are minimized to the extent possible.

Poor Sites have one or more of the following characteristics:

- No natural screening.
- Topography that causes the arrays to dominate the skyline from common vantage points like roads or neighborhoods (recognizing that this is more difficult for wind towers).
- Locations in floodways or mapped river corridors.
- A location in proximity to and interfering with a significant viewshed.
- The removal of productive agricultural land from agriculture use.
- Sites that require undue public investment in transmission and distribution infrastructure in order to function properly.

B. **Mass and Scale**. The historical working landscape and other open lands, rural residential development, rolling hills and Lake Dunmore against the backdrop of the Green Mountains define Leicester. Leicester desires to preserve these types of viewsheds. Rural structures like barns fit into the landscape because their scale and mass generally do not impact large tracts of otherwise open land. When houses are added to Leicester's landscape, sensitive siting and appropriate screening are required whenever possible. Renewable energy systems shall also be limited in mass and scale, or have their mass and scale broken by screening, to fit in with the landscape. Systems of 150 kW and less (which comprise 1.5 acres or less) should fairly easily conform to these standards given the smaller size. All commercial scale solar arrays (i.e. above 15kW) shall also be limited in mass and scale, and/or have their mass and scale broken by screening to fit in with the landscape. Commercial solar projects larger than 1 MW, which are typically in excess of 8 acres are larger than any other structure within the municipality of Leicester and are difficult to screen or otherwise mitigate from visual and ecological perspectives. In the event such inability to adequately screen or otherwise mitigate from visual and ecological perspectives is the case, commercial solar projects above 1MW are prohibited.

Projects which on the balance are found to have poor siting characteristics pursuant to the community standards contained above or in other parts of Leicester's Town Plan violate Leicester's Plan regarding orderly development.

<u>Mitigation methods.</u>

A. *Solar Installations*: In addition to properly siting a project according to the criteria set forth above, solar developers must take the following action to mitigate all project sites:

- Locate the structures on the site to keep them from dominating the skyline above the horizon from public vantage points.
- Shorter panels may be more appropriate in certain spaces than taller panels to keep the project lower on the landscape.
- At a minimum, all solar arrays must observe the setback restrictions contained in Act 56 governing solar installations. However, developers are encouraged to increase setbacks to at least those listed in Leicester's Zoning Regulations within the Zoning District in Municipality in which the array lays.

- Use the existing topography, development or vegetation on the site to screen and/or break the mass of the array.
- In the absence of existing natural vegetation, the commercial development must be screened by native plantings beneficial to wildlife and pollinators that will grow to a sufficient height and depth to provide effective screening within a period of 5 years. Partial screening to break the mass of the site and to protect public and private views may be appropriate.
- Practice a "good neighbor policy". The siting of the array should be done in such a manner that the array creates no greater burden on neighboring property owners or public infrastructure than it does on the property on which it is sited. As an example, a landowner may not site an array on his or her property in a location calculated to diminish the visual impact of the array from his or her residence, but places the array immediately within their neighbor's or the public's viewshed.
- Use black or earth tone materials (panels, supports, fences) that blend into the landscape instead of metallic or other brighter colors), and take all possible steps to eliminate or reduce reflection on affected properties or views from the public roads.
- Allow wildlife passage through fencing or using the solar site as wildlife habitat.

B. *Wind*: The actual footprint of a wind turbine tends to be small but its resource impact is more substantial than the footprint area. Wind turbines (particularly wind farms) are likely to have scenic or aesthetic impacts, sometimes quite dramatic. Scale and landscape context are important considerations in siting wind installations. Besides applying any relevant goals, policies and standards set forth above, the following additional criteria will be used to evaluate whether on the balance potential wind installations meet or violate Leicester's Town Plan:

- Glare and noise will be considered in locations that are adjacent to residential or recreational properties. Lower gloss paint or darker color blades may be required where reflective characteristics could present an annoyance.
- Wind turbines are likely to be most appropriate within agricultural, commercial or industrial contexts and should be sited, where practical, near other structures.
- In landscapes valued for natural or scenic features, particularly the views around Lake Dunmore, siting will be evaluated for potential visual impacts on scenic views and the experience of a natural landscape.
- Impact on the flight and migration patterns of birds.
- No wind towers requiring night lighting shall be allowed within the Town of Leicester (Generally, turbines with a total height greater than 200 ft.)

C. *Transmission lines and infrastructure*: Transmission infrastructure, including sub-transmission lines, or any lines equal to or greater than 45kW and substations can also have a substantial impact on the environment around them. In fact, one of the reasons to support distributed generation is to reduce the need for expensive transmission line upgrades. If any transmission lines are proposed within the Town of Leicester shall meet the following mitigation guidelines:

- Substations shall be screened in a manner similar to solar sites as noted above.
- Lines shall be located at the edge of fields, not through the middle of the field.
- Lines shall not rise above the level of the tree line (Presumed to be 60 feet).
- Where lines cross distribution lines, the distribution lines shall be buried to reduce the height of the transmission lines.
- Plantings shall be used to screen transmission infrastructure form residences or prominent communal viewpoints.

Decommissioning and Restoration. All projects shall be decommissioned at the end of their useful life. This means equipment shall be removed, landscaping kept and disturbed areas restored. Developers of all projects

100 kW and greater shall provide the municipality with appropriate assurances to guarantee funding exists to decommission the project. In keeping with Leicester's desire to retain its agricultural land base, a solar array's useful life shall be deemed to be at the end of its useful life when the array(s) are taken off line.

LAND USE, RENEWABLE GENERATION AND TRANSMISSION PATHWAYS TO IMPLEMENTATION

Given the generation targets, noted above, to meet statewide targets, Leicester promotes the following Goals, Policies and Recommended Actions for itself and its citizens.

GOALS

1. Conserve renewable and nonrenewable energy resources.
2. Reduce reliance on nonrenewable energy sources such as oil and gas, and shift reliance to renewable energy sources.
3. Reduce emissions of greenhouse gases and substances that cause acid rain.
4. Support responsibility sited and responsibly developed renewable energy projects, which includes such structures as solar panels, wind turbines and all supporting infrastructure.
5. Plan for increased electric demand with the support of Green Mountain Power and Efficiency Vermont.
6. Lead by example. Encourage the use of alternative means for energy production in town buildings, the school and residences such as geothermal and solar.
7. Conserve forest land as a renewable energy resource, tempered by the responsible use of wood for biomass energy production.

POLICIES

Land use

1. Encourage settlement patterns that reduce travel requirements for work, services, and recreation.
2. Encourage development of compact neighborhoods.
3. Concentrate development within our residential-agricultural-commercial districts which results in the conservation of natural resources, land, energy used and infrastructure demands.
4. Allow general stores and other businesses in village areas.
5. Allow infilling of existing large-lot development if higher density development is desirable and appropriate.
6. Provide opportunities for appropriate home occupations.
7. Support local farms and local food system which decrease energy demands of trucking and shipping and gives value and purpose to our open agricultural lands.

Generation

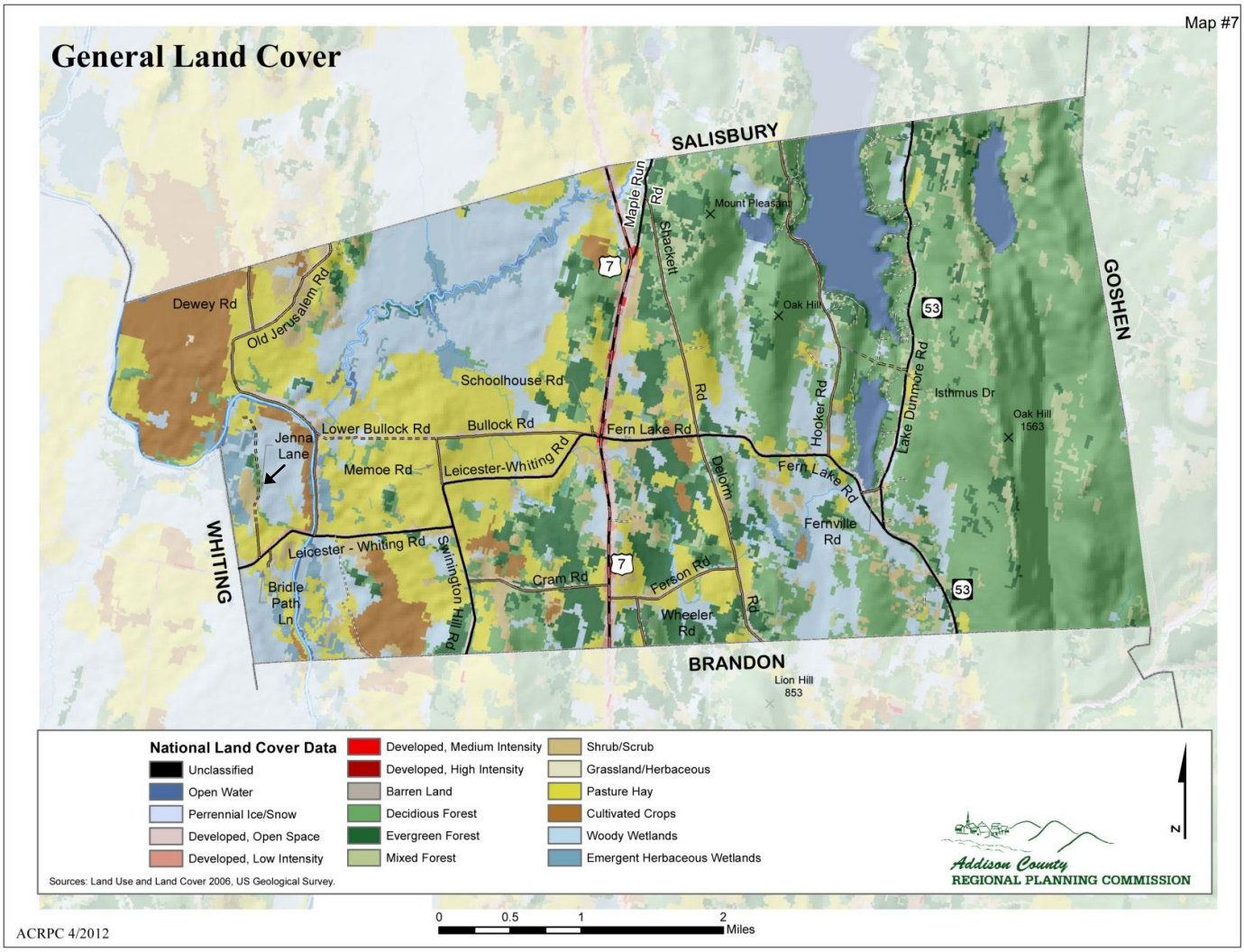
1. Support the development and siting of renewable energy resources in the Town that are in conformance with the goals, strategies, and mapping outlined in this energy plan.
2. Development of generation utilities shall be favored in identified preferred locations over the development of other sites.
3. Support production of energy from methane for Leicester on-farm use only as a desirable agricultural practice.
4. Encourage the use of wind energy with due regard to aesthetic and environmental considerations, especially in high and medium density residential areas.

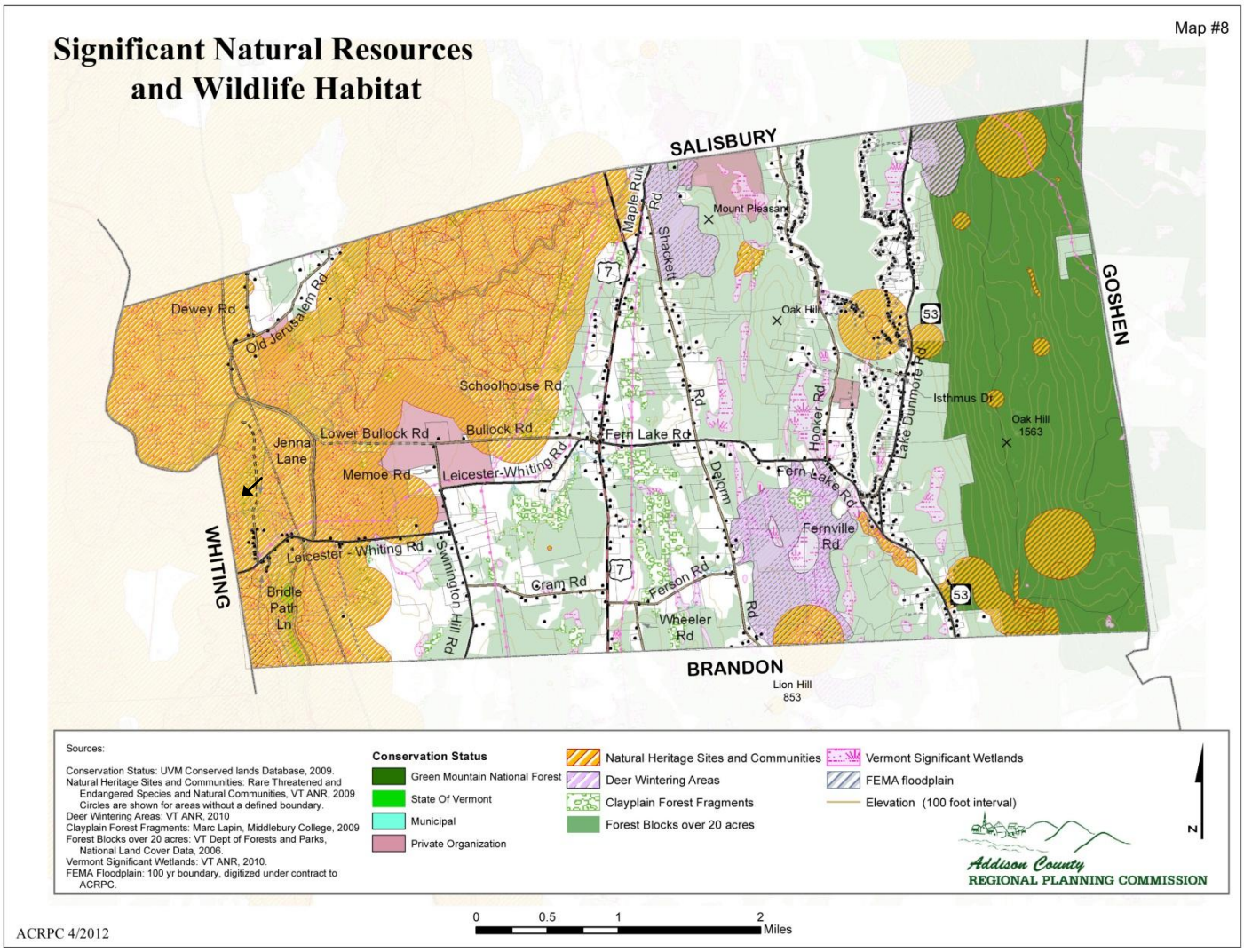
RECOMMENDED ACTIONS

1. The Leicester Energy Coordinator will continue to work closely with the Leicester Planning Commission, DRB, and Zoning Administrator on any proposed energy development projects within Leicester.
2. Investigate the installation of municipal solar and/or wind net-metering facilities to off-set municipal electric use.
3. Investigate installation of community-owner renewable energy project(s) to allow Leicester's citizens to participate in the economic benefits of local energy production.

NATURAL RESOURCES

Leicester's natural resources include the steep and rocky slopes of the Green Mountain National Forest, fresh mountain streams, deep lakes to the east, and rolling meadows and wetlands to the west. The associated land cover provides a diversity of ecologically significant habitats, beautiful rural landscapes, and prime agricultural lands. Due to the abundance of natural resources Leicester has the responsibility of managing lands and development in a way that preserves these resources for current and future generations.



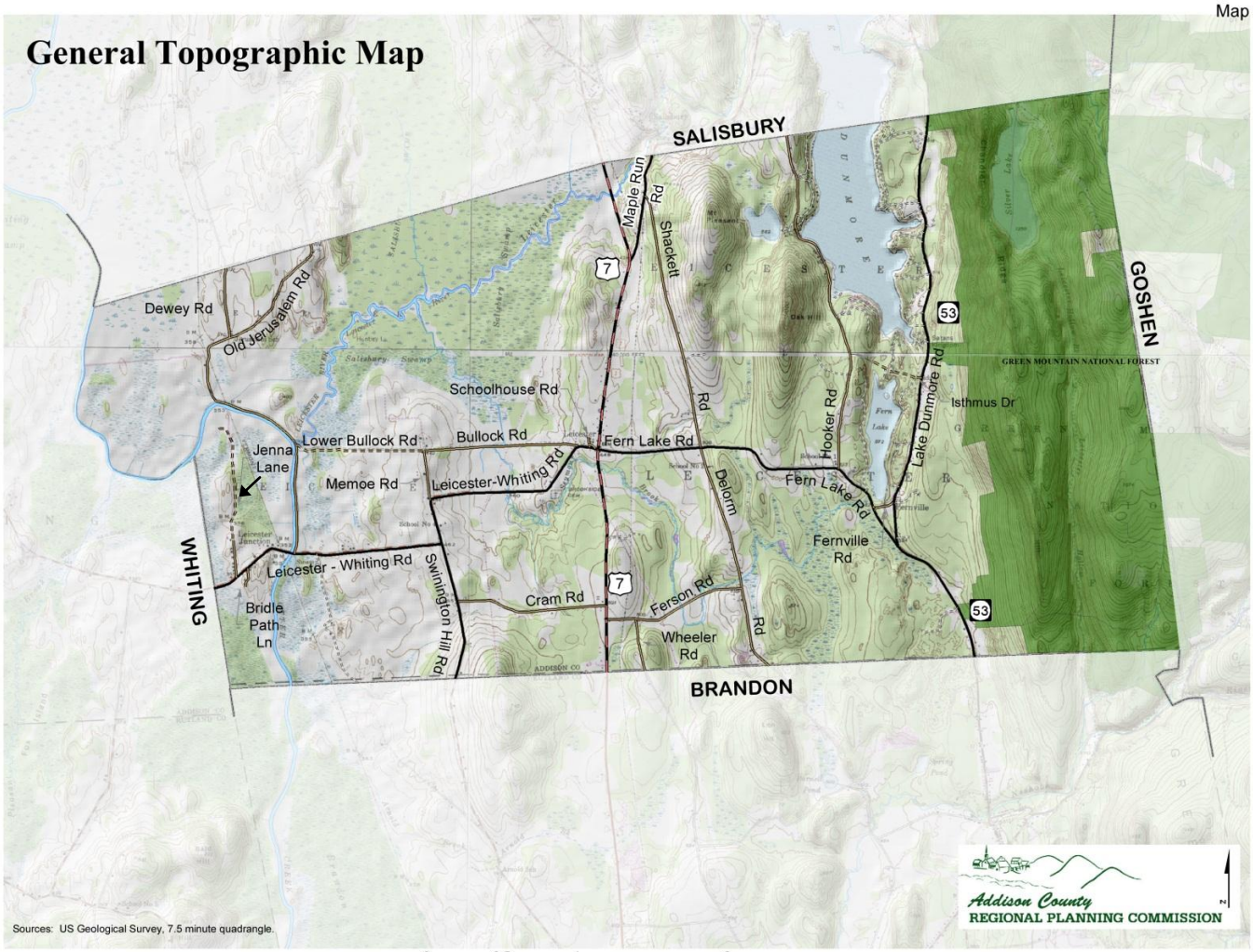


FORESTLAND

2,600 acres of Leicester's forestland are part of the Green Mountain National Forest (GMNF). This land is managed by the Forest Service and provides a variety of uses, including logging and recreational activities such as hunting, fishing, hiking, mountain biking, and camping. It is home to a large wildlife population including bear, moose, coyote, deer, bobcat, raptors, and songbirds. Connected to some of the State's largest wetland areas, streams, and lakes, this forest provides essential habitat for many reptiles and amphibians. The terrain is steep and rocky and predominately a mixture of spruce, pine, fir, and northern hardwoods.

While the Forest Service manages these forestlands, the community is responsible for using these lands respectfully. Keeping off trails in the spring and practicing hike-it-in, hike-it-out principles are a few examples of wise use of this resource. Attention should be given to the development of properties abutting the GMNF, including the management of our roads, culverts and ditches. Infrastructure management and maintenance will determine if steep slopes erode or stay intact, if streams run clear or carry large quantities of sediment, and if trees grow well or die back. Forestlands not included in the GMNF are just as integral to the character of Leicester's landscape and care should be given to maintaining healthy, contiguous tracts of forestland whenever feasible. Forestlands absorb carbon dioxide. They also provide timber, shade, beautiful views, erosion control, and essential wildlife habitat.

Map #9



Forestland

Goals

1. Support private landowners in improving the health of Leicester's forestlands in partnership with other organizations.
2. Maximize the ecological services provided by our forestlands, such as soil protection, water filtration and wildlife habitat, while balancing their capacity as a recreational and economic resource.
3. Prevent erosion on steep slopes.

Recommended Actions

1. Encourage the protection of contiguous forestlands.
2. Include the best available forest management science and practices in Subdivision and Zoning regulation associated with Leicester's forestlands.
3. Encourage landowners to utilize programs, such as those offered by Vermont Family Forests that keep the origin, preparation, sale and use of wood products local and sustainable.
4. Provide educational materials to the Leicester community on land management techniques and invasive species control that bolster the health of trees and forests.

WILDLIFE HABITAT AND CORRIDORS

Leicester's varying landscape provides a diversity of wildlife habitats: hedgerows that support song birds; snags that provide nesting for raptors; wetlands for macro-invertebrates, amphibians and reptiles; and streams for cold water fish. While all habitats are important, there are certain areas in Leicester that are more significant than others for supporting larger quantities and/or diversities of wildlife, or for providing essential travel routes for wildlife breeding and foraging.

In the spring of 2011, Salisbury completed a wildlife tracking study and mapped the significant wildlife corridors within its municipal boundaries. Leicester shares many of the same ecosystems as Salisbury, and the road networks, wetlands and forests which were studied. The inventories completed by Salisbury reflect wildlife movement patterns and species that Leicester shares.

Documenting such areas is a helpful tool in determining conservation areas, road speeds and signage, and other development decisions. Leicester roads abutting Salisbury's significant wildlife crossings areas include the northern end of Maple Run Road, and the northern ends of Old Jerusalem Road and Dewey Road. Leicester residents have also reported wildlife crossing on roads adjacent to the lakes and wetlands.

Leicester development decisions should protect wildlife whenever possible. One challenge is that much of the land in Leicester is privately owned and managed. While zoning bylaws and permitting regulations do protect these resources to some extent, it is up to all members of the community to understand the values associated with the land (ecological, economic, and social) and manage them accordingly.

Wildlife

Goals

1. Manage natural resources in a way that supports the health and vitality of diverse wildlife populations.
2. Preserve and protect rare and endangered plant and animal species, outstanding natural communities, and other significant natural features.

Recommended Actions

1. Consider joining the Salisbury Conservation Commission in order to better collaborate on the inventory and mapping of wildlife habitat and travel corridors that cross our municipal boundaries.

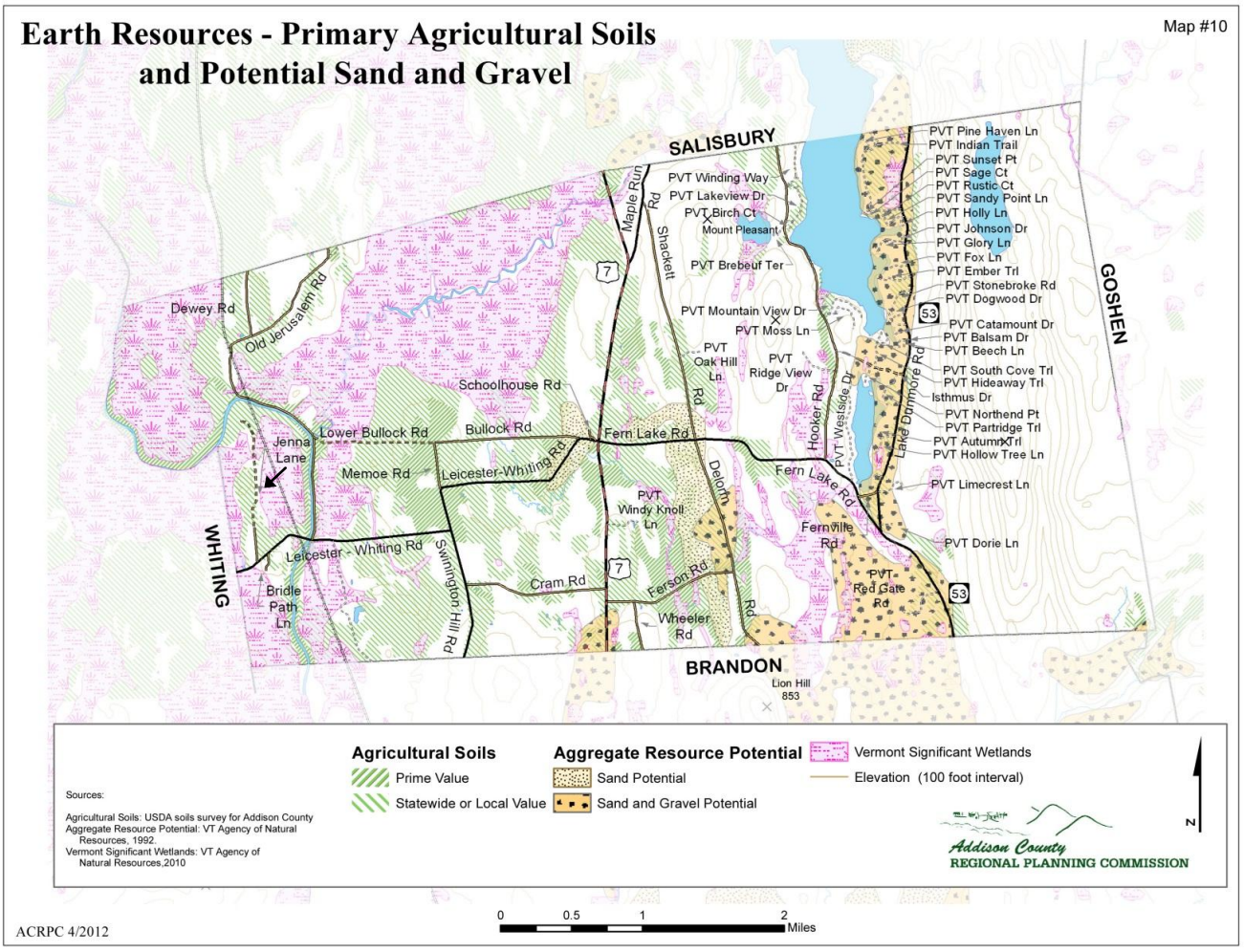
SOILS

Soil types in Leicester vary from east to west. The soils west of the Green Mountain National Forest and the Lake Districts are heavy and poorly drained, but quite fertile. There are approximately 3,800 acres of prime agricultural soils most of which are west of Shackett and Delorm Roads and south of the Leicester River. There is also a narrow band of prime agricultural soils along the banks of Otter Creek. Much of the prime agricultural soil remains in farmland. See Prime Agricultural Soils Map.

Soils must be managed to prevent topsoil from eroding too quickly, thus allowing nutrients to build in the soil rather than be washed away. This Plan supports best management practices for agricultural businesses to maintain and enrich these soils for future farming generations.

Leicester has around 950 acres of sandy or gravelly soil. Most of these soils are on the eastern side of Lake Dunmore and Fern Lake running along the base of the steeper slopes and in an area directly west of Delorm Road.

The density of residences around the Lakes has only been possible due to the capability of these sand and gravel soils to treat wastewater. Leicester's Lake District soils, however, may be reaching maximum capacity for septic systems due to steady development over the past 100 years. New summer homes, the conversion of seasonal camps to year-round homes, and failing older systems put a strain on the soils to filter and process waste water. Leicester residents must make every attempt to comply with State septic regulations to protect the ecological resources available. Consideration should also be given to complementary site design decisions, such as maintaining a vegetated buffer on shorelines, stream banks, and along roads, and enforcing building setbacks from the shoreline.



Soil

Goals

1. Support development and land use practices that are complementary to the soil capacities of the associated area to maintain healthy soils and minimize unwanted run-off throughout Leicester.
2. Preserve Leicester's prime agricultural soils for future generations.

Recommended Actions

1. Require all construction projects to present information on storm water and waste water capacities associated with the property and adhere to State septic regulations.
2. Ensure all subdivision and zoning bylaws limit development on prime agricultural soils.

AGRICULTURAL RESOURCES

As can be seen in the previous map, much of Leicester's scenic landscape is due to the abundance of pastoral farmlands. The percentage of these lands actually being farmed has greatly decreased in the past 100 years. Maintaining agricultural lands and supporting a diversity of agricultural businesses is essential to Leicester's rural and scenic character and a vibrant local economy. See the Economic Development and Land Use sections of this Plan.

EARTH RESOURCES

There are extensive deposits of limestone both to the north in Middlebury and to the south in Brandon. Historically, Leicester had several active limekilns that were directly linked to the rail line. There was a stone quarry located south of the Leicester-Whiting Road and east of the rail line. Currently, there are no active stone quarries in Leicester. Sand and gravel deposits are found in Leicester, and there are currently two private gravel pits used for local landscaping businesses.

Earth Resources

Goals

1. Support resource extraction that maintains a high level of environmental quality for abutting land and preserves the character of the community.

Recommended Actions

1. Require resource extraction management to prevent erosion debris from entering watercourses, to reduce safety hazards caused by pits, or steep or unstable slopes, to restore terminated sites to their original contours with vegetative cover, and prohibit the removal of sand or gravel directly from watercourses, as stated in Vermont State law.

AIR RESOURCES

Due to Leicester's rural environment, air quality is typically high. The biggest threats to air quality are discussed below.

Trash Burning

The Addison County Solid Waste Management District, of which Leicester is a member, prohibits by ordinance the burning of solid waste. Violators are subject to a fine.

Outdoor Wood-Fired Boilers

Leicester residents who are interested in purchasing an outdoor wood-fired boiler should be aware that Vermont Air Pollution Control Regulations 10 VSA 5(204, 205), as adopted 10 January 2009, control use of outdoor wood-fired boilers. As of March 31, 2010, only outdoor wood boilers certified to emit less than 0.32 pounds of particulate matter per million BTUs (Phase II boilers) may be sold for use in Vermont. Units in use prior to that date must meet a standard of 0.44 pounds per million BTUs (Phase 1 boilers). Phase 1 boilers must be located more than 200 feet from the nearest neighbor's house and with a permanent smokestack that is higher than the roof peak of the house it serves.

Wood Stoves

Residents using wood stoves uncertified by the Environmental Protection Agency (EPA) are encouraged to exchange them for new, more efficient and cleaner burning wood, pellet or gas stoves. Catalysts in EPA-certified catalytic wood stoves should be replaced every five years. Potential customers for these products should be aware that rebates are sometimes available from the State government.

Vehicle Emissions

Vehicle emissions of carbon monoxide and nitrogen dioxide may be Leicester's largest source of air pollution. More than 2,000 vehicles drive up and down Route 7 each day. These and idling vehicles contribute significantly to air pollution. This Plan encourages residents to seek alternatives to single-passenger commuting.

Air Resources

Goals

1. Seek to protect and enhance the air quality in Leicester to reduce associated health problems, and create enjoyable places for people to live, work and recreate.

WATER RESOURCES/FLOOD RESILIENCY

Leicester sits in the Otter Creek watershed, which means that all the land in Leicester ultimately drains to Otter Creek. This watershed is comprised of many smaller watersheds. It is important to recognize that all land drains somewhere, and how *any* land is managed affects the health of water resources downstream.

In 2005 Salisbury and Leicester received a Municipal Planning Grant and developed the *Salisbury-Leicester Collaborative Planning Study*. Among other topics, this study focused on water quality and included mapping and inventorying of e-coli and erosion issues in Lake Dunmore. The two priority issues identified for water quality were:

- *No public water or wastewater infrastructure currently exists in the Lakes area; all development depends on private septic systems and wells, an uncertain percentage of which have not been upgraded since their construction for seasonal use in the years before state environmental regulations went into effect.*

- *Development activities are causing the loss of existing forest cover and natural vegetation in the Lakes area and along the shorelines.*

Recommendations from the study have been incorporated into the goals and action items associated with this section of the Plan.

Lakes

There are three major lakes in Leicester – Silver Lake, Lake Dunmore (shared with Salisbury), and Fern Lake. At 1,250 feet, 650 feet higher than Lake Dunmore, Silver Lake is located within the boundaries of the Green Mountain National Forest. Silver Lake is only accessible on foot or bicycle. Motorized vehicles and motorized boats are banned entirely from the primitive lakeshore campground at Silver Lake.

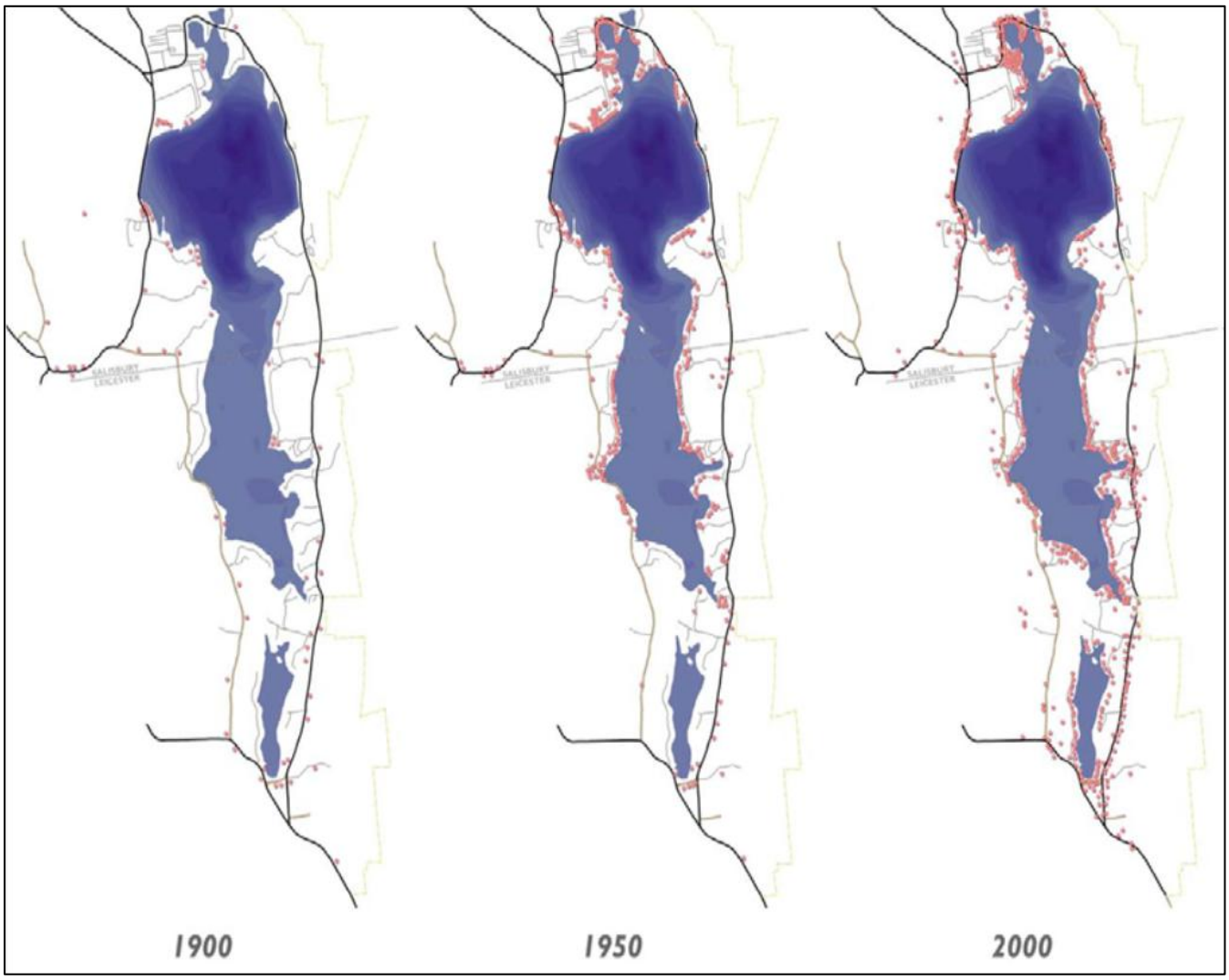
Silver Lake was once a 19th-century resort destination. During the late 1800s, Frank Chandler purchased the 2,500-acre property and built the three-story Silver Lake Hotel. Today, there are few reminders of Silver Lake's days as a summer resort. In 1942, the hotel was destroyed by a fire, leaving only remnants of its foundations along the lake's northern shore.

Lake Dunmore and Fern Lake still attract numerous seasonal residents and visitors to their shores each summer. The 1,000-acre Lake Dunmore is located in the Towns of Leicester and Salisbury. The 70-acre Fern Lake is south of Lake Dunmore, separated from the larger lake by a narrow isthmus. The shores of Fern Lake and Lake Dunmore are highly developed. Motorized boats and sports are allowed on Lake Dunmore. Fern Lake restricts motorized boats.

Lake Dunmore 2010 – Courtesy of Julie Delphia

The Lake Dunmore Fern Lake Association (LDFLA) actively addresses issues associated with the care of these Lakes, including the impact of invasive species. One of the most important activities of the LDFLA is obtaining the funding for and administration of the Milfoil Management Program.

Protecting the health of the Lakes is an on-going task for the town. Development in the Lake Districts, road maintenance, and land management within these watersheds have a huge impact on the health and the well-being of the community.



This map from the 2005 *Salisbury – Leicester Collaborative Planning Study* demonstrates the steady development the Lake District has seen over the past 100 years. This development has put a strain on the soils ability to filter waste water effectively.

Rivers and Streams

Otter Creek flows through the western side of town, forming part of the border with Whiting. It overflows its banks regularly during the spring snow melt. The area near the creek comprises the majority of the approximately 700 acres of the town's frequently flooded land.

The Leicester River flows from Lake Dunmore to Otter Creek, passing through the Salisbury Swamp. The flow of the Leicester River is largely controlled by a dam located in the Town of Salisbury.

Leicester has a number of small brooks and seasonal streams. Leicester Hollow Brook, which originates near Silver Lake and flows south towards Forest Dale, is a popular hiking and fishing destination. Numerous other small brooks and streams drain into Leicester's Lakes.

According to the Addison County River Watch Collaborative, sedimentation and high phosphorus levels (from manure, fertilizer and human waste water) are the biggest threats to water quality in Otter Creek.

High E. coli counts also threaten recreational potential. There are a number of stretches on Otter Creek that are listed by the State of Vermont as impaired for swimming, but the section of Otter Creek that runs through Leicester is currently not one of them.

This Plan encourages residents to manage lands in ways that minimizes erosion and run-off into rivers and streams. Maintaining or establishing vegetated buffers along river and stream corridors is essential.

Wetlands

Leicester contains approximately 3,000 acres of wetlands, mainly in the western and northern part of town. These wetlands perform important functions such as providing wildlife habitat and storing floodwaters. The largest wetland area is Salisbury Swamp, which is located in Leicester and Salisbury in the area surrounding the Leicester River. It is a 1,900-acre wetland composed of several forest types – including northern white-cedar and maple-ash – and shoreline grasslands. In the spring, this area is filled with floodwater and there is often a continuous body of water from Brandon to Middlebury as the Brandon, Salisbury, Whiting and Cornwall Swamps converge. There are a number of rare plant species found in this area. The Salisbury Conservation Commission tracked amphibian and reptiles living in this habitat. To date they have found over 12 species of salamanders, 12 species of reptiles, and over 200 different bird species. Substantial acreage of the Leicester portion of the Salisbury Swamp is enrolled in the National Wetlands Reserve (Restoration) Program.

Wetlands are key to controlling floods, providing oxygen, filtering our water, and providing essential breeding grounds for thousands of wildlife species. Significant wetlands in Leicester are a precious resource that should be preserved for generations to come. Stormwater run-off from roads (including road salt, car oil, and brake fluid) and erosion from adjacent uplands should be minimized in order to protect wetlands.

Groundwater

Along the base of the Green Mountain National Forest, gravel soils allow for groundwater infiltration as runoff travels down from the mountains. Given Leicester's reliance on groundwater for drinking water, care should be taken to prevent contamination and ensure filtration. There is one identified aquifer area in Leicester at Cove Point.

Two other significant natural areas in Leicester are Scanlon Swamp and Leicester Junction Swamp. Scanlon Swamp is located southwest of Fern Lake and Leicester Junction Swamp is a 550-acre swamp that is located in the towns of Leicester, Whiting, Sudbury and Brandon.

Stormwater

Stormwater speeds erosion and carries sedimentation and toxins (run-off) from the land into our water. Impervious surfaces such as driveways, road networks, roofs, conventional piping, and the removal of woody vegetation and groundcover are all major contributors to increasing the quantity and velocity of stormwater.

In Leicester, like most Vermont towns, stormwater threatens natural resources. Its management also places an annual financial burden on the town. This Plan encourages the use of innovative techniques to slow and capture stormwater. Maintaining existing vegetation wherever possible, especially in all significant wetland areas, is highly encouraged. Other methods include implementing Low Impact Development (LID) concepts for public road maintenance, private residences, and new development projects. LID techniques include the use of vegetated swales along road ways, gravel infiltration beds,

constructed wetlands, minimizing impervious paving, maintaining or growing vegetated buffers and small-scale rain gardens.

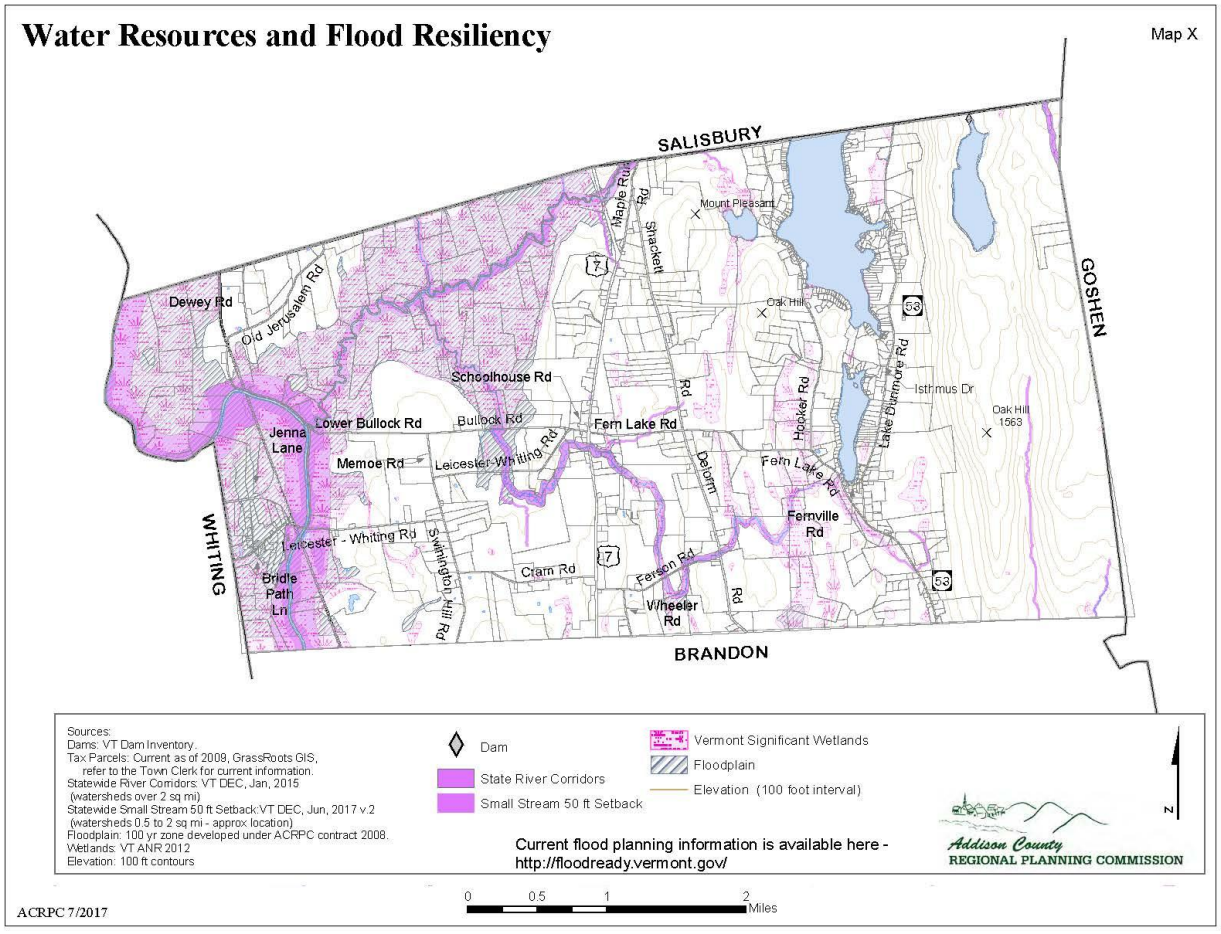
The use of agricultural Best Management Practices (BMPs) such as minimizing fertilizer application, rotational grazing, maintaining woody vegetation, and conserving water can have a positive impact on the health of the watershed. The *Vermont Handbook for Soil Erosion and Sediment Control* and Vermont's *Better Back Roads* provide guidelines for all types of construction and for maintenance of roads that promote the health of water resources.

Flood Resiliency

The Town of Leicester is most susceptible to inundation flooding in mapped floodplains along Otter Creek and its tributaries. The All Hazards Mitigation Plan (adopted 9/29/16) identifies areas most vulnerable to flooding (AHMP p.47-48).

The Unified Development Regulations (adopted 3/20/17) are designed to prevent increases in flooding caused by uncontrolled development of land in areas of flood hazard and river corridors and to minimize loss due to floods by establishing zoning regulations governing areas of special flood hazard (UDR 2.4.7, 4.1.4, 4.1.6).

The following map designates river corridors and flood hazard areas. Please note that the flood hazard areas are based on the FIRM maps dated 11/1/85 that have not been digitized or updated by FEMA.



Water Resources/Flood Resiliency

Goals

1. Protect and enhance all water resources available to Leicester in order to preserve high quality drinking water, wildlife habitat, and recreational opportunities.
2. Capture and slow storm water in order to lessen its negative impacts on natural, scenic, recreational, and historic resources, and on infrastructure.
3. Improve road infrastructure to minimize impact due to nutrient and sediment run off.

Recommended Actions

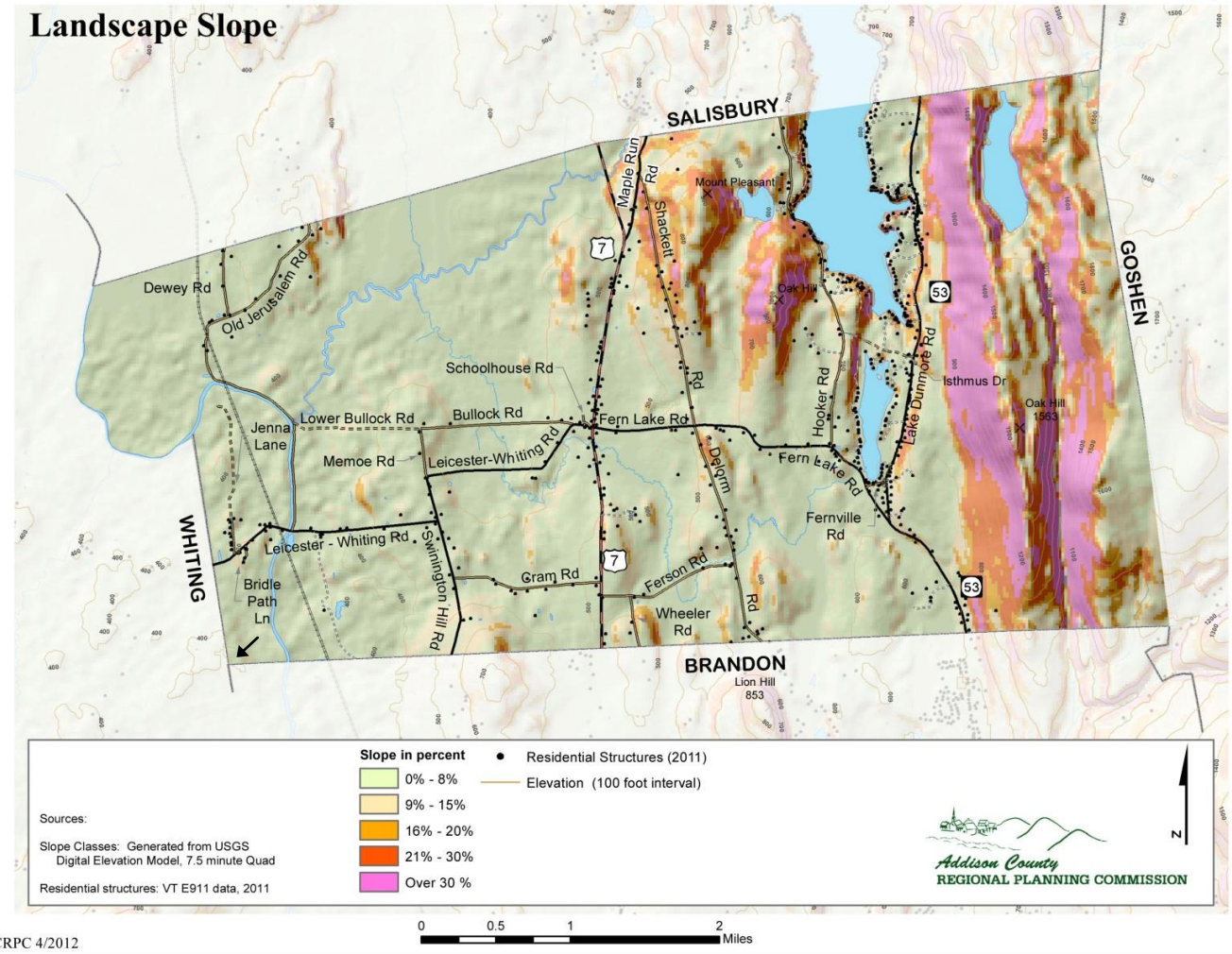
1. Continue to use zoning regulations that restrict development in flood hazard areas, river corridors, and wetlands.
2. Incorporate the standards for erosion and storm water management of the *Vermont Handbook for Erosion Prevention and Sediment Control* into town zoning regulations.
3. Encourage protection of woody vegetation within the Lake Districts and other properties abutting significant wetlands, streams, rivers and ponds.
4. Encourage property owners to follow guidelines found on the State's Flood Ready website. Floodreadyvermont.gov
5. Ensure that Leicester has an Emergency Management point person to attend regional information sessions.
6. Continue to encourage and pay for Road Foreman/Commissioner to attend seminars regarding road building, stormwater management, and road/culvert infrastructure.
7. Have copies of the All Hazards Mitigation Plan available at the Town Office.
8. Investigate actions needed to move from Basic to Advanced for ERAF funding.
9. Work with ACRPC to coordinate communication with other communities in the watershed.

SCENIC RESOURCES

Leicester's natural resources contribute greatly to the scenic qualities of the town. The forests covering the hillsides and the lush agricultural meadows all contribute to the town's unique character. The physical beauty of the town impacts the day to day life of residents and attracts others to the area.

Through the years barns and buildings have collapsed, railroads and active quarries have come and gone, and major travel corridors, such as Route 7, have changed the way people interact with each other and the town. Management of natural resources and growth so as to preserve the town's scenic qualities is vital to the community and the town's economic well-being.

Map #11



ACRPC 4/2012

Scenic Resources

Goals

1. Preserve Leicester's scenic resources to maintain its unique landscape character, offer enjoyable outdoor recreational activities, foster pride in the community, and attract appropriate economic development opportunities.

Recommended Actions

1. Encourage zoning that continues to support the continued viability of agriculture.
2. Consider incorporating hillside over-lay districts in future zoning bylaws in order to protect the most significant views.

HISTORIC & ARCHAEOLOGICAL RESOURCES

Leicester contains a number of historic buildings, and the pattern of its historic settlement can be seen in the rural farming landscape, tree-lined dirt roads, and small summer camps surrounding the Lakes.

Leicester has three structures on the National Register of Historic Places: the Stagecoach Inn, the Town Hall, and the Leicester Meeting House. The annual town meeting is held in the Meeting House.

There are over 30 sites in Leicester that are listed on the Vermont State Register of Historic Places, which include a number of agricultural buildings still in use on Leicester's farms. See the Historic Register Sites map in this section.

The historic elements that remain are important reminders of Leicester's past and essential to retaining its unique character for future generations.

With the Otter Creek and Leicester River located to the north and west, and Silver Lake and Lake Dunmore located to the east, the town of Leicester was once a critically important landscape for Native American peoples. Native American archaeological sites dating from the Early Paleoindian period, ca. 13,000 – 11,600 years ago, through to the time of European contact and beyond have been documented in Leicester, and many more likely remain undiscovered. Historic archaeological sites related to early settlement, agriculture, industry and tourism are also located within Leicester's borders.

Cumulatively and individually, these sites constitute tangible links to the rich cultural, religious, social, economic and technological traditions of past generations of Vermonters.

Any questions about particular archaeological sites can be directed to the Division for Historic Preservation's State Archaeologist.

Historic & Archaeological Resources

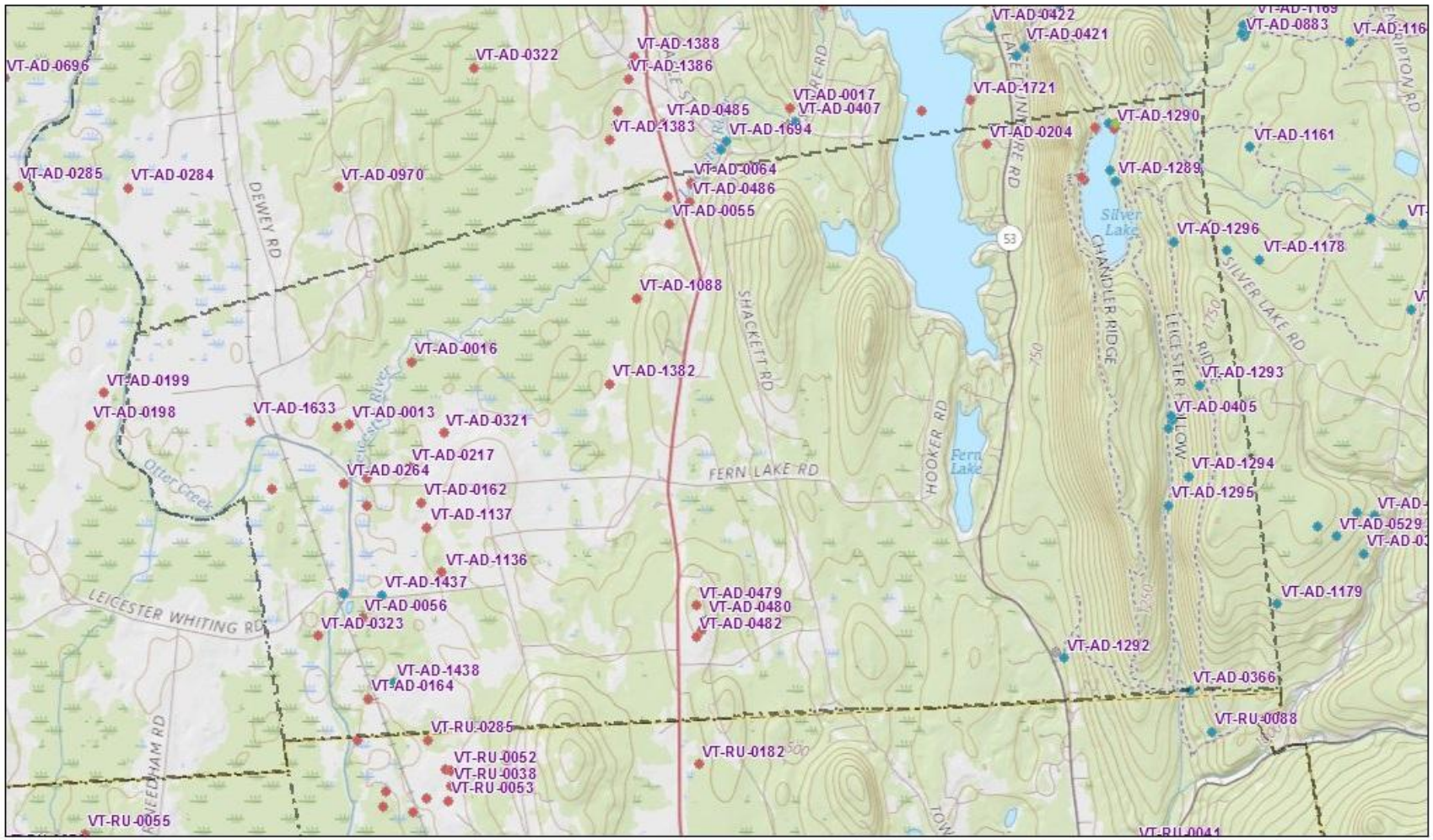
Goals

1. Protect Leicester's historic sites and buildings to preserve Leicester's unique character, traditions and values.
2. Promote the use of historic public buildings as places for the community and visitors to gather and connect.
3. Promote awareness of Leicester's known archaeological sites & heritage.

Recommended Actions

1. Encourage efforts to protect Leicester's historic sites and buildings and land use patterns as well as notable archaeological resources.
2. Support the listing of Leicester's historic sites and buildings on both the National and Vermont Register of Historic Places.

Leicester Archaeological Sites



August 21, 2017

VAI Dataset

- Other
- Native American
- Euro-american
- Combined Native American/Euro-american

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

ACCD - Department of Economic Housing & Community Development, Division for Historic Preservation
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography

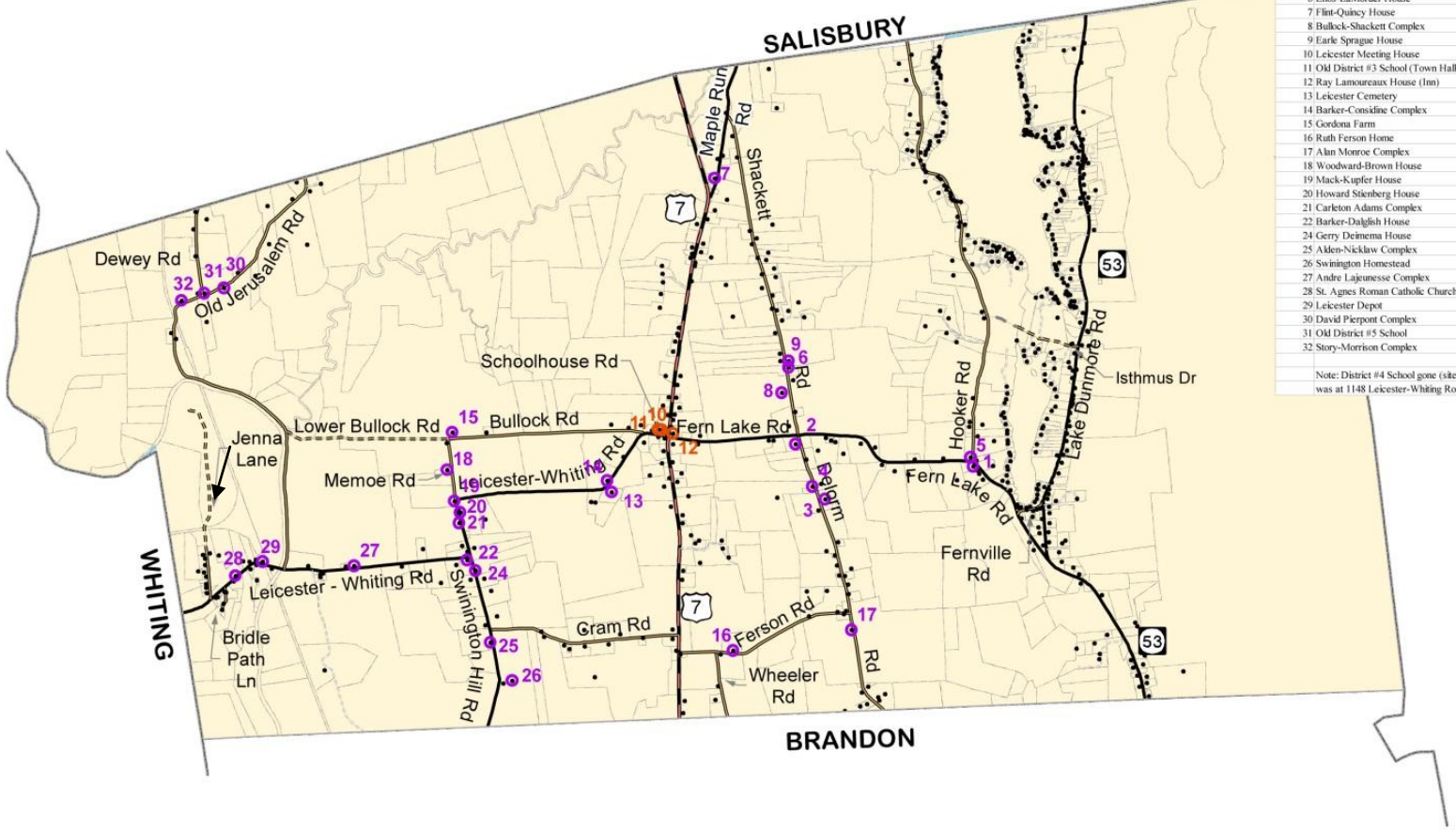
Online Resource Center

S The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line and USFS Road Data |

Historic Register Sites

Map #12

Site #	Name	911 Street Address
1	Walter Cerf House	610 Fern Lake Road
2	Smith-McAtee House	1498 Delorm Road
3	Joseph Mullen House	1141 Delorm Road
4	Marvin Johnson House	1254 Delorm Road
5	Old District #2 School	18 Hooker Road
6	Enos-LaMorder House	355 Shackett Road
7	Flint-Quincy House	128 Maple Run Road
8	Bullock-Shackett Complex	230 Shackett Road
9	Earle Sprague House	399 Shackett Road
10	Leicester Meeting House	19 Schoolhouse Road
11	Old District #3 School (Town Hall)	23 Schoolhouse Road
12	Ray Lamoureaux House (Inn)	2303 Fern Lake Road
13	Leicester Cemetery	490 Leicester-Whiting Road
14	Barker-Considine Complex	457 Leicester-Whiting Road
15	Gordona Farm	1033 Bullock Road
16	Ruth Ferson Home	671 Ferson Road
17	Alan Monroe Complex	490 Delorm Road
18	Woodward-Brown House	148 Memoe Road
19	Mack-Kupfer House	1279 Leicester-Whiting Road
20	Howard Stienberg House	1344 Leicester-Whiting Road
21	Carleton Adams Complex	1395 Leicester-Whiting Road
22	Barker-Dalglish House	1598 Leicester-Whiting Road
24	Gerry Deimema House	841 Swinington Hill Road
25	Alden-Nicklaw Complex	456 Swinington Hill Road
26	Swinington Homestead	241 Swinington Hill Road
27	Andre Lajeunesse Complex	2191 Leicester-Whiting Road
28	St. Agnes Roman Catholic Church	2841 Leicester-Whiting Road
29	Leicester Depot	2681 Leicester-Whiting Road
30	David Pierpont Complex	2001 Old Jerusalem Road
31	Old District #5 School	1896 Old Jerusalem Road
32	Story-Morrison Complex	1770 Old Jerusalem Road
	Note: District #4 School gone (site 23)	
	was at 1148 Leicester-Whiting Road	



Historic Register Sites
- Federal Register
- State Register
- Structures (2011)

Road Class
- US Highway
- State Route or Class 1
- Town Class 2
- Town Class 3
- Town Class 4
- Legal Trail
- Forest Rd
- Private Rd

Sources:

Historic Sites and Structures Survey, Division of Historic Preservation, VT, 1976
National Register of Historic Places, Division of Historic Preservation,, VT, 1974

Addison County REGIONAL PLANNING COMMISSION

N

0 0.5 1 2 Miles

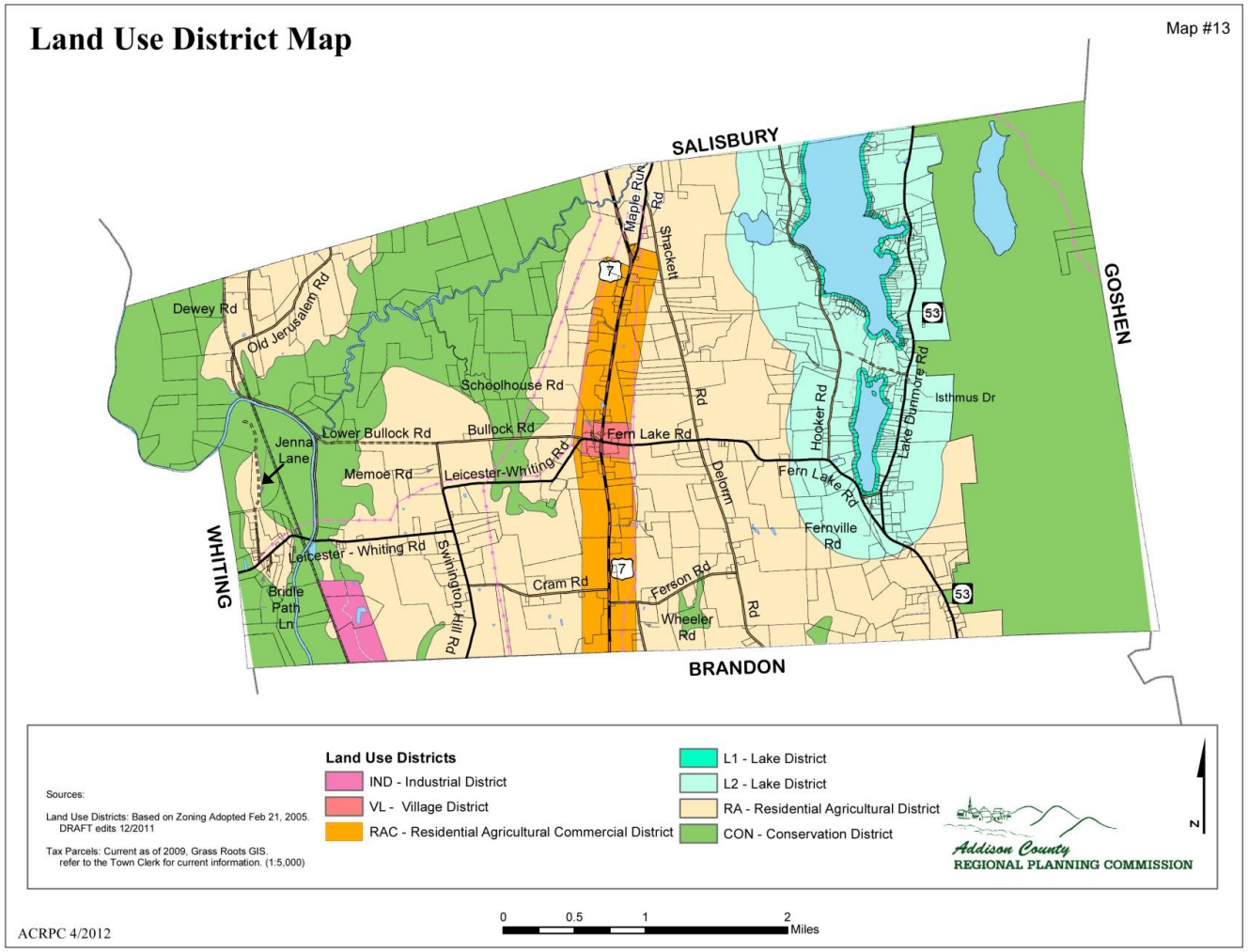
ACRPC 4/2012

LAND USE PLAN

Historic patterns of land use have largely determined Leicester's character. Farmland, forests, and lake front homes dominate the landscape. Since the adoption of zoning in 1972, one of the primary activities of town government has been the regulation of land use and development. Recognizing that there is a delicate balance between the rights of individual property owners and the long term interests of the town, the Plan attempts to identify ways in which Leicester's rural 19th and early 20th century appearance can be protected while meeting its residents' 21st century needs for housing, employment, education, and recreation.

Decisions regarding the type and placement of new buildings, of nonresidential uses, and of needed infrastructure like roads and communications equipment have enormous impact. Land use regulation at the town level operates under the authority of Vermont State Statute—primarily 24 VSA Chapter 117. Other state statutes and regulations, however, including those regarding agriculture and the tax assessment of land may work against some objectives of the Plan. Communication and education are as important as formal regulation and enforcement activities in realizing the goals presented throughout this document.

This Plan continues the land use districts currently in effect: Village Center; Lake District 1; Lake District 2; Residential Agricultural Commercial; Industrial; Residential Agricultural; and Conservation. The Plan discusses each of these in detail and this discussion should form the basis for revision of the Zoning Bylaws.



VILLAGE CENTER AREA

Leicester Four Corners is Leicester's designated village center. Leicester Central School, the Town Clerk's Office, the Meeting House, the Town Hall, and other historic structures lie within this area. It is centrally located in the town on Route 7, the region's principal north/south transportation corridor. It is bisected by the Leicester Whiting Road from the west and the Fern Lake Road from the east. Because the majority of residents commute to jobs outside of Leicester and because the town has no restaurants or retail outlets other than the Leicester General Store, the enhanced use of the Four Corners for events/activities is essential to building and maintaining community identity. Future development of the village center should match the density of traditional Vermont villages with a mixture of residential, municipal, and commercial uses.

Using the intersection of Route 7 and the Fern Lake Road/Leicester Whiting Road as a starting point, the dimensions of the area are as follows: 585 feet south; 725 feet north; 1047 feet east; and 704 feet west.

Village Center

Goals

1. Maintain the role of Leicester Four Corners as a municipal and community center which supports residential, commercial, and civic uses with a density matching those of traditional Vermont villages.

Recommended Actions

1. Support indoor and outdoor events/activities that will enhance Leicester Four Corners as a community hub.
2. Work with ACRPC to explore grant opportunities for designated village centers to build and strengthen the Leicester community.

LAKE DISTRICTS AREA

The area around Lake Dunmore and Fern Lake can be divided into two distinct districts: Lake 1, a narrow inner ring of land 150 feet wide measured from the mean water level of the relevant lake; and Lake 2, a contiguous outer ring that extends to 2500 feet from that mean water level. Portions of this ring on the eastern side of the lakes belong to the Green Mountain National Forest and are thus part of the Conservation District. Both Lake 1 and Lake 2 contain steep slopes whose development presents problems of stormwater runoff and erosion.

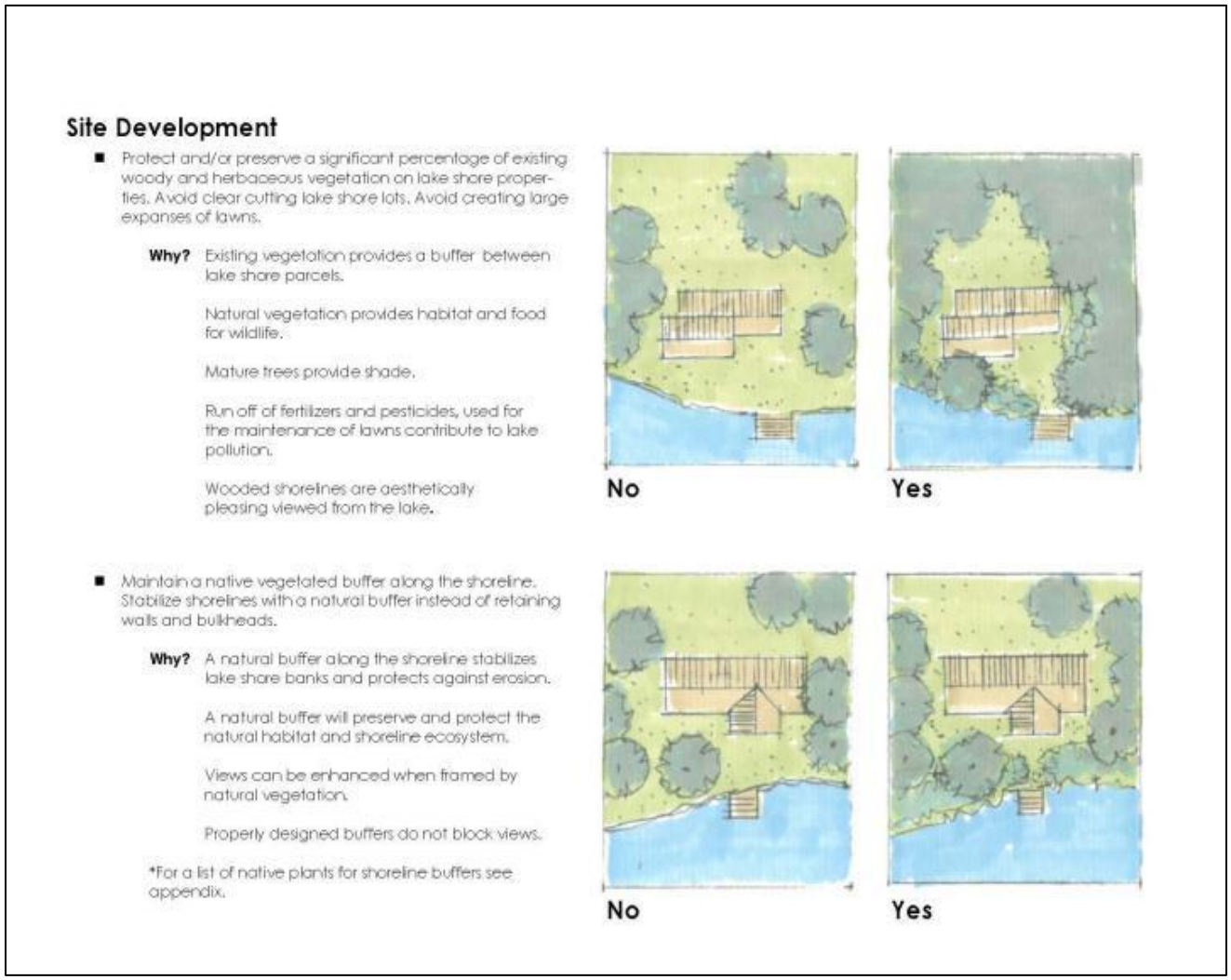
Prior to the adoption of zoning and the imposition of a minimum lot size of one acre, extensive subdivision and construction had already taken place in Lake 1. The district is densely developed and the majority of its lots are less than ½ acre. Over the past 20 years, Lake 1 has seen a shift from seasonal to year-round use. Small summer camps have been enlarged and upgraded to, or replaced by, year-round residences. The construction of foundations that permit the conversion or replacement of existing seasonal camps with year-round structures and the installation of year-round waste water systems typically require substantial damage to essential vegetation. The resulting erosion and stormwater runoff have had significant impact on the lakes' water quality. Although the town would prefer that a balance remain between seasonal and year-round use on the lakes, state guidelines for property tax assessment at highest and best use contribute to the conversion to year-round use.

The impact of conversion to year-round use can best be managed with improved construction standards (silt barriers, for example) and shoreline protection. In 2008, the Leicester Planning Commission completed work on the *Leicester Lakes Area Pattern Book*, which is a design guide for developers and property owners in Lake 1. It suggests ways in which new construction/renovation can reinforce the distinctive, historic character of the Lake Districts and integrate well into the existing landscape. The State Shoreland Protection permitting process, along with the required town permits, help to control development in this area and protect the lakes.

Infrastructure improvements have not accompanied the trend towards more intensive year-round use. Many of the private roads and driveways providing access to lakefront properties were not designed for winter use, nor

can they accommodate large emergency vehicles or heating fuel trucks. Seasonal residents are sometimes reluctant to assume the maintenance expense of year-round use. The town should encourage the formation of homeowner associations to address these concerns. Any new development of lake property should require private road maintenance agreements from affected property owners before construction begins. Alterations to and maintenance of roads in these areas can have profound impact on lake water quality. The town and homeowner associations should implement designs that meet the State of Vermont's best practices. The *Better Back Roads Program* is available to provide assistance in this area.

Lake 2 is not as densely developed as Lake 1. Extensive subdivision has occurred in some areas of Lake 2, particularly along Lake Dunmore Road. Lake 2 consists primarily of year-round residences, but seasonal camps still exist. The opportunity exists in Lake 2 to develop small businesses related to recreation and tourism that do not conflict with the residential character of the area.



The illustration above is an example of design guidelines found in the *Leicester Lakes Area Pattern Book*. This publication suggests ways to lessen the environmental and aesthetic impact of shoreline development.

Both year-round and seasonal residents use the recreational resources provided by Lake Dunmore, Fern Lake, and Silver Lake. The lakes also attract visitors from around the country. The town should continue to provide year-round public access to Lake Dunmore from Indian Trail and to Fern Lake off the Fern Lake Road.

Lake Districts
Goals

1. Protect the natural scenic assets of the lake districts in their historic form.
2. Maintain opportunities for public recreation.
3. Encourage a mixture of seasonal and year-round homes.
4. Support the creation of small scale commercial and home-based businesses.

Recommended Actions

1. Consult previous and current planning studies/publications on Leicester's lakes and others in the state to identify regulatory opportunities and challenges.
2. Work with the Lake Dunmore Fern Lake Association to identify concerns and planning solutions.
3. Promote the use of the *Leicester Lakes Area Pattern Book* by contractors and property owners in the Lake Districts.
4. Work with the Better Back Roads Program to improve and maintain the roads surrounding the lakes.
5. Promote the use of designs for road and driveway improvements that meet the State of Vermont's best practices for storm water and wastewater protection.
6. Inform Lake property owners of the State Shoreland Protection and Town permitting requirements for development in the Lake Districts.

RESIDENTIAL AGRICULTURAL COMMERCIAL AREA

Route 7 is the major north/south transportation route in western Vermont. The Route 7 corridor comprises most of the Residential Agricultural Commercial District of the town (with a small section located on Swinington Hill Road). This planning area extends 1000 feet to the east and west of the centerline of Route 7 and along its length from the Salisbury town line to the Brandon town line. The Leicester Village Center falls within this corridor but is treated as a separate land use district.

Currently the Residential Agricultural Commercial area contains a mixture of residential, agricultural, and commercial uses. The volume of local and through traffic makes this the most commercially viable area in Leicester, particularly for retail activities. While the town wants to encourage business development in suitable portions of the corridor, all future development shall minimize impacts to abutting residential and working landscapes, and prioritize local transportation and circulation needs, services, and amenities as they directly relate to the adjacent Village Center Area.

Buildings should be designed to relate to the mass and scale of existing development. Where possible, new development should be clustered to reduce the need for new infrastructure and parking should be configured to limit the mass of any one lot and be partially screened from the highway by buildings, fencing, and landscaping. Sprawling development and major traffic generators like truck depots, drive through restaurants, or big box retailers are not appropriate for this section of Route 7 because of their impact on traffic flow. Future zoning should discourage commercial development that contributes to the pattern of strip development along Route 7 and instead support the goals of the historic Village Center Area.

Residential Agricultural Commercial Area

Goals

1. Protect existing agricultural and residential land along Route 7.
2. Support scale appropriate business ventures which contribute to local economic development but do not contribute to the pattern of strip development on Route 7.

Recommended Actions

1. Continue to require conditional use review for all commercial development proposals in this district including large scale power generation/transmission systems.
2. Assure adherence to Vermont Transportation Agency standards, including site distance and curb cut regulations.
3. Refine both the plan and zoning maps/regulatory tools to reflect Leicester's development goals in the RAC area to diminish the potential for strip development in this planning area.
4. Consider integrating parts of the RAC area with the Village Center Area to encourage more compact development and improvements to Village Center amenities and services.

INDUSTRIAL AREA

Leicester has reserved an area for industrial use located in the southwest corner of town, just east of the rail line. The district abuts the Brandon town line and is shaped like a parallelogram 3250 feet long and 1500 feet wide. Currently there are no industrial facilities in the area. It is isolated from residential development and was previously the location of a large limestone quarry, a use it could still support. It is adjacent to the rail line, has a bed for a rail spur, and three phase power has been brought to the site. Should there be industrial development in this area; existing easements would permit construction of a road accessible from Swinington Hill Road.

Any use other than industrial proposed for this site should be reviewed carefully to ensure it does not compromise its potential commercial use. Care must also be taken to ensure that proposed commercial or industrial uses do not adversely affect neighboring residential properties.

Industrial Area

Goals

1. Promote business opportunities which capitalize on Leicester's railroad access and build the local economy.
2. Support business proposals that limit negative impacts on adjacent properties and the environment.

Recommended Actions

1. Develop guidelines for this district that will promote industrial use, such as levels of appropriate truck traffic, noise control, and hours of operation.
2. Continue to require conditional use review of commercial development to ensure that it does not negatively affect municipal services or infrastructure and surrounding residential properties.

CONSERVATION AREA

Two very different types of land comprise the conservation district. On the eastern side of town, 2600 acres, including Silver Lake, belong to the Green Mountain National Forest. Most of this is forestland with very steep slopes. Leicester does not regulate land use in the National Forest.

The extensive wetlands and floodplains surrounding Otter Creek and the Leicester River on the western side of town are privately owned. These do fall under Leicester land use regulation—specifically Flood Hazard

Regulations authorized by 10 VSA, Chapter 32. Participation in the National Flood Insurance Program required adoption of these flood hazard bylaws. In effect, the only permitted uses are agricultural, recreational, and accessory (lawns, gardens, parking and play areas).

Currently, the flood hazard area is primarily agricultural with limited residential use. There are residential areas, however, immediately contiguous to this area, access to which is severely affected by flood hazard conditions. While the town prohibits inappropriate and potentially hazardous development in its wetlands and flood plains, it encourages conservation of this land to ensure future agricultural use.

Conservation Areas

Goals

1. Protect the most vulnerable and critical natural features of these areas, including wetlands, floodplains, steep slopes, significant habitat, and prime agricultural soils.
2. Develop local economic opportunities in agriculture, tourism and recreation built on the strengths of these features.

Recommended Actions

1. Continue to ensure that all development proposals for this area require conditional use review.
2. Make information available to town land owners regarding Vermont programs that permit the conservation of agricultural lands for the future.
3. Educate Leicester residents as to the location and characteristics of Leicester's conservation areas, including critical wildlife habitat and fragile hillside soils.

RESIDENTIAL AND AGRICULTURAL AREAS

The remainder of the land area of the town is used primarily for agricultural and year-round residential purposes. Continued residential development in this district should take the form of clustered housing or planned unit developments (PUDs) to minimize the "suburbanization" of farmland and potential conflicts between agricultural operations and abutting neighbors.

This Plan recognizes that farming needs the ability to adapt within accepted agricultural practices to remain commercially viable. Agricultural activities of a range of scales and types are encouraged in this area, as long as operations do not negatively impact the health, welfare, or safety of nearby residents. The conservation of agricultural land and maintaining open space for its ecological, scenic, and recreational value is highly encouraged and supported. Additional on-farm agricultural enterprises and value-added initiatives should be supported by updating zoning regulations as needed. Landowners wishing to sell the development rights on their property should be supported to do so. The town supports measures like "Freedom to Farm" that protect farmers from nuisance lawsuits filed by non-farming homeowners.

This district already contains a number of home occupations. The Plan encourages the establishment of home-based businesses whose scale and character are appropriate to their surroundings. Measures to minimize their impact on their neighbors include landscaping and fencing to screen stored materials, vehicles and machinery.

Leicester Junction is appropriate for more mixed residential, agricultural, and commercial use. With close access to a railroad line, Leicester Junction was the town's 19th century commercial and industrial center. It still retains its commercial character and historic buildings. This Plan supports mixed use residential and commercial development here, particularly the adaptation and reuse of the historic commercial buildings along the railroad outside of the floodplain.

The land along Swinington Hill Road falls in this district on its northern end. On its southern end, it has been zoned Residential Agricultural Commercial like the Route 7 Corridor. This area is appropriate for more mixed residential, agricultural, commercial and light industrial use, corresponding to the development that has occurred in the portion of the town of Brandon that it abuts.

Residential and Agricultural Areas

Goals

1. Protect the rural landscape of Leicester while allowing the creative re-use and development of historic and commercial buildings.
2. Support residential development that protects the town's natural, open spaces and permits the continuation of adjacent agricultural activities.

Recommended Actions

1. Support the development of PUDs and density based rather than minimum lot size zoning.
2. Investigate options for a conservation fund to aid in various conservation projects including agricultural.

COMPATABILITY

In the State of Vermont most land use regulation occurs at the town level. Each town that has adopted zoning has its own town plan and zoning bylaws. This diversity can lead to conflicts and confusion. While Leicester's Plan is focused on guiding future development within its own borders, the effects of development do not respect municipal boundaries. Land use policies in neighboring communities and the region as a whole affect Leicester. In turn, Leicester's land use practices can have impact on adjacent towns and every town along the Route 7 corridor.

SURROUNDING TOWNS

Goshen

Leicester's entire boundary with the town of Goshen, which lies on its eastern side, falls within the Green Mountain National Forest (GMNF). There is no direct road access between the towns, although several Forest Service seasonal roads and trails cross the border. Thus, there are no potential land use conflicts here, but changes in use or management practices by the GMNF could affect both towns.

Whiting

To the west of Leicester is the town of Whiting. Otter Creek forms part of the boundary between the two towns which are linked by the Leicester Whiting Road. This area consists mainly of floodplains and wetlands. Both towns have established conservation districts along the entire border which require minimum lot size of 25 acres and which severely restrict residential development

Salisbury

Leicester's neighbor to the north is Salisbury. A number of roads connect the two: Route 7; Lake Dunmore Road (Route 53); Hooker Road; Maple Run Road; Dewey Road; and Old Jerusalem Road. The towns also share critical natural features – the Salisbury Swamp, Otter Creek, and Lake Dunmore. West of Route 7, their land uses are fairly well matched – Leicester with a mixture of conservation and residential/agricultural districts, Salisbury with low density residential and agricultural districts.

Both towns have defined the area around Lake Dunmore as a Lake District but the zoning regulations differ. Cooperation and coordination between the towns is essential for the long-term health of the

lake. In Salisbury, the area between the eastern side of Route 7 and the Lake District is zoned as High Density Residential (one acre minimum lot size). The area in Leicester which abuts this from the south is zoned as Residential Agricultural Commercial along Route 7 and the remainder as Residential Agricultural (both of which require two acre lots).

Brandon

To the South, Leicester borders the Town of Brandon (Rutland County). Several roads link the two towns: Route 7; Lake Dunmore Road; Delorm Road; Wheeler Road; and Swinington Hill Road. Brandon lies in Rutland County and contains two villages with a mixture of residential, commercial, and industrial use. Both of these features have lead to land use regulation which differs from that in Leicester. Leicester's industrial and RAC districts abut low density multiuse and conservation districts in Brandon. Commercial/industrial traffic originating in Brandon, or routed around Brandon by its road use regulations, travel Leicester town roads that are ill suited for heavy vehicles. Potential conflicts between the two may arise from these factors.

ADDISON REGION

Land use regulation in Leicester affects the rest of the region. The lakes and access to GMNF land provide recreational opportunities for the rest of Addison County and central Vermont. The Otter Creek floodplains and wetland areas serve an important function for the entire area in storing spring run-off. The Addison County Regional Plan combines the shared elements of town plans regarding maintenance of a rural way of life, diversification of the regional economy, and protecting natural resources.

Development trends in the rest of the region also affect Leicester. Any development along the Route 7 corridor increases traffic volume. Projects like road widening and changes in highway access policies have an impact. The increase in land prices in the northern communities of the region has spurred land development in Leicester and other towns with lower land prices.

Leicester, VT (from Leicester Whiting Road facing north toward Salisbury). Photo courtesy of Julie Delphia

IMPLEMENTATION

This Plan is intended as a guide for future decision-making and actions for residents, the Leicester Planning Commission, Town Staff, and the Leicester Selectboard. The Plan is clear about the goals Leicester desires to achieve, but flexible about how it achieves these goals.

The following outlines the actions of highest priority based on the goals and objectives in the Plan:

ONE YEAR PLAN 2017-2018

- Make the 2017 Town Plan available to Leicester residents and landowners on the town website and in the Town Office.
- Continue to provide access to all planning documents, referred to in this Plan, on the town website and/or at the Town Office.

FIVE YEAR PLAN 2017-2022

- Establish priorities among goals and actions within each Plan section.
- Continue to gather data regarding regional planning issues, opportunities, and changes in community needs.
- Work with ACRPC to find grants or other funding for future revisions of the Town Plan and Zoning Regulations.
- Investigate rewriting Zoning Regulations to change the RAC and VC designations to reduce the opportunity for strip development on Route 7 and to create a more compact designated village center.
- Work with ACRPC to investigate opportunities for funding from the Designated Village Center grant program to build a stronger community in Leicester.