

Municipal Plan

For the Town and Village of Ludlow, Vermont



DRAFT July 9, 2019

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1 Introduction

This Municipal Development Plan (or “Municipal Plan”) serves both the Town and Village of Ludlow, and is adopted by both the Village Trustees and Select Board.

A municipal manager administers the affairs for the Town and Village of Ludlow. This position broadens the scope of community services and helps toward implementation of municipal goals and objectives. At the annual Town Meeting, members are elected to serve staggered terms on the five-member Board of Selectmen representing the legislative body. These Selectmen provide legislative direction for the Town.

The Village District is an incorporated area of the Town, independently directed by a three-member Board of Trustees. An annual meeting is held to transact business pertaining directly to the legislative affairs of the Village. (See Appendix C for a summary of the municipal governmental structure.)

1.1 Purpose

In accordance with 24 V.S.A., Chapter 117 (the Vermont Municipal and Regional Planning and Development Act, or “the Act”), the purpose of the Ludlow Municipal Plan is “to guide future growth and development of land, public services and facilities, and to protect the environment” in the best interest of the citizens of the Town and Village of Ludlow. This Plan is intended to:

- ✓ Include all elements required by [24 V.S.A. §4382](#);
- ✓ To be consistent with state planning goals in [24 V.S.A. §4302](#);
- ✓ Compatible with approved plans of other municipalities in the region;
- ✓ Compatible with the Southern Windsor County Regional Plan; and,
- ✓ To meet the enhanced energy planning requirements in [24 V.S.A. §4352](#).

This Plan will be updated every eight years or more often in order to meet the changing needs of the community. Updates to the Plan shall be prepared by the Planning Commission and adopted or amended by the Selectboard and Trustees in accordance with 24 V.S.A., Chapter 117, Subchapter 5.

1.2 Public Process

It is the intent of the Town and Village of Ludlow to encourage citizen participation in the preparation of this Plan. To do so, the Planning Commission has held a number of public events to gather input to inform this plan including, but not limited to, a community visioning session in June 2017, a March 2018 public forum, and July 2018 public forum. See Appendix G for a summary of the input received from these public outreach initiatives.

1.3 Document Organization

Ludlow’s Municipal Plan was significantly re-organized in 2018 with the goal of making it more concise and easier to read. The document is organized into the following sections:

1. Introduction
2. Vision Statement

3. Role in the Region
4. Landscape
5. Community
6. Plan for Our Future
7. How to Make it Happen

There are also a number of Appendices incorporated into the back of this Plan, which contain detailed information that serve as critical components in the preparation of this plan. The Appendices generally include valuable data and information that this Plan draws upon and references, they include:

- A. Glossary
- B. Maps
- C. Municipal Governmental Structure
- D. Community Facilities Inventory
- E. Community Data Profile
- F. Local Act 250 Review
- G. Public Outreach Summary
- H. Enhanced Energy Plan
- I. Implementation Matrix

2 Vision Statement



Figure 1: This image shows Ludlow's Village Center surrounded by a rural countryside. Photo by Tom Johnson.

2.1 A Vision for Ludlow

Ludlow is a small New England town that exhibits a pride of place and sense of community characterized by a healthy natural environment including forested mountains, an agrarian landscape and a historic village settlement.

Ludlow wishes to foster a strong and diverse economy while, at the same time, maintain its picturesque nature including open meadows, sustainable forests, farms, scenic mountains vistas and outdoor recreation. The town and village promotes increased housing for residence, safe roads, good schools, public services, and recreational opportunities with clean waters, mixed wildlife habitat, and undeveloped land.

2.2 Key Themes from Public Forums

A lot of great comments were made at the March 20, 2018 public forum. For the purposes of this Plan, the following summarizes the key themes that emerged when synthesizing all of those public comments.

We want to attract more year-round residents, especially families with children. With this in mind, we will focus our efforts to improve upon the things that make this a great place to live.

Ludlow is a destination for outdoor recreation (skiing, golf, lakes) with a number of other great assets (abundance of natural resources, architecture, history, arts, cuisine). We will strive to maximize the tourist's experience, increase visitation.

We strive to be a business-friendly community. We recognize that existing employers are very important to the economy, such as IMERYYS, JELD-WEN, Clear Lake Furniture, and Okemo Mountain Resort, to name just a few. We seek to diversify the economy and focus on bringing in a few smaller-scale high-tech businesses.

We are focused on revitalizing the Village Center, which involves enhancing the streetscape, making it a pleasant and safe place to walk, investing in existing buildings, filling empty storefronts, slowing traffic down, and making it the place where both residents and tourists want to go.

We prioritize those things that make Ludlow a great place to live. This involves providing good homes (diversity of choices/types, quality that residents can afford), a variety of recreation facilities/opportunities, great telecommunication service, access to a quality education, excellent municipal service and facilities, and a vibrant village that has many things to do.

2.3 Goals

Ludlow embraces the key themes in Section 2.2 and identifies the following goals to achieve our vision.

1. Maintain and grow a population consisting of residents and families of all incomes, ages, and types, and provide for their health, safety, education and housing.
2. Protect and preserve scenic and historic features, open spaces and improve the quality of air, water, wildlife and land resources.
3. Allot sufficient space in appropriate locations for residences, commercial businesses, recreation, and agriculture in order to meet the needs of the town.
4. Encourage a strong, stable and diverse economy that provides satisfying and rewarding job opportunities and contributes toward a strong sense of community.
5. Maintain the Town's characteristic pattern of settlement typified by the Village of Ludlow, recreational and resort areas, and clustered residential developments separated by rural countryside.
6. Encourage the efficient use of energy and the development of renewable energy resources.

3 Role in the Region

3.1 History

Benning Wentworth, Governor and Commander-in-Chief of the Province of New Hampshire granted Jared Lee and 65 other proprietors Ludlow's charter on September 16, 1761.

When it was first chartered, the town contained approximately 35,000 acres, but by the time it was officially organized, in 1792, approximately 12,000 acres had been taken from the west side of Ludlow (Okemo) Mountain, including Jackson's Gore, and about 3,400 acres from the town of Wallingford, to form the town of Mount Holly. Today, the present area of Ludlow is approximately 23,000 acres.

Although Ludlow started out as an agricultural community, it became a center for manufacturing in the late 1800's. Ludlow was a center for commerce, education and community activity. The railroad provided a link to the rest of the state and the country. This allowed Ludlow's manufacturing industry and textile plants to grow and become successful.

In the 1940s, Ludlow's primary economic base involved textile mills. As the market for textile products declined, public access to Ludlow improved. In 1956, ski facilities were developed and later improved on Ludlow (Okemo) Mountain. The Ludlow plant operated by GE was closed in the 1970s after the flood. Tourism and recreational activities began to take on more and more significance as a source of income to support the community.

The village center is currently much like it was historically, serving as the home of government services, restaurants, apartments and other similar uses. Many of the major roadways and the railroad parallel rivers that run through Ludlow. A rural countryside predominates in other parts of town. Forests now cover many of the hills that were historically cleared for farming.

Today Ludlow is a destination for outdoor recreation (e.g. skiing, golf, lakes). As such, tourism-based businesses are very common, such as restaurants, property management and construction trades. Second homes are very common, especially on the mountain adjacent to ski trails, as well as along ridgelines in other parts of town that have views of the ski trails. A number of other businesses are also very important (e.g. IMERYYS, JELD-WEN, Clear Lake Furniture). Seasonal and year-round homes are clustered around the waters in the Lakes District.

3.2 Relationship to Plans in Adjacent Towns and Region

In order for local land use planning to be effective, it must be done with the understanding and consideration of land use and development trends in surrounding municipalities. Local goals can only be reached if they are identified and pursued within the context of a community's place in the surrounding region.

- Ludlow shares many administrative boundaries with surrounding communities:
- Ludlow is in Windsor County, but adjacent to Rutland County
- Within District 2 of the Environmental Commission, but shares boundaries with Districts 1 and 3

- Served by Vermont Agency of Transportation Maintenance Districts 3, but is next to Districts 2 and 4
- Within Vermont State Police Troop D, and is next to Troop C
- Ludlow is within the Southern Windsor County Regional Planning Commission's area, but shares boundaries with Rutland Regional Commission, Two Rivers/Ottawaquechee Regional Commission, and Windham Regional Commission

This multitude of jurisdictional boundaries emphasizes the added need for coordination and cooperation, which cross-traditional governmental boundaries.

Ludlow's Neighbors

The towns of Mount Holly, Plymouth, Reading, Cavendish, Chester, Andover and Weston surround Ludlow. The major resort communities of Killington, Londonderry, and Winhall are also within short traveling distances, as is the State's fifth largest city, Rutland.

To varying degrees, surrounding communities share common planning concerns that may be expressed in land use regulations. Based on a review at the time of preparing this document, Ludlow's Municipal Plan is compatible with approved town plans of surrounding municipalities:

Andover Town Plan: The plan designates future land use categories of Conservation and Rural Residential along the boundary with Ludlow. These designations are compatible with Ludlow's Rural Residential and Aquifer Protection Overlay.

Cavendish Town Plan: Their current draft plan designates most of the land area along the boundary with Ludlow as Forest which is generally consistent with Ludlow's Rural Residential area. Cavendish also has a small Recreation designation for Fletcher Fields, and Industrial designation for the existing land use activities along the border and the VT Route 103 corridor.

Chester Town Plan: The public hearing draft plan designates all land along the short boundary with Ludlow as Conservation, which is compatible with Ludlow's Plan.

Mount Holly Town Plan: It designates most lands along the boundary with Ludlow as Conserved Lands and Rural Residential, which appear to be compatible. While their plan is not explicitly clear, it appears that the Commercial area on Ludlow (Okemo) Mountain reflects the Okemo Mountain Resort operations.

Plymouth Town Plan: Both Ludlow and Plymouth's plans reflect a small node for the hamlet of Tyson, which straddles the town line. The remainder of the boundary is generally compatible as it calls for similar Conservation and Rural Residential categories.

Weston Town Plan: Weston's Rural-Low Density category is compatible with Ludlow's Rural Residential.

Development in Ludlow and surrounding communities occurs primarily along the major transportation corridors of VT Routes 103 and 100. Development has also been influenced not only by Okemo Mountain Resort and local lakes, but also by the proximity of several other ski resorts and recreational lakes. Resort and second home development, and the associated growth

in the service sector, will continue to influence land use patterns in Ludlow and surrounding communities.

Okemo Mountain Resort and its surrounding development, is viewed as the primary generator of traffic on VT Routes 103 and 100. However, a recent traffic study identified fifty-two percent (52%) of all traffic in Ludlow as pass-through traffic during normal business hours, which is outside local control or regulation. These outside influences will continue to increase the amount of seasonal traffic using these corridors, demanding greater coordination.

To plan for the harmonious development of the region, and to work with neighboring municipalities and jurisdictions to address issues of mutual concern the Town and Village of Ludlow should:

1. Protect traditional land use patterns, as identified throughout this Plan - not only historic patterns within Ludlow, but also regional patterns which have helped define Ludlow's unique character.
2. Reinforce Ludlow's role as a primarily rural community, with a compact village core of mixed residential, commercial, and industrial development, but which also hosts a thriving resort center.
3. Develop regional solutions to problems that transcend town, regional, and jurisdictional boundaries.
4. Continue to participate in State and regional efforts to study the US Route 4 and VT Routes 100 and 103 travel corridors.
5. Participate in discussions with surrounding District Environmental Commissions, regional planning commissions, and other municipalities, seeking equity in traffic impact mitigation along the VT Routes 103 and 100 corridors.

Regional Plan

The 2018 Regional Plan provides broad guidelines for planning, coordination, and review of the natural and economic features of southern Windsor County. The Regional Plan, which also includes the Regional Transportation Plan, is a companion document to the Municipal Development Plan, providing a broader framework and context for local planning efforts. The Municipal Development Plan should support and complement the land use and development goals of the Southern Windsor County Regional Plan.

The Regional Plan identifies Ludlow's downtown as a Regional Center, which is immediately surrounded by a medium-density neighborhood. A "Regional Center" is defined as a central business district that provides regional services, shopping and employment opportunities. They are served by infrastructure – including but not limited to urban road networks, sidewalks, public water and wastewater systems – that support the highest densities in the Region. A high-density mix of uses such as commercial, residential, civic, light industrial and public gathering spaces should be concentrated in these areas. Multi-storied buildings that mix retail uses with residential and/or professional offices are typical.

The Future Land Use map and categories in this Municipal Plan are consistent with the state planning goals and compatible with the Regional Plan. This Plan discourages strip development

and promotes a traditional compact settlement pattern in the Village surrounded by a rural countryside.

3.3 Population Trends

Ludlow's 2010 population was 1,963, including 811 for the Village of Ludlow (U.S. Census Bureau). Ludlow's population in 2015 is 2,140, with 944 in the Village, according to the American Community Survey data (US Census Bureau, ACS 2015 5-year). After two decades of modest decline beginning in 1970, Ludlow's population experienced growth between 1990 and 2006. This growth rate was higher than neighboring communities. However, population declined following 2006, likely influenced by the recent housing bubble and economic decline. Recent trends suggest modest growth within the last few years; however, data from the ACS and the decennial Census may not be directly comparable.

From 1960 to 1990, Ludlow experienced net "out-migration," meaning that more people moved away from Ludlow than moved to Ludlow from other places. In the 1960s, this was offset by a net "natural increase" in the population, meaning the number of local births exceeded the number of deaths, resulting in a net increase in population. Natural increase declined in the 1970s; and a natural decrease in population occurred during the 1980s (local deaths outnumbered births) – a trend that intensified through the 1990s. The past decade, however, marked the Town's first net in-migration in forty years and the largest ten-year jump in population since the 1930s. The population growth between 1990 and 2006 is largely due to a net in-migration, a noticeable proportion is people over the age of 45. A result of this trend is a significant change in the composition of the local population. Since 2006, Ludlow experienced net out-migration.

Compared to county and state population trends, Ludlow has a higher percentage of seniors and a lower percentage of families with children. According to the U.S. Census, the proportion of seniors (65+) grew slightly from 18.7% in 2000 to 23% in 2010. A corresponding decrease in the number of those under 18 years old occurred, from 20.9% in 2000 to 16.8% in 2010.

It appears as though children born during the late 1980s and early 1990s, known as the Echo Generation, are moving through the local school system (see Chapter 7). This trend, coupled with the decrease in residents of prime child bearing years, will likely result in a declining number of school-aged children in coming years. This corresponds to decreasing school enrollment between 2001 and 2009, as discussed in Chapter 7. Appendix E includes a data profile for Ludlow.

Seasonal Population

Recent trends in Ludlow's year-round population are dwarfed by changes in Ludlow's seasonal population over the past two decades. This is almost entirely attributable to Okemo Ski Resort, which has increased the annual number of visitors to the mountain from approximately 95,000 in 1982/83 to more than 608,000 in 2008/09 – an increase well over 500% (see Chapter 6). Associated with this increase has been the development of nearly 800 on-mountain dwellings over the same period, in addition to the development of approximately 400 off-mountain seasonal dwellings (see Chapter 5).

Ludlow’s peak seasonal, day-time population is estimated by the municipality to be 15,000 to 18,000 people (more than 9.1 times the year-round population), including year-round residents, workers, skier visits, and lodgings. The peak population occurs on a number of winter weekends and vacation weeks over the course of a year and presents many planning challenges to the community regarding how to manage impacts and meet the demand for facilities and services. In many instances, these challenges are best addressed through temporary mitigation measures. From a long range planning perspective, both the “effective population” and the “peak population” of the community are important considerations. The effective population is an estimate of the resident year-round population and the average transient population in Ludlow over an extended period.

In light of this estimated effective population, the demands for many services exceed those typical for a town of nearly 2,000. As such, Ludlow’s effective, rather than year-round, population offers a better basis to plan for most needed services and facilities, with additional contingencies being necessary to handle peak periods.

How the Municipal Plan Relates to Development Trends

Significant population growth is not anticipated for the next 20 years. Therefore, many of the identified public infrastructure needs in this Town Plan are based upon maintaining the existing facilities, such as roadway maintenance, culvert replacements, rebuilding sidewalks, and strategic water and sewer system improvements. In light of recent trends, this Plan seeks to encourage economic development initiatives in ways that reinforce Village Center revitalization, maintain rural character, and preserve/enhance quality of life.

4 Landscape

4.1 Soils and Topography

Ludlow is a rural town with historic development concentrated in the Black River valley. The Village is surrounded by hills and mountains and a largely wooded landscape. Development activities over the recent decades have resulted in a patchwork of cleared areas, often along ridgelines for better views of the ski area. Ludlow/Okemo Mountain at 3,343 in elevation is the dominant land feature in Ludlow. Terrible Mountain, Hawks Mountain, The Alps, Sawyer Rock and Salt Ash Mountain in the surrounding area are also prominent features in the skyline. The upland soils are generally very shallow and less suited for development, while the soils in the valley bottom are deeper. Significant areas of steep slopes are present in Ludlow as shown on the Topography Map. Careful consideration must be given to development in areas higher than 2,500 feet in elevation and with slopes greater than 25% to avoid any negative impacts new construction may have on the environment, such as degradation of water quality, erosion of topsoil, and encroachment on wildlife habitat. Development must comply with policies for ridgelines and scenic resources as discussed in more detail in Section 4.7.

4.2 Farms and Forests

Forest Resources

Minimizing or preventing forest fragmentation is a key component in promoting the health, viability and ecological function of forests. Large blocks of forests and habitat connectors are beneficial for water quality, flood resilience, wildlife habitat, timber or maple syrup production and recreation. The Forest Blocks Map depicts large areas of forestlands, which are primarily along the entire western portion of Ludlow. Riparian areas along rivers and streams as well as smaller forest blocks function as habitat connectors.

Forested land in Ludlow comprises a majority of the total current land area and serves as a major asset. The Okemo State Forest and Tiny Pond Wildlife Management Area encompass a large portion of the mapped forest blocks, and cover about 15 percent of the total land area in Ludlow.

A majority of the forested lands in Ludlow are privately owned. Landowners are under increasing financial pressure to sell or convert them to land uses other than forestry. Development and subdivision activity throughout Vermont are resulting in forest fragmentation. See the [VNRC's forest parcelization website](#) for more information. Tools that can help to address forest fragmentation include land acquisition, conservation easements, Vermont's Use Value Appraisal (or Current Use) Program and the [Forest Legacy Program](#). Zoning and subdivision bylaws will be reviewed to evaluate how they can be modified to better minimize forest fragmentation.

Agricultural Resources

Protecting important agricultural soils, while also encouraging smart growth, is challenging. Many historic villages, including Ludlow, are located in river valleys and are surrounded by areas of prime agricultural soils and/or agricultural soils of statewide significance. (See the Agricultural Soils Map.) Agricultural soils that are rated by the Natural Resources Conservation Service as prime, statewide or locally important are regulated through Act 250 Criterion 9(b). Large blocks of prime agricultural soils are beneficial to allow for future farming. However, a balance is necessary in order to protect agricultural soils, while allowing the flexibility to facilitate new growth within or adjacent to historic villages in accordance with the State Planning Goal in 24 V.S.A. 4302(c)(1).

Though large working farms are no longer active in Ludlow, a few horticultural crops and, domestic livestock are still raised, primarily for family or specialty use. These small-scale agricultural activities contribute to the overall quality and identity of Ludlow, when effectively interspersed with other compatible land uses. Ludlow encourages sustainable farming activity, including local farms of all sizes (large, medium and small), to enhance the working landscape economy and increase access to healthy food products.

Agricultural resources provide meadows, pastures and fields that create visually appealing open land which contrasts with forested and appropriately developed lands.

4.3 Earth and Mineral Resources

New England's most common earth mineral resources include granite, marble, sand, gravel, and talc. Primarily talc, sand, and gravel are present in Ludlow. Granite and marble do not exist in sufficient quantities to be profitable for extraction. Traces of gold, washed downstream from neighboring towns, are also extracted from Ludlow's surface waters as a recreational activity.

Earth mineral resource extraction activities provide sand and gravel resources that are useful in local construction and for export. Ludlow's leading mineral extraction is talc. The responsible mining of talc, sand and gravel – with careful attention to environmental concerns, site restoration and mitigating negative impacts on neighbors (e.g. noise, trucking) – can continue to provide Ludlow with a stable economic resource.

4.4 Water Systems

Surface Waters

Much of Ludlow lies within the Black River Watershed (see the Water Features Map), which drains into the Connecticut River. The southern portion of town is within the Williams River Watershed. Major waterways in Ludlow include the Black River and its tributaries, Jewell Brook and the Branch Brook. The Black River forms a generally narrow valley, surrounded by hilly and mountainous terrain. The source of the Black River is at the outlet of Black Pond in Plymouth. In Ludlow, the Black River flows into and through two large lakes, Lake Rescue and

Lake Pauline, in the northern part of town. A local lake association was formed in August of 1954 to address lake related issues. The lakes are a popular destination, and many homes have been developed along the lake shores. In addition, many ponds and wetlands dot the landscape providing visual interest, recreational opportunities, and habitat for wildlife.

Buttermilk Falls on Branch Brook consists of a series of three falls with a large, shallow pool beneath each with sunny cobble and gravel shores. This area is very scenic and serves as a popular swimming hole.

Historically, Ludlow developed as a mill town using the river and brooks as sources of power for textile mills. The Black River runs through the center of town and is paralleled by major transportation corridors (i.e. VT Routes 100 and 103, Green Mountain Railroad). As a consequence of the proximity of the rivers to municipal infrastructure and buildings, it is important for the municipal plan to evaluate related considerations, such as stormwater controls and flood resilience.

Stormwater

Excessively wide roads and expansive parking lots, development on steep slopes, large impervious surface areas, curbs and catch basins, and straightened stream channels are all common in the landscape today. Existing development that exhibits those elements can lead to decreased stormwater infiltration, lower evaporation and transpiration rates, and increased surface runoff, which can increase the susceptibility to flooding and fluvial erosion.

Best management practices for stormwater management (e.g. [Low Impact Development](#), [Green Stormwater Infrastructure](#)) generally involve methods to minimize runoff and increase infiltration onsite, and to maintain or mimic natural ecological and hydrologic functions of each development site.

Significant changes have been made recently to state stormwater rules based on the Vermont Clean Water Act (Act 64, 2015). A [state stormwater permit](#) is required for construction that involves one or more acres of disturbed area. A new rule (2018 proposed draft) will impose standards for existing sites with three or more acres of impervious surface that lack a stormwater permit based on the 2002 Stormwater Management Manual.

Ludlow maintains a closed drainage system in the Village, which is discussed in the utilities and facilities section of this Plan. Municipal roadways that are in close proximity to surface waters are now subject to a [Municipal Roads General Permit](#) (MRGP). This will involve maintaining an inventory and implementing a stormwater improvement plan for these road segments. These road segments are expected to be fully compliant with the standards included in the [General Permit](#) by December 31, 2036. It will be costly for Ludlow to bring these roads into compliance. Funding assistance is available through a variety of programs, such as [Better Roads](#), [Municipal Roads Grants-in-Aid](#), [Municipal Highway and Stormwater Mitigation](#), and the [Transportation Alternative Program](#).

The Ludlow Development Review Board requires erosion control and stormwater management plans as part of the local development review process.

Flood Resilience

As identified in Ludlow's *Local Hazard Mitigation Plan*, the lower-lying areas in the Village are particularly susceptible to inundation flooding and the higher-elevation areas are prone to flash flooding. Ludlow has experienced significant flood and fluvial erosion damages in the past including, but not limited to, in 2011, 1976, 1973 and 1927. Tropical Storm Irene in 2011 damaged numerous private properties and resulted in about \$2.6 million in damages to municipal infrastructure. As such, one of Ludlow's primary objectives is to promote flood resilience in accordance with the State Planning Goals [24 V.S.A. §4302(c)(14)]. See Ludlow's *Local Hazard Mitigation Plan*, as most recently amended, for more detail as it relates to the flood resilience element for this plan.

The following areas are identified as those areas particularly at risk of flooding and fluvial erosion, and are designated for certain protections to reduce the risk of future flood damage to infrastructure and properties:

Flood Hazard Areas

The flood hazard areas depicted as "Special Flood Hazard Areas" on FEMA's Flood Insurance Rate Map are at higher risk of inundation flooding. See the Water Features Map that shows where these areas are located. There are about 82 existing structures in the Village and 112 structures in the Town within or partially within the Special Flood Hazard Areas. A permit is required for all development that occurs in this area per the zoning bylaws for both the Town and Village of Ludlow. The associated standards generally require raising living spaces to be one foot above the base flood elevation or dry-flood proofing non-residential buildings.

Local Flood Hazard Areas (LFHA) are also identified and regulated under both the Town and Village zoning bylaws. These zoning provisions are intended to promote flood resilience by regulating the potential flood and fluvial erosion hazards and minimizing impacts resulting from destabilized streambanks. Generally these provisions involve no new structures to be built within the established LFHA setback.

River Corridors

Rivers are dynamic and, as a result, development that is located too close to river/stream banks is at risk of potential bank erosion and channel relocation. The River Corridor (RC), which is shown on the Water Features Map, depicts the portions of Ludlow that are particularly at risk of this type of fluvial erosion damage. There are 155 existing structures in the Village and 118 in the Town located within or partially within the RC, as mapped by the Vermont Agency of Natural Resources. At this point, development that is subject to State rules and procedures – including state facilities, acceptable agricultural and forestry activities per 24 V.S.A. §4413, and projects subject to Act 250 or Section 248 review – will be required to meet standards that promote resilience from future fluvial erosion in these areas. The Town and Village want to encourage river corridor protection where it is possible for the river channel to still vary its course.

Lands Adjacent to Streams

FEMA special flood hazard areas are designated along only the larger rivers and streams in Ludlow. Flooding is possible along other watercourses. Therefore, Ludlow's Zoning Bylaws were amended recently to include local flood hazard areas that establish setback provisions along named tributaries in order to mitigate erosion and prevent new development from occurring too close to stream banks, which would put them at greater risk of flooding or fluvial erosion.

Properties subject to Act 250 review are generally required to follow State buffer requirements, which range between 50 and 100 feet from the top of bank.

As noted above, the water quality and flood resilience benefits of buffers along water courses are important. However, equally important is to allow for some exemptions to the buffer standards in order to allow for recreational uses (e.g. water access, multi-use paths), water crossings (e.g. roads, driveways and utilities), and management activities (e.g. removal of hazardous trees, eradicating exotic invasive species or contaminated soil remediation).

Wetlands

Wetlands serve a number of important functions, including flood retention. (See the discussion on wetlands and vernal pools on the next page about other important functions.) Maintaining this functionality of wetlands can contribute toward mitigating flooding impacts in Ludlow. Vermont Wetland Rules apply to all applicable important wetlands of the State. Ludlow's subdivision bylaws include a provision to prevent adverse impacts to wetlands.

Upland Forests

Maintaining an adequate forest cover in rural upland areas and steep slope areas helps to maximize infiltration of water into the soil, and minimize or slow down stormwater runoff in ways that mitigate flooding hazards to downstream locations. Efforts to minimize heavy cutting in forestry activities, limiting the extent and densities of developments, and properly managing stormwater in these uplands areas will help contribute toward community flood resilience. The Ludlow subdivision bylaws include stormwater and steep slope provisions that help to achieve this upland forest functionality. However, the zoning bylaws and the above subdivision provisions should be evaluated and possible modifications considered in order to further community flood resilience (e.g. stormwater standards, encouraging low impact development, green stormwater infrastructure).

Watershed Planning

Tactical basin plans (TBP) for Vermont's watersheds are developed by the Vermont Agency of Natural Resources. Each TBP contains objectives, prioritized strategies, benchmarks and tasks in order to facilitate the implementation of the plans. Ludlow and its waters are addressed in the Basin 10 Plan for the Black and Ottauquechee river watersheds. The TBP is the guidance document for the ANR's work on water resources. It is used to prioritize projects and target resources for restoration and protection. The goals of the Ludlow Municipal Plan and improvement and protection projects desired by the town should be listed in the town plan in

order to prioritize them in the TBP. The Vermont Agency of Natural Resources completed the [Tactical Basin Plan for the Black and Ottauquechee Rivers](#) in June 2018.

Ludlow will receive additional consideration on grant funding applications if it adopts higher levels of protection for flood hazard areas. These protections also qualify the Town for reduced cost share after a declared disaster for damage to public infrastructure including roads and culverts through the Emergency Relief and Assistance Fund (ERAF). For disasters after October 23, 2014, the State of Vermont will contribute an additional 7.5% toward the costs. Currently for Ludlow, following disasters the State contributes 12.5% of the cost share. If Ludlow adopts river corridor protections this rate will increase to 17.5%.

The SWCRPC completed a Phase 1 Fluvial Geomorphic Assessment of the Black River and associated tributaries, examining erosion hazards, floodplain access and bridge and culvert conditions. The SWCRPC's *Phase 2 Stream Geomorphic Assessment for the Black River Watershed* was completed in May 2009. Findings in these studies include:

- a. Development in recent centuries (including buildings, dams, roads and the Green Mountain Railroad) has encroached upon the floodplain within and near the Village of Ludlow, resulting in large areas of impervious surfaces, dated drainage systems and the loss of contact with portions of the floodplain.
- b. Historically, the Black River, Branch Brook and Jewell Brook channels were straightened and streambanks hardened with riprap or concrete, stone or metal walls.
- c. Development and human modifications to the river have resulted in a loss of functional floodplain areas, and indicate possible future adjustment of the river channel. (See the Water Features Map that shows erosion hazard areas along the Black River.)
- d. The Black River and its tributaries in Ludlow support wild and stocked populations of trout, although aquatic habitat is limited by environmental conditions such as warm water temperatures.
- e. Erosion and road runoff are significant problems in Ludlow's rivers, brooks and lakes. The lakes are experiencing related sedimentation problems.
- f. Development in the headwater areas at high elevations presents a need for sound stormwater and erosion control techniques.

Lake Rescue had an infestation of Eurasian water milfoil a number of years ago, but eradication efforts were successful and it has been plant free for several years.

Wetlands and Vernal Pools

A number of wetlands are also located throughout Ludlow, many of which are included in the National Wetlands Inventory and Vermont Significant Wetlands Inventory. Wetlands are biologically productive ecosystems and serve a variety of functions: retaining stormwater runoff, reducing flood peaks, protecting groundwater quality, filtering eroded sediment, and providing habitat for a wide diversity of plants and animals. They also provide open space and contribute to Ludlow's scenic landscape. According to the Vermont Wetlands Rules, Class 1 and 2

wetlands (those identified in the National Wetlands Inventory) require conditional use review by ANR prior to the issuance of a local zoning permit. (See the Water Features Map.) Class 3 wetlands are not included in the inventories and are generally not protected by the Wetland Rules, but other regulations may apply.

Vernal pools are temporary bodies of water which usually occur in woodland depressions and provide important breeding areas for a variety of amphibian and insect populations. Most vernal pools in Vermont are filled by spring rains and snow melt and are dry during the summer. They provide safe breeding grounds for insects and amphibians because they do not support fish populations.

Groundwater

Groundwater is the primary source of drinking water in Ludlow. It moves underground through aquifers, which are water-bearing strata of permeable rock, sand, or gravel. Maintaining good quality and adequate quantities of groundwater are important considerations for preserving the public health and safety. Potential groundwater pollutants include seepage from improperly designed or malfunctioning septic tanks and leaching fields for wastewater, leakage from underground gas and oil tanks, and improperly disposed of chemical materials. Once contamination occurs, control and abatement are extremely difficult, if not impossible. The key is to prevent pollution from entering rock fractures in the first place.

A number of public and private wells tap into Ludlow's supply of ground water. The municipal water supply comes from an aquifer located along the southern and eastern sides of Ludlow (Okemo) Mountain and Terrible Mountain, including portions of the state forest. This aquifer is protected by a large designated aquifer protection district (APD) in the southwest part of Town. This APD and ten wellhead protection areas define the current areas of concern for protection of groundwater resources.

Effective June 9, 2008, Section 1 of Vermont Act 199 sets forth the General Assembly's finding that groundwater resources of the state are held in trust for the public.

4.5 Wildlife Habitat

Wildlife is encouraged to thrive in Ludlow's rich natural environment. The resources previously defined – clean water, healthy forests, and fields – form the basis for an ecosystem that naturally supports the presence of wildlife. Bears travel in the forested and mountainous corridor areas along the western and southern Town boundaries. Deer winter in areas sheltered by hillsides and dense tree cover. Streams, lakes, ponds and wetlands provide habitat for fish and supply other wildlife with fresh food and drinking water. A variety of birds, from waterfowl to songbird, finds an appropriate habitat in Ludlow.

Four rare or uncommon plants have been documented by the State Department of Fish and Wildlife in the Ludlow area (one is classified as very rare, two as rare, and one as uncommon). The Wildlife Habitat Map of Ludlow shows the general locations of these rare plants. Efforts to protect these rare species prevent publication of their specific location.

As discussed in Section 4.2, large forest blocks serve as important habitat, and riparian areas and smaller forest blocks function as habitat connectors (See Forest Blocks Map). Maintaining the wildlife habitat and wildlife travel functionality of these features is important to sustain biodiversity. Encroachment by development threatens the functionality, but carefully planning future development can mitigate these impacts.

4.6 Air Quality

Residents currently enjoy relatively good ambient air quality, according to national standards, that exists today in Ludlow. As a result, the municipality's good air quality constitutes an environmental resource that has aesthetic as well as human health benefits. Elements that could negatively affect air quality include: smell, light, particulate matter (from dust, smoke or fumes), radiation, chemical vapors, motor vehicle exhaust and power plant emissions. Outdoor lighting can also negatively impact safety and the dark night sky. The performance standards in Section 550 of the zoning bylaws regulates a number of the factors that can negatively impact air quality.

4.7 Scenic Features

State planning goals encourage maintaining historic settlement patterns in villages surrounded by a rural countryside, as well as protecting important scenic and historic resources [24 V.S.A. §4302(c)(1) and (5)]. Scenic and historic resources are among Ludlow's most valued assets. Residents value the small town feel of the Village, surrounded by open fields, the lakes and rivers, hills and large tracts of forested lands. This Plan seeks to encourage future growth that also protects these scenic and historic resources articulated in this chapter.

Ridgelines and Scenic Resources

Certain outstanding scenic resources are an essential component of the rural character that defines the outlying areas and serves as a scenic backdrop for the Village of Ludlow and major roadways. Maintaining these scenic qualities is a very important consideration, especially as the features listed below greatly contribute to the tourism-based sector of the local economy.

The dark night sky is also considered as a scenic resource for the purpose of this Plan. Light pollution from development can negatively impact the rural character and quality of life enjoyed by residents.

The following are identified as Ludlow's important scenic resources:

- a. The Lakes (Rescue, Pauline, Round Pond)
- b. Tiny Pond
- c. Black River
- d. Buttermilk Falls
- e. State Forest
- f. Cemetery
- g. Forested areas within the Ludlow public water source protection area
- h. Dark night sky
- i. Scenic vistas along VT Route 100
- j. Prominent hills and ridgelines are valued by Ludlow residents, including:
 - Bear Hill

- The Pinnacle
- Whetstone Hill
- South Hill
- Ludlow (Okemo) Mountain (the portion of which that is within Ludlow)
- North Hill
- East Hill
- Terrible Mountain (the portion of which that is within Ludlow)

These ridgelines provide a scenic view from the Village and major roadways in Ludlow (see the Topography Map). In addition, these areas are fragile due to high elevation and steep slopes, and are also valued for their scenic, wildlife habitat and forestry attributes. All applicable development is subject to the Ridgeline Protection Overlay District in the Town of Ludlow Zoning and Flood Hazard Regulations.

4.8 Landscape Policies



- 4.8.1.1 Development must be sited in order to avoid unstable soils that offer poor support for foundations or footings and are subject to slippage, or are poorly suited for road construction. Extensive site investigations and erosion control plans may be required to determine the development suitability of such soils.
- 4.8.1.2 Development is strongly discouraged in areas higher than 2,500 feet in elevation and with slopes greater than 25% must avoid any negative impacts new construction may have on the environment, such as erosion of topsoil and degradation of water quality.



- 4.8.2.1 Encourage measures that balance supporting land-based economies, protecting large blocks of forested lands, with supporting development in or near village centers.
- 4.8.2.2 Proposed roads or utilities must be sited to cause minimal negative impact to forest contiguity and aesthetics.
- 4.8.2.3 Not allow development that results in the fragmentation of large contiguous blocks of forested lands and habitat corridors in order to support productive, sustainable forestry, maintain wildlife habitat, and promote the health, viability and ecological function of forests.



- 4.8.3.1 Conserve agricultural lands, as shown on the Agricultural Soils Map, for their current and potential value.
- 4.8.3.2 Development must be sited carefully in order to avoid fragmentation of prime agricultural soils.



- 4.8.4.1 Earth mineral extraction activity must not destroy or significantly imperil necessary wildlife or water resources, nor result in undue adverse impacts related to noise, dust, traffic, or visual degradation of the site and surrounding neighborhood.
- 4.8.4.2 Ensure that abandoned and un-reclaimed extraction sites do not present an unsightly appearance, pose health and safety hazards, and reduce the property value of abutting land. All applications for earth extraction activities must include an adequate site reclamation plan.



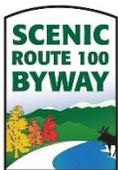
- 4.8.5.1 Protect shorelines and stream banks from surface runoff that could lead to excessive erosion, sedimentation, and/or other pollution of surface waters. No clear cutting of trees shall be allowed within 50 feet of the high-water mark of Lakes Pauline and Rescue and Round Pond to maintain the water quality and scenic value of these lakes.
- 4.8.5.2 Protect the quality and capacity of groundwater. Land uses within the Aquifer Protection District and wellhead protection areas must not threaten the quality of groundwater supplies.
- 4.8.5.3 Destruction of Class 1 and 2 wetlands and construction in wetlands must be avoided.
- 4.8.5.4 Water quality must be maintained and improved according to policies and actions identified in the VT ANR's Tactical Basin Plan for the Black River watershed (Basin 10).
- 4.8.5.5 New development in identified flood hazard areas and river corridors should be avoided. If new development is to be built in such areas, it must not exacerbate flooding and fluvial erosion.
- 4.8.5.6 The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion must be encouraged.
- 4.8.5.7 Where buffers are required for Act 250 projects, provide reasonable flexibility with these buffer standards in order to allow for recreational uses (e.g. water access, multi-use paths), water crossings (e.g. roads, driveways and utilities), and management activities (e.g. removal of hazardous trees, eradicating exotic invasive species or contaminated soil remediation).



- 4.8.6.1 Landowners must avoid subdivision or fragmentation of land that would result in significant loss or degradation of fish and wildlife habitat areas.
- 4.8.6.2 Ensure that methods of waste disposal, construction, road paving or maintenance; or disturbance of habitat, and other human activities do not lead to pollution or destruction of wildlife habitats.
- 4.8.6.3 Establish preservation measures for areas identified as critical habitat for the survival of wildlife species.
- 4.8.6.4 Support private organizations, landowners and others who are involved in efforts to ensure the continuation or enhancement of Ludlow’s wildlife population.
- 4.8.6.5 Encourage the economic community that involves or relies on fish and wildlife populations to contribute to sustaining Ludlow’s wildlife resources.



- 4.8.7.1 Development must not result in undue adverse impacts on air quality.
- 4.8.7.2 Development must meet all applicable performance standards in Section 550 of both the Village Zoning and Flood Hazard Regulations and the Town Zoning and Flood Hazard Regulations.



- 4.8.8.1 Preserve the identified scenic views and ridgelines that most contribute to Ludlow’s rural character. Any development in these areas must minimize negative visual and environmental impacts, by limiting tree cutting, using building materials that minimize reflective glare, landscaping to minimize visibility of structures or through other means of visually integrating development sites into the surrounding landscape.
- 4.8.8.2 Proposed new lighting must avoid glare and other unnecessary light pollution by utilizing full cut-off exterior lighting fixtures in order to maintain Ludlow’s clear dark sky.
- 4.8.8.3 Telecommunication towers are subject to the requirements of the Ludlow’s Telecommunications Facilities Ordinance.
- 4.8.8.4 Residential-scale wind power generating facilities are encouraged in Ludlow (see the Energy Section of this plan). All such facilities must minimize negative visual and environmental impacts as discussed in policy statement #4.8.8.1.

- 4.8.8.5 Commercial wind energy systems are prohibited on scenic ridgelines and are subject to the siting policies listed in the Energy Section for any project subject to review by the Vermont Public Utility Commission.

5 Community

5.1 Homes

Ludlow strives to provide a safe and affordable home for all residents. The purpose of this chapter is to document existing conditions and how the municipality can try to address housing needs.

During the Planning Commission's two public forums held in 2018, the following key ideas about housing in Ludlow were expressed:

1. Affordability is the primary issue. It can be a challenge for younger families to afford to live here. Perceived contributing factors that limit home affordability include the second home market and property taxes.
2. There is a lack of rentals for seasonal employees. An increasing number of units are now used for short-term rentals, so fewer units are available for longer-term rentals. Many affordable housing units require a year-long lease, while terms of 4-6 months would better fit seasonal workers' needs.
3. There are a number of buildings in poor condition, many of which are within the village. There appears to be strong support to fix up these old buildings in the village for housing, but financial incentives may be needed to make it happen. Tax credits available through Village Center designation currently provide a financial incentive. Additional incentives should be considered.

Household Characteristics

Appendix E contains a data profile for Ludlow. The following is intended to summarize key aspects of the profile for the community as it relates to housing.

Between 2000 and 2010, Ludlow's population decreased by 20%. However, the number of total housing units increased 9.5% during this time period – this growth was largely comprised of seasonal housing units constructed in the rural areas of the Town. According to the U.S. Census, there were 930 households in Ludlow in 2010, 44% of which resided in the Village (up from 41% in 2000). During the 2000s, vacancy rates increased, representing a 12% decrease in total households. The U.S. Census Bureau estimate for 2016 is 929 households in Ludlow, 438 of which are within the village.

Following national and statewide trends, household size has been declining in recent decades – the result of an aging population, families having fewer children, the break-up of extended family households, and a relative increase in single-parent and non-family households. The Town and Village of Ludlow's combined average household size decreased from 2.41 in 1990 to 2.06 in 2010, while the Village's average household size decreased from 2.21 in 1990 to 1.88 in 2010.

Housing Characteristics

There were 3,285 total housing units in Ludlow in 2010, of which about 19% were owner-occupied and 10% were renter-occupied. The vast majority of units in Ludlow are seasonal.

The number of vacancies increased. Vacancy rates for owner-occupied units was 1.2% of the total housing units in 2010 and rental units was 2.4%, a significant increase from the prior Census. Other noteworthy characteristics of Ludlow's housing stock include the following:

1. The Village has a much higher percentage of rental units when compared to the Town. Nearly 42% of Village households are owner-occupied, while 84% are owner-occupied in the Town.
2. Vacancy rates in Ludlow are higher than the county and state as a whole, which is consistent with other ski towns.
3. The housing stock is significantly older in the Village when compared to the much newer housing stock in the rural areas of the Town.
4. More than half of the houses in Ludlow Village were built prior to 1939, which accounts for much of the Village's historic character. In addition, as tourism has grown in Ludlow, there have been numerous conversions of residential properties to commercial usage (inns, lodges, bed & breakfasts, motels, etc.).
5. Of the 284 new housing units constructed during the last decade, 21 are in the Village. Many of the 263 new units constructed outside of the Village are used for seasonal housing.
6. The Jackson Gore construction of 326 additional dwellings is associated with the expansion of the ski area and associated recreational amenities. Many of these are quarter-share units, meaning that there is the potential for 4 owners in each unit, owning a total of 13 weeks per year for each owner.

While second home development is often welcomed because of the positive financial implications for the municipality, it can inflate the local housing costs.

In addition to seasonal housing units, Ludlow has a significant number of available rental beds, including hotels, motels, bed and breakfasts, inns and rental properties. Current facilities are estimated to accommodate 8,074 people in Ludlow when all beds are occupied.

Okemo Mountain Resort has been developing employee housing for seasonal workers. There are currently two locations used for this purpose: one at 2 Pleasant Street, and one at 80 Pond Street. There may be a need for additional seasonal worker housing in the future.

Subsidized Housing

There are 82 affordable rental housing units in Ludlow at this time. [Black River Overlook](#) on Rublee Lane has a total of 22 units. Stewart Property Management manages this facility for the [Windham and Windsor Housing Trust](#). There are two facilities at Gill Terrace for elderly housing: 7 Gill Terrace has 24 units and the newer building (9 Gill Terrace) has 36 units. They are all PAC 202 Housing, which is a HUD program for elderly supportive housing.

Mobile home parks are viewed by the state as a means of providing safe, sanitary, and affordable housing for low and moderate-income households. Ludlow has three mobile home parks occupied by a total of 47 mobile homes, which comprise 8% of Windsor County's 37 parks and 5.4% of its 874 mobile homes. Rents vary in part due to the level of utilities and services provided.

Housing Affordability

Ludlow's median household income in 2016 was estimated to be \$45,799 (U.S. Census Bureau). The median price of primary residences sold in 2016 was \$192,450 (VT Department of Taxes). Based on the Vermont Housing Finance Agency's affordability calculator, a household would need an annual income of \$58,502 to afford a home at this median price, which is significantly more than the overall median household income.

According to federal and state definitions, housing is considered "affordable" when households that do not exceed 80% of the county median income and spend no more than 30% of their gross household income on housing costs. Windsor County's estimated median household income is \$54,763 (2016 estimates, U.S. Census Bureau). An affordable home price for a household at 80% of that income level would be \$143,500. The current median home price is significantly higher than that.

As part of the American Community Survey, the U.S. Census Bureau estimates the ability to afford housing in Ludlow. Based on that data, 41% of owner-occupied households and 39% of renter-occupied households pay 30% or more of their income on housing. It also indicates that 19% of owner-occupied households and 24% of renter-occupied households spend 50% or more on housing costs (2009-2013 American Community Survey). This validates what the Planning Commission heard at the public forums: there is a housing affordability problem in Ludlow.

Equal Treatment of Housing

Under the equal treatment of housing provision [24 V.S.A. §4412 (1)], no local bylaw may have the effect of excluding affordable housing for low- and moderate-income populations. This statute enables accessory dwelling units for single-unit residential dwellings. An accessory dwelling unit is an efficiency or one-bedroom apartment that is clearly secondary to the owner-occupied residence, but it does not need to be physically attached to it.

Other forms of housing may also provide lower cost options, such as tiny homes, duplexes, bungalow courts, townhouses and live/work units. The zoning should be evaluated to determine if any impediments exist to providing these other forms of housing exist.

There appears to be local interest in renovating large, older buildings in the village to provide quality rental units. The community should coordinate with the Windham and Windsor Housing Trust on future housing projects.

The Windham and Windsor Housing Trust [provides services](#) that are underutilized in Ludlow at this time, including home ownership counseling and educational services, and a shared equity program. The shared equity program helps income-eligible people to buy a home through a subsidy, and the subsidy continues with the subsequent owner.

5.2 Economy

In the late 1800s, Ludlow became a center for manufacturing, including woolen mills. The railroad provided a link to the rest of Vermont and the northeastern U.S., allowing Ludlow's manufacturing industry and textile plants to grow and become successful. GE was a major local manufacturing operation until it closed the Ludlow plant after the floods in the 1970s. Some Ludlow residents continue to work at GE's facility in Rutland. In 1956, ski facilities were developed and later improved on Ludlow (Okemo) Mountain, later to become Okemo Mountain Resort. Ludlow¹ has undergone significant economic restructuring over the past three decades, making a transition from a dominantly manufacturing mill-town to a service-oriented tourist destination.

Present Economic Conditions

In 2016, Ludlow's civilian labor force was 1,073, and the unemployment rate was 4.3%. While the local economy relies heavily on the tourism industry, the labor force is employed in a cross section of other economic sectors (see Appendix E). In 2015, The largest employment sectors include:

1. Accommodation and Food Services (45%);
2. Manufacturing (13%);
3. Retail Trade (10%);
4. Public Administration (7%);
5. Educational Services (6%);
6. Health Care and Social Assistance (5%); and,
7. Construction (5%).

Major employers in Ludlow include: Okemo Mountain Resort (4-season resort including skiing, golf, aquatic/fitness center, etc.), Imerys Talc Vermont, Inc. (formerly Luzenac talc mine), JELD-WEN (door manufacturer), Gill Odd Fellows Home (nursing home), Visiting Nurse Alliance of Vermont, and Shaw's (supermarket). There are numerous small businesses operating in Ludlow, including a great variety of restaurants and other tourist services.

Retail and construction trades are connected to the tourism industry. As a result, bad snow conditions can have ripple effects in these related economic sectors. Changing weather patterns, which recently have included warmer temperatures and more inconsistent snow conditions, are a threat to the tourism-related economy.

¹ Much of the employment and economic data included in this chapter were not available for Ludlow Village; consequently, all figures presented in this chapter represent both Town and Village combined unless otherwise noted.

Seasonal employment is common in Ludlow, where many jobs in the ski, retail and construction industries can fluctuate at different times of the year. Unemployment rates are often highest in April and May.

The vast majority of people that are employed at businesses in Ludlow live in another town, many of whom travel fairly long distances for work (e.g. from Rutland, Claremont and Windsor). The ski industry often finds employees from outside the state or country. Finding adequate staffing is a common problem for employers, especially for seasonal jobs.

About 19% of Ludlow residents work in jobs located in town. Most residents travel to jobs in other towns. Common commute destinations are Rutland, Chester, Springfield, Cavendish, Hartford and Woodstock.

Despite the relatively high rate of job growth in the community in the last 20 years, average local wages² lag behind wages in the county and state. In 2016, the average annual wage for covered workers employed in Ludlow was \$31,333, compared to \$45,054 for Vermont, while the "livable wage"³ for Vermont was \$32,785. Thus, the average wage in Ludlow is 95% of the state livable wage for a rural area.

One of the most significant challenges to local economic development efforts is a lack of available quality housing that workers can afford, considering the average wages of residents. See the Housing Chapter for more discussion of housing costs and availability.

Future Economy

This section describes what we want for our future economy. Section 6.2 also describes our future economy as it relates to the location, type and scale of future land use patterns.

Village Center

There is strong local support for revitalizing Ludlow's village center. This entails enhancing the streetscape, making it a pleasant and safe place to walk, investing in existing buildings, filling empty storefronts, slowing traffic down, and making it a place where both residents and tourists want to go. Efforts to clarify the locations of public parking and signs to find destinations (i.e. "wayfinding") were also identified as priorities.

Ludlow's village center was originally designated by the State Downtown Board in 2011, and an expansion was approved in 2016. Ludlow wishes to foster conditions that support vibrant local stores and community services located within the village center. (See the Future Land Use Map that depicts the designated Village Center boundary.) Village center designation is an important tool to help implement village revitalization efforts called for in this Municipal Plan. Benefits of designation include:

² Because of the high number of part-time and seasonal jobs in Ludlow, average annual wages should not be presumed to equate to actual annual income.

³ A livable wage is the hourly wage or annual income sufficient to meet an individual or family's basic needs plus all applicable federal and state taxes. The livable wage referenced above represents the "rural" average annual wage for a single person with no children. Source: Basic Needs Budgets and the Livable Wage (2017)

- Tax credits for investments to income producing properties within the designated village center;
- Priority consideration for a number of grant programs;
- Creation of a special assessment district under 24 V.S.A. Chapter 87; and,
- Other benefits described in 24 V.S.A. §2793a(c).

There are additional [benefits](#) to Downtown designation, such as eligibility for the Downtown Transportation Fund, traffic calming and signage options, and Act 250 permitting benefits. Local downtown programs require additional efforts, such as developing and funding a local downtown organization. Ludlow should consider applying for Downtown designation.

The designated village center is the desired location for retail and other commercial uses typical of traditional Vermont villages, as well as the most intensive residential development in Ludlow.

Neighborhoods

Residential neighborhoods that surround the village center are desired to remain much as they are today, but with a focus to invest in certain dilapidated buildings, enable in-fill development, and provide a range of quality housing options for residents of all income levels. An objective of this area is to maintain or enhance the streetscapes to provide pleasant and safe conditions for walking and bicycling. Home occupations and home-based businesses are encouraged here, as they are a significant component of the local economy.

Outdoor Recreation

Ludlow is a destination for outdoor recreation (e.g. skiing, golf, lakes) with a number of other assets, such as an abundance of natural resources, architecture, history, arts and cuisine. Exploring ways to maximize the tourist's experience when visiting here will help to enhance Ludlow and Okemo Mountain Resort as a destination.

Many local businesses are affected by poor snow conditions and the "shoulder seasons". There is a strong interest to diversify the economy in order to promote strong year-round economic activity and to avoid disaster if climate change or other factors drastically impact the ski industry in the future. Specifically, residents and business owners at the 2018 public meetings expressed the importance of bringing in a few new businesses, preferably smaller-scale high-tech firms.

Rural Working Landscape

Ludlow promotes a working landscape of active farms and sustainable forestry activities in rural areas. We have a particular interest in encouraging local production of farm-fresh foods and value-added farm products, improving access to fresh and healthy food, and using public spaces for community gardens and farmers' markets.

Other ideas identified in the 2018 outreach that will contribute toward a more vibrant economy include providing good homes (e.g. good quality, diversity of choices/types, prices that residents can afford), a variety of recreational opportunities, great telecommunication services, access to a quality education, excellent municipal service and facilities, and a vibrant village.

5.3 Transportation

Ludlow is served by a transportation system of roads, a railroad, and public transportation services. As a rural area, driving is the predominant form of travel. As a ski town, managing seasonal traffic is an ongoing effort.

Walking and bicycling are popular. A sidewalk network exists in and around the Village. Bicycling is generally accommodated along existing roadways. Outdoor recreation and village revitalization are important aspects of Ludlow's vision. As such, enhancing walking and bicycling accommodations is important for the community.

Roads & Highways

There are approximately 105 miles of roads in Ludlow under different jurisdictions. The Village of Ludlow is responsible for maintenance of 10 miles, while the Town has 61 miles of highways. Approximately 20% (21.4 miles) of Ludlow's road network are private roads. Appendix E includes a variety of relevant information for this section, including road miles, traffic data, and travel for work patterns. The Transportation Map shows the local transportation network.

State Highways

There are approximately 13 miles of state-maintained highways in Ludlow, including VT Routes 103 and 100. VT Route 100 runs the length of the state and serves most tourist destinations along the main range of the Green Mountains. It connects Ludlow to Plymouth and Killington to the north, and Weston and Londonderry to the south. It converges with the east-west running VT Route 103 in the center of Ludlow for 1.8 miles. VT Route 103 serves as a major connection between Interstate 91 in Rockingham and US Route 7 in Rutland.

The westerly section of the Okemo Mountain Road provides access to the Okemo State Forest and is maintained as a State Forest Highway.

Municipal Roads

Ludlow maintains approximately 70 miles of local roads, 34% of which are paved. Municipally maintained roads include "town highways" (as defined 19 V.S.A. § 302) under jurisdiction of both the Village of Ludlow (10 miles) and the Town of Ludlow (61 miles). These include heavily used collector roads, quiet village streets, rural gravel roads, and Class 4 roads that are not maintained for year-round traffic. The road network also includes drainage ditches, 35 bridges and 511 culverts. Scenic Roads are discussed in Section 4.7.

Private Roads

There are about 21 miles of private roads in Ludlow. Development roads are required to meet town highway standards in order to provide adequate safety and emergency vehicle access. Most development roads are maintained privately by a homeowner's association. The municipality has a policy not to take over any private road unless it clearly serves the public interest (V.S.A., Title 19, Chapter 7).

Travel Patterns

As is the case throughout much of Vermont, the private automobile is the dominant mode of transportation in Ludlow. See Appendix E for commuting data, which suggests that the people

that work in Ludlow businesses travel significant distances for employment. A description of commuting patterns is included in the Economic Development section.

Despite options for public transportation, most workers travel by private automobile.

Traffic Data

While traffic volumes fluctuate from year to year, the traffic counts performed by the Southern Windsor County Regional Planning Commission on VT Routes 100 and 103 in Ludlow show an increasing trend since 1999. See Appendix E for traffic data. The busiest roads in Ludlow include VT Route 103, VT Route 100, High Street, Depot Street and Okemo Mountain Road. All of those roads experience higher traffic volumes during the winter months.

With Vermont's and Ludlow's tourist dependent economy, high levels of seasonal peak hour traffic (Summer, foliage and ski seasons) are typical and can be viewed as a sign of economic success. Many residents are affected by traffic congestion during the winter peak periods. Seasonal traffic control efforts by the Ludlow Police Department and the Windsor County Sheriff's Department are employed to mitigate to the greatest extent possible the delays during these peak hours. Okemo mitigates winter traffic through a variety of programs that lessen congestion during peak periods. The increase in seasonal traffic has the residual effect on local roads (e.g. High Street, Dug Road) as drivers seek alternative routes around the Village during peak hours of traffic.

VT Route 103 experiences high levels of truck traffic (14% of traffic is comprised of trucks), especially since it is on the National Highway System and serves as one of four major east-west connections in Vermont. VT Route 100 is also a major trucking corridor, with 6.1% truck traffic.

Road Maintenance

It is important to determine whether the design and condition of roads and bridges are adequate or sufficient to accommodate the function they are serving. The municipality adopted town highway and bridge standards for all new or reconstructed roads, bridges and culverts. Municipal access standards apply for any developments with roads or driveways accessing town or village highways. Development roads and driveways are also subject to standards in municipal zoning and subdivision bylaws. Recent Vermont stormwater rules will require some investment in certain roads, ditches and drainage structures over the next two decades.

The Ludlow highway department is responsible for maintaining both town and village roads. The total cost of road maintenance to the town is the third most costly annual expense to the community behind education and public safety.

The existing roadway network is generally considered to be adequate for the community, with the exception of routine maintenance and strategic improvements. At this point, the roadway network priority needs include the following:

- Implement the priority improvements identified in Ludlow's most recent roadway inventory and plan, as funds allow (i.e. road surfaces, culverts, bridges, and erosion/water quality threats).

- Keep up with routine maintenance (e.g. paving, grading, ditching). Prioritize paving and street sweeping maintenance on important bicycling routes.
- Make strategic investments to help roads and structures better withstand future flooding events.
- Rehabilitate or replace Bridge 57 on Mill Street; VTrans Project # BO 1443(52).
- Rehabilitate or replace the Vail Bridge (#26) on Main Street; VTrans Project #NH DECK().
- Stabilize Okemo Mountain Access Road.

Access Management

The frequency, location and design of highway accesses – or curb cuts – have a direct bearing on the safety and efficiency of roads. The design of curb cuts also is important with regard to stormwater management and road maintenance. VT Route 103 south of the Village and VT Route 100 just north of VT Route 103 both exhibit emerging strip development. These areas would benefit from sound access management techniques, which are explained through the [VTrans website](#).

Ludlow development regulations (e.g., zoning, subdivision regulations) and road ordinances establish standards consistent with these sound access management techniques, but in many cases they apply only to subdivisions. Future attention to access management, and the implementation of the strategies listed above, will enable local boards to balance the needs of motorists, pedestrians and bicyclists and improve highway safety and efficiency.

Parking

Most parking in Ludlow is privately-owned and located off-street and on-site. Public parking includes on-street parking in the Village, a park-and-ride lot, and leased spaces. There are approximately 92 on-street parking spaces⁴ in the Village. A municipal park-and-ride lot and bus shelter is available at the Ludlow Fire Station. The Village has leased parking spaces in the former IGA lot for public use. Off-street parking is required under the Zoning Regulations for new development. An evaluation of parking in the village would help to inform village revitalization efforts, determine future parking needs and identify how to address them.

Pedestrian & Bicycle Facilities

Ludlow has approximately 5 miles of sidewalks, primarily within the Village. A number of improvements to this network have been made in recent years. Additional streetscape enhancements within the Village are desired, which include sidewalk and crosswalk improvements, pedestrian lighting, landscaping and the provision of street furniture. These improvements not only encourage safer and more enjoyable walking conditions, but they also support economic development efforts.

Bicycling is presently accommodated along existing roadways. The road surface and shoulder conditions vary significantly, which affect the safety and experience of cyclists. There has been a very strong interest in developing a multi-use path over the years. A popular path concept

⁴ During peak winter traffic volume times, ten of the total on-street parking spaces are eliminated to provide for the additional lane at the intersection of Main and Depot streets

would connect the High School site to Fletcher Fields, although floodway related permitting issues were an obstacle. Another concept includes a path connecting the park-and-ride lot to Jackson Gore, which is estimated to cost \$2.7 million. The high cost is the primary obstacle for that project.

An extensive network of trails exists in the region accommodating hiking, horseback riding, snowmobiling, cross country skiing, and other multi-purpose uses. The network is comprised of informal, loosely defined trails as well as formal, well-defined trails on public lands. A number of organizations maintain these trails including the Vermont Department of Forest, Parks, and Recreation; the Army Corps of Engineers; the Vermont Association of Snow Travelers; Catamount Trail Association; and the local community. Use of Ludlow's Class 4 roads, seasonal roads closed to vehicular traffic in winter, is a significant aspect of this network.

Public Transportation

Ludlow Municipal Transit System

This municipal public transportation system created in 2002, serves the community throughout the year. The municipal transit system will be eliminated when the school closes in 2020.

Okemo Village Shuttle

The Okemo Village Shuttle, a free service that started in 1989, offers transportation during the day for skiers and snowboarders and local residents to and from Okemo Mountain Resort on weekends and holiday weeks. The Village Shuttle is comprised of four separate routes and makes scheduled stops throughout the villages of Ludlow and Proctorsville.

"The Current" Bus Service

"The Current" (a division of Southeast Vermont Transit) provides public transportation services in southern Windsor and Windham Counties. The Current operates a seasonal commuter service connecting Bellows Falls and Springfield to Ludlow and the Okemo Mountain Resort. The Current also provides on-demand transportation services for elders and persons with disabilities. Bus routes by The Current and the Marble Valley Regional Transit District connect Bellows Falls, Springfield, Ludlow and Rutland. Marble Valley provides service beginning in Rutland, The Current from Bellows Falls and Springfield, and both providers meeting in Ludlow which serves as a hub for this coordinated intra-regional service.

Rail Service

Passenger rail service is provided by Amtrak, including both the *Vermont* and *Ethan Allen Express*. The *Vermont*, with stops in the towns of Bellows Falls, Windsor and Claremont, N.H., provides service to Burlington, New York City and Washington D.C. The *Ethan Allen Express* connects Rutland to Albany and New York City. Green Mountain Railroad provides freight service in Ludlow and links with the New England Central Railroad in Bellows Falls and Vermont Railway in Rutland. The primary local user of the freight service is Imerys Talc Vermont, Inc. in Ludlow. The Green Mountain Flyer is an excursion train operating only during the foliage season with passenger service between Bellows Falls, Chester and Ludlow.

Air Transport

The closest commercial airline service is available at the Southern Vermont Regional Airport in Rutland and the Lebanon Airport in N.H. The Hartness State Airport in Springfield and the Claremont (N.H.) Municipal Airport provide general aviation services. Important commercial airports for residents and businesses are in Burlington; Albany, New York; Boston, Massachusetts (Logan); Hartford, Connecticut (Bradley); and Manchester, New Hampshire.

5.4 Utilities and Facilities

Ludlow maintains public water, sewer, electricity, and other facilities and services as described in this chapter. See Appendix D for an inventory of municipal facilities.

Significant population growth is not anticipated for the next 8 years. Other than routine maintenance and planned system upgrades, the existing municipal facilities should be adequate for this anticipated time period. Existing levels of municipal services should also be sufficient for this anticipated future demand. The Implementation Matrix lists planned future implementation activities, including an indication of priority, anticipated costs and financing.

Water and Sewer Services

Village Water System

The Village Charter established a Water Commission to set water rates and develop all the rules and regulations for the control and operation of the Village Water Department. The Department provides municipal water service for the incorporated Village as well as areas south along Andover Road and east along Pleasant Street Extension and Pine Hill Road areas. Average daily water use is approximately 220,000 gallons. There are approximately 1,000 people and 800 units served by the system. The system is funded by user fees and customers are billed bi-annually.

The source of the water supply is the protected aquifer, discussed in the Natural Resources Chapter, along the southern and eastern sides of Ludlow (Okemo) Mountain and northern side of Terrible Mountain. There are water supply protection measures in place including an ordinance dealing with construction in the aquifer district and a written, wellhead protection plan. The supply and the delivery system are in compliance with the Clean Water Act.

Recent water system upgrades added 400,000 gallons of water storage, increasing total system storage capacity to 1 million gallons.

At this time, the public water supply is sufficient for the existing service area. Ludlow's planning and regulatory documents allow for controlled incremental expansion of this service area to meet development needs.

The Ludlow (Okemo) Mountain area is served by 22 private water supply systems, including condominiums, Okemo Mountain Resort, mobile home park and other developments. These private water systems are regulated by the Vermont Water Supply Division.

The remainder of Town is served by on-site wells.

Village Wastewater System

The Village of Ludlow Wastewater Department provides municipal sewer service. The primary service area is the incorporated Village. The sewage system has been expanded in recent years to serve developments on Ludlow (Okemo) Mountain, including Jackson Gore. There are approximately 1,800 residential sewer users and approximately 100 commercial users. Hook-on and user fees fund the sewer system. Customers are billed bi-annually. The sewage treatment plant is located to the east of the Village just off VT Route 103. Recent system improvements increased the regulated facility capacity to 1,050,000 gallons per day. The average flow is at approximately 37% of total capacity. A \$2.9 million wastewater treatment facility upgrade has been approved by the voters and should be completed by 2020. With those upgrades, the system should provide sufficient capacity to meet anticipated growth for the foreseeable future.

The remainder of Town is served by on-site septic systems, regulated by the Vermont Wastewater Management Division.

Electrical Services

As discussed in the Energy Chapter (see Section 5.6 and Appendix H), the Village of Ludlow Electric Light Department and Green Mountain Power (GMP) supply electricity. The general service areas for both providers are defined in the Energy Chapter of this Plan. The Current Land Uses and Facilities Map of Ludlow illustrates electrical transmission lines. Existing service capacity is considered sufficient to meet current and future demand.

Monthly winter energy peaks are evaluated to establish peak demand estimates. Generally, ISO New England raises costs to utility companies in response to increases in local peak demand. Ludlow Electric Light has developed Demand Side Management programs (DSMs), which are designed to maintain or lower peak demand and help avoid escalating consumer costs. Ludlow Electric also encourages customers to contact Efficiency Vermont for tips on reducing their consumption. Other DSM techniques include weatherizing buildings, using energy star rated appliances, energy star rated buildings, lighting upgrades (e.g. LED lighting).

Communication Services

Access to modern communication networks is considered essential to the public welfare, access to educational opportunities and economic development efforts.

Telephone service is provided by Telephone Data Services (TDS). Other telecommunications services in Ludlow include cellular phone, paging, Internet access and cable television, which are provided by Comcast or TDS. Internet speeds are adequate in some parts of Ludlow (largely within the Village), but inadequate elsewhere. Similarly, cell phone coverage is good in some areas, and not good in others. A local access television channel broadcasts public meetings and hearings. The municipality maintains a web site (www.ludlow.vt.us) that provides easy access to public records and information.

Cell phone service is desirable by most residents and visitors. However, siting and construction of telecommunications towers can negatively impact scenic resources vital to a Town's and surrounding communities' economic future and cultural richness. The Town of Ludlow adopted the Telecommunication Facilities Ordinance in 2008 in order to balance the benefits of an

integrated and modern telecommunications network, with minimizing negative impacts of its development.

Solid Waste Disposal Services

Ludlow is part of the Southern Windsor/Windham Counties Solid Waste Management District (SWCSWMD), which has prepared a Solid Waste Implementation Plan.

Ludlow collects solid waste and recyclables at the Ludlow transfer station located at 336 VT Route 100 South. Residents of Ludlow are required to purchase a vehicle sticker in order to use the transfer station and use Town issued trash bags. Construction and/or demolition debris is weighed at the transfer station and the driver is charged accordingly. Only waste generated in Ludlow is allowed at the transfer station.

Household hazardous waste collections are sponsored twice a year by the District to collect materials that are banned from landfills and incinerators. These collections are free for Ludlow residents; businesses must pre-register and pay for hazardous waste collection.

The transfer station has sufficient capacity to accommodate the community's needs for the foreseeable future. Organic wastes are currently being collected in accordance with Act 148.

Recreational Services and Facilities

Recreation is a vital component of Ludlow's economy and quality of life. During the 2018 public outreach process, strong support was shown for focusing on improvements that make Ludlow a great place to live, including promoting the community as a recreation destination and investing in our municipal recreation facilities. There was also support expressed for constructing a bike path, establishing a dog park, and maintaining access to existing recreational opportunities.

The Parks and Recreation Department offers a wide variety of recreational programs for the community. Services are administered, through a paid Director, a Recreation Committee and volunteers. Current programs include a co-ed softball league, an eight-week summer youth recreation program, adult and youth soccer leagues, concerts, karate for kids, little and minor league baseball, ice-skating, a men's basketball league, festivals, dances, sports tournaments, swimming, and other activities. See the municipal inventory in Appendix D. A number of Class 4 roads and trails are valued for recreational uses, such as hiking and snowmobiling, including Green Mountain Turnpike (Old Route 103). Ludlow [Side Hill Cronchers](#), a local snowmobile club affiliated with VAST, maintains the local snowmobile trail network.

In the private sector, skiing, snowboarding, adventure park, mountain bicycling and golf are available at Okemo Mountain Resort.

Health and Safety Services

Ludlow's police, fire and ambulance services serve both the Town and Village.

The police force, with nine full-time employees and six part-time employees, provides 24-hour daily service, including dispatch, throughout the Village and Town. The force responded to

1,624 criminal incidents in 2016. Current police services are considered adequate to meet demand.

Ludlow's Volunteer Fire Department has a current force of 38 regular and five junior members, providing service to the Town and Village as well as answering mutual aid calls in neighboring towns. In 2016, the Department responded to 166 calls. Ludlow's fire protection facilities are considered sufficient to meet existing and estimated, foreseeable future needs. Like many towns in Vermont, Ludlow struggles to find adequate volunteer members.

The Ludlow Ambulance Squad provides ambulance service throughout the municipality and in surrounding towns. The Squad has 26 active members and one full-time paramedic, and houses a mass-casualty incident trailer. In the 2016 fiscal year, the Squad answered 735 calls. The Squad is well trained and their services are generally considered to be adequate to meet current and anticipated future needs. Ludlow also struggles to find adequate volunteer members.

Besides the above health and safety services, Ludlow is designated by the State of Vermont as a public service E-911 answering site. Ludlow is currently having conversations with neighboring towns about exploring the possibilities of regionalization of services or volunteer recruitment efforts to better provide cost-effective and sustainable emergency services.

Ludlow's Capital Budget and Program should be regularly updated with capital needs for health and safety services, such as vehicle replacements and technology/equipment purchases.

5.5 Education

Presently, education is provided for grades K-12 in Ludlow. Students in grades K-6 attend Ludlow Elementary School with an annual enrollment that ranges between 110 and 150 students. Enrollment in the 2016-2017 school year was 118. School facilities include a multipurpose room, gym, cafeteria, art room, library, and 13 classrooms. Special education is taught in one of the classrooms. The Elementary School has a small playground beside the school and shares the gym with the High School.

In 2018-19, students in grades 7 through 12 from Ludlow, Mount Holly and Plymouth attend Black River Union High School. Attendance ranges from around 150 to 250 students annually, with an enrollment of 150 students in 2016-2017. The facilities include 19 classrooms. Additional space is shared with the Elementary School for gym, chorus, home economics, and industrial arts. By June 2020, the Black River Union High School will close. Families of students in grades 7 through 12 will have school choice after that. How the school building will be used after June 2020 needs to be considered (e.g. alternative school, housing project, etc.). The building is owned by the Two Rivers Supervisory Union.

The Ludlow Municipal Transit System provides transportation to and from school.

Post-secondary or alternative adult education are not currently provided in Ludlow. These options are available within reasonable commuting distance in nearby communities, including

Springfield, Brattleboro, and Rutland in Vermont as well as Claremont and Lebanon in New Hampshire. Vocational training, workshops, and other educational opportunities are provided through the River Valley Technical Center in Springfield. Workforce training is commonly identified as a need for economic development.

In January 2011, the municipality opened the new Ludlow Community Center. This facility includes a cafeteria, gymnasium, weight and exercise facilities, and meeting space. The cafeteria is used by Ludlow Elementary and Black River High School students for breakfast and lunch. Space is also available for use by the schools for large assemblies, plays, concerts, and other activities. Furthermore, the gymnasium is available to the schools for activities when needed. In keeping with joint goals of both the municipality and the schools, the facility is used for many community activities.

Child Care & Early Education

Child care is an important component of providing quality early educational services for children in Ludlow. It is also an important consideration for employers and families with young children. Ludlow Elementary School provides a preschool program, currently with an enrollment of 30 children. This program has met the gold standard of accreditation by the National Association for the Education of Young Children (NAEYC).

In 2017, Ludlow has four licensed child care facilities and three registered family child care homes according to the Department for Children and Families. There are an additional twelve child care providers in the surrounding towns.

5.6 Energy

Appendix H contains the full Enhanced Energy Plan for Ludlow. The discussion below is a summary of the Enhanced Energy Plan.

The intent of this plan is to address the requirements of Act 174 of 2016 and to meet the enhanced energy planning standards developed by the Vermont Department of Public Service (DPS). This document was prepared based upon the Guidance for Municipal Enhanced Energy Planning Standards (DPS; March 2, 2017) in order for the Ludlow Municipal Development Plan to be given greater weight (i.e. “substantial deference”) in the Section 248 process (see the [DPS website](#) for more information about substantial deference). The Southern Windsor County Regional Planning Commission issued a Certificate of Energy Compliance for Ludlow’s Municipal Plan that was adopted by the Selectboard in 2017 and the Trustees in 2018. The Town and Village of Ludlow hereby adopt the goals established in the 2016 Comprehensive Energy Plan for Vermont, and through the detailed policies and actions contained in this plan, Ludlow will strive to achieve these goals, including:



Meet energy needs from renewable sources

25% by 2025

40% by 2035

90% by 2050

It will be difficult to reach these goals, as it will require significant levels of change to reduce our energy usage in how we heat our homes and businesses, travel for our daily needs, and how much electricity we use. The Enhanced Energy Plan establishes “targets” only to illustrate the level of change needed to reach our energy goals. It will not be easy. Weatherization of homes and transportation are two areas that will be a particular challenge.

Ludlow has identified a number of “pathways” for the community to address these energy goals. It will involve efforts to conserve energy and increase energy efficiencies, reduce energy demand for transportation (e.g. reduce single-occupant vehicle travel; promote walking, bicycling and public transit; install electric vehicle charging stations; and other measures), promote land use patterns and densities that encourage energy conservation, and encourage renewable energy generation as articulated in the Enhanced Energy Plan in Appendix H.

5.7 Community Policies

The following policies correspond to the Community sub-sections of this Plan. *Policies are the principles or standards that the municipality has established in order to further the goals of this Plan. Policies serve as a basis for land use regulations and are intended to influence Act 250 and Section 248 proceedings.*



- 5.7.1.1 Land use regulations must provide for the equal treatment of housing in accordance with [24 V.S.A. § 4412](#) and further fair housing practices [[9 V.S.A. § 4503](#)].
- 5.7.1.2 At least 15% of all units in proposed large developments, of 10 or more units in size, will be perpetually affordable as defined in 24 V.S.A. Chapter 117.
- 5.7.1.3 The land use permitting process will enable a more diverse range of housing options for residents, such as accessory dwelling units, duplexes, bungalow courts, townhouses, live/work units, co-housing, and tiny houses.
- 5.7.1.4 Encourage the rehabilitation of larger buildings located within the village for safe and affordable housing (e.g. rental units, or a combination of offices and apartments). To do this, the Village will work in coordination with local/regional housing trusts, and will

consider offering incentives, such as expedited permit review procedures and Village Center tax credits.

- 5.7.1.5 Expand housing options that support local businesses, such as increasing the availability of rental properties for seasonal employees.



- 5.7.2.1 Promote village revitalization and maintain the village center’s function as the cultural and commercial center for the community. Encourage the adaptive reuse of existing buildings within the Village.

- 5.7.2.2 Diversify the economy by attracting new businesses to Ludlow, including small-scale, high-tech manufacturing, local food systems related businesses, and creative economy enterprises.

- 5.7.2.3 Encourage new businesses or renewable energy generation facilities to be established on vacant land in the Dean R. Brown, Jr. Industrial Park.

- 5.7.2.4 Prioritize redevelopment of brownfield sites over greenfield sites.



- 5.7.3.1 Enhance and maintain the transportation infrastructure to further village revitalization goals and to provide a pleasant pedestrian experience within the Village. This involves: slowing the prevailing speed of traffic, improving the safety and connectivity of sidewalks and crosswalks, accommodating bicycle facilities, installing bicycle parking, constructing streetscape improvements (e.g. street lights, trees, flowers, wayfinding signs), enhancing or expanding bus stops, and making parking improvements.

- 5.7.3.2 Encourage bicycling through the following means:

- a. Maintain existing roads to promote safe bicycling, including clearing dirt and debris from the shoulders, making strategic improvements to remove obstacles (e.g. drainage grates, broken/jagged guardrail), and keeping up with a strategic repaving program.
- b. Expand roadway shoulder width on popular bicycle routes, where needed based on prevailing conditions.
- c. Explore ways to construct planned multi-use paths, connecting the Village to destinations, such as Fletcher Fields, Jackson Gore and the Lakes District.

- 5.7.3.3 Proposed developments must not cause undue adverse traffic congestion or safety hazards.

- 5.7.3.4 Developments along VT Routes 100 and 103 must incorporate sound access management practices into their site plans. Sound [access management](#) include measures that improve safety, minimize traffic delays, avoid unnecessary curb cuts and intersections, and share commercial accesses and parking.
- 5.7.3.5 Development roads and driveways must meet all applicable municipal standards in order to provide for public safety, stormwater management, and emergency vehicle access.
- 5.7.3.6 Development is allowed on Class 4 town highways only with written permission from the local legislative body or after the road is legally reclassified as a Class 3 town highway. In order to reclassify a road, the developer will be responsible for upgrading the road to town standards.



- 5.7.4.1 Maintain the existing municipal water and wastewater systems in order to further the goals of this Municipal Plan.
- 5.7.4.2 Expand the municipal infrastructure networks only as needed to serve those areas specifically identified in this plan for growth and development (e.g. Dean R. Brown, Jr. Industrial Park).
- 5.7.4.3 Ensure that new development within the associated service areas connects to the municipal water and wastewater systems.
- 5.7.4.5 Control development in order to protect the municipal drinking water source (e.g. Aquifer Protection Overlay District).
- 5.7.4.6 Ludlow Electric will continue to provide reliable electricity at competitive costs within their service area.
- 5.7.4.7 All utility projects (e.g. water, sewer, power, telecommunications) must not have undue adverse impacts on important natural, scenic and cultural resources as identified in this plan.
- 5.7.4.8 New telecommunication towers and facilities should be sited and constructed only as required to meet the Region’s changing needs. Existing telecommunications tower and facility space must be utilized for collocation to the fullest extent possible. New telecommunication towers and facilities must not be sited or constructed when a practicable alternative exists.
- 5.7.4.9 Ensure that residents have access to a robust and modern communication networks (e.g. town-wide cell phone coverage, fast internet speeds).



- 5.7.4.10 Support adequate funding levels to maintain the municipal recreation facilities.
- 5.7.4.11 Develop a plan to maintain and enhance Ludlow’s existing recreation facilities, and incorporate priority investments into the Capital Budget and Program.
- 5.7.4.12 Developments will be required to maintain access to or provide an easement or ROW for existing and planned recreational trails or paths including, but not limited to, hiking, mountain biking, equestrian and cross country skiing.



- 5.7.5.1 Ludlow will work with the school district to continue providing access to a quality educational for all students, and to plan for the transition when the Black River Union High School closes and school choice begins.
- 5.7.5.2 Maintain access for students to attend the River Valley Technical Center in Springfield.
- 5.7.5.3 Encourage the development and operation of child care facilities in locations that are both consistent with this Plan and convenient for Ludlow residents and businesses.

6 Plan for our Future

Our vision is for Ludlow to be a great place to live, work and play. The purpose of this section of the plan is to articulate how land use development patterns are desired in a way that furthers our community vision as described in more detail in Section 2. In general, this entails encouraging growth and investment in areas that are served by municipal infrastructure, and in ways that contribute toward Village Center revitalization, maintains Ludlow's unique sense of place, and is consistent with [smart growth principles](#) as defined in statute.

6.1 Existing Conditions

Existing land use patterns are depicted on the Current Land Use Map (see the Appendix B). Relatively dense development defines the immediate Village area. Land uses are primarily a mix of commercial and residential, interspersed with governmental, office, institutional, and small industrial uses. These uses are beginning to expand out from the core area south along VT Route 103 and at the base of Okemo Mountain Road, as well as along VT Route 100 north of VT Route 103.

Outside the Village, concentrations of seasonal residential development are in the area surrounding the ski area. The village sewer services all these high concentration areas. The tendency is to build large and expensive second home/rental development and tourist related commercial services.

High concentrations of residential/seasonal use occur around Lakes Rescue and Pauline. Old existing septic systems along the lakes contribute to water quality problems. Development in the lakes district is mostly on small parcels initially intended for small summer camps. Recently these old camps are being expanded for year-round usage or rebuild as large vacation homes.

Okemo Mountain Resort (now owned by Vail) has developed land on Ludlow (Okemo) Mountain for recreation, and resort/second home uses. Okemo Mountain Resort has incrementally expanded into a four-season resort over the past two decades.

Okemo State Forest (2,000 acres) and Tiny Pond Wildlife Management Area (517 acres), both located along Ludlow's western border, are used primarily for forestry, wildlife habitat, and outdoor recreation.

Two industrial sites are located within the VT Route 103 transportation corridor: a talc mining operation on East Hill Road (Town Highway 29), and an industrial park on Pleasant Street Extension (Town Highway 26).

Though active farming is no longer a major land use in Ludlow, small pastures, open fields and tracts of prime agricultural soils dot the landscape and provide scenic diversity. Many large parcels of land have been subdivided into 10-acre lots in order to avoid State land use regulations.

Recreational land uses include skiing, golfing, mini-golfing, swimming, fishing, boating, and canoeing, hunting, mountain coaster riding, hiking, bicycling, and snowmobiling trails. Recreational facilities include but are not limited to Okemo Mountain Resort, the Black River,

Lakes Rescue and Pauline, Okemo State Forest, Dorsey Park, West Hill Recreation Area, Okemo Valley Golf Course, and Cook Pond.

The Current Land Use and Facilities Map (see the Appendix B) illustrates sites for non-recreational public and semi-public lands, including the water supply and sewage treatment plants, other municipal facilities, cemeteries, churches, schools, Black River Senior Center, Black River Academy Museum, Ludlow Community Center, which includes Black River Good Neighbors, food shelf, thrift shop and LPC TV, Ludlow Area Community Garden, Fletcher Farm and the Fletcher Free Library. These uses are dispersed community-wide to facilitate service and for compatibility with neighboring uses.

6.2 Desired Future Conditions

In accordance with the State Planning Goals, future development is desired to further the existing settlement patterns by concentrating most commercial, multi-unit residential and civic uses in the village center and surrounding residential areas where infrastructure supports higher-densities, and maintaining a rural countryside in the surrounding areas to support a working landscape and low-density residential uses and home occupations. The resort area is anticipated to continue much as it is today, while also accommodating future changes to remain a successful recreation destination, while also meeting the vision for the community.

The Future Land Use map is a representation of the land use patterns that the community would like to see develop in the years to come. The future land use designations described below correspond with the designations included on the Future Land Use map. Together, this information is intended to show the types and relative concentrations of development that are most appropriate for different parts of Ludlow. This section is intended to guide the future development of the Town and Village, serve as a basis for zoning bylaws, and to provide clear guidance to landowners and developers to help locate and design projects in an efficient and locally acceptable way.

VILLAGE OF LUDLOW

Village Mixed Use

This area includes the Village Center that serves as Ludlow's traditional, compact commercial center that has a mix of commercial, civic and residential uses, and public gathering places. The state-designated Village Center is shown as an overlay on the Future Land Use Map. This area is the focus of local revitalization efforts as described in more detail in Section 5.2. The Village Center serves as the primary location for retail and other commercial uses typical of traditional Vermont villages, as well as the most intensive residential development in Ludlow.

This area also includes adjacent mixed use areas that are encouraged to redevelop as an extension of the traditional village center, following the same traditional village land development patterns with multi-modal transportation infrastructure (i.e. sidewalks, on-street parking, bus stops, street trees and other pedestrian amenities).

This combined Village Mixed Use area shall serve as the focus of social and economic activities in the community. Served by public water and sewer services, sidewalks and a more urban roadway network, this area provides for the highest-density of commercial, civic, residential and

other compatible development in the community. Residential or professional office uses are encouraged in the upper floors above commercial uses in this area. Adaptive reuse of historic buildings that maintain the historic architecture are strongly encouraged within the designated Historic District.

Preservation District

This district was created to maintain the special character and architectural integrity of this area. The purpose of this area is to allow appropriate home-based business enterprises and community services without altering the characteristics of this district. The Village of Ludlow Preservation District Guidelines articulates how alterations or additions to existing buildings or new buildings can protect the character of this area.

Village Residential Neighborhoods

This area is mostly served by public water and sewer services, and sidewalks are provided along major roadways within this area. This area shall serve as a medium-density residential area, with a mix of compatible other uses, immediately surrounding the village mixed use area along walkable neighborhood streets. This area shall allow for a mix of compatible housing types that serve a broad spectrum of income levels.

Proprietary Municipal

The proprietary municipal area generally includes publicly owned or publicly conserved lands within the Town and Village of Ludlow. The purpose of this area is to provide for outdoor recreational activities, as well as to conserve forests for sustainable forestry, wildlife habitat, improved water quality and the preservation of Ludlow’s rural character. Since these areas are publicly owned or conserved, future development is limited to sustainable resource management, public access and outdoor recreational facilities.

TOWN OF LUDLOW

Residential-Commercial

The purpose of this area is to provide for limited commercial uses in concentrated areas in order to allow for future commercial growth while also avoiding strip commercial development. These areas are shown on the Future Land Use Map and are generally limited to historic hamlet locations or where existing clusters of commercial uses are present, including Smithville, Tyson and Grahamville. Development in these areas is encouraged to cluster in order to maximize development potential in these limited geographic areas. Access management techniques, such as shared driveways and parking lots, are encouraged in order to minimize construction and maintenance costs, as well as to preserve highway safety and capacity on adjacent state highways.

Rural Residential

Rural residential areas support a number of different low-density uses, including single- and two-unit dwellings, home occupations, small-scale commercial uses (e.g. bed and breakfasts), campgrounds, forest, agricultural and open spaces. The primary objectives for rural residential areas shall be to maintain existing, low-density settlement patterns, encourage agricultural and forestry activities, and maintain the existing rural character, as well as to discourage sprawl and strip development. Future growth shall maintain an overall pattern of a low density rural

countryside in this area and not cause undue adverse impacts to natural and aesthetic resources. Cluster development is encouraged wherever possible, as long as the overall density remains low. Open space and recreational resources should be provided wherever possible.

Outdoor Recreation

This consists of areas designated for large-scale outdoor recreation, including, but not limited to alpine skiing and golfing. Other varied land uses may occur in these areas, but will be comprised primarily of tourism-related housing and service activities. The commercial services provided within this designation will directly support outdoor recreation activity. Clustering of buildings is encouraged in order to maintain open space and protect fragile areas. Special considerations for development in this area include stormwater or low impact development, lighting, landscaping or tree cutting plans, and aesthetic impact analyses in order to minimize impacts on identified scenic and natural resources as noted in this Plan.

Jackson Gore Recreation District

The purpose of this district is to provide for a resort growth center that encourages innovation of design and layout. Through the clustering of units and buildings, open lands become available for recreational uses including winter sports and golf. The Jackson Gore Recreational District provides for 326 residential dwellings units, four season recreation facilities including a Recreation/Health Center, and other uses and structures which compliment a destination resort and recreation area. The Jackson Gore Recreational District includes Public Use Lands consisting of 51.16 acres of open undeveloped land.

Lakes District

The purpose of this district is to preserve and enhance high quality waters, to provide for the beneficial use of public waters by the general public, to protect shore lands of waters which are suitable for development, to maintain low density of development and to maintain high standards of quality for permitted development. Future development must avoid strip development along VT Route 100.

Aquifer Protection District

This district is shown as an overlay on the Future Land Use Map. The District is designated to protect the aquifer recharge area and public drinking water source. Although dispersed, very low density residential uses may occur within the conservation area; future high-intensity development is not suitable and is not allowed in this area.

Industrial

The industrial designation makes provision for uses, which are appropriate for industry. The overriding use within the industrial area will be heavy industry, including mineral extraction and manufacturing. There may be a few remaining residences and commercial uses within the industrial area; however, future residential development is to be discouraged.

Forest Resource

The Forest Resource area is comprised of high priority forest blocks and habitat connectors that are beneficial for water quality, flood resilience, wildlife habitat, timber or maple syrup production and recreation. Priority forest blocks are shown on the Forest Blocks Map and reflected in the Future Land Use Map. This area is based on the highest priority interior forest

blocks and highest priority connectivity blocks available through [VT ANR's BioFinder](#). A majority of the Forest Resource land area is owned by the state (i.e. Okemo State Forest and Tiny Pond Wildlife Management Area). The remainder includes large tracts of privately owned forestlands. The purpose of the Forest Resource area is to avoid or minimize fragmentation of priority forest blocks. To minimize forest fragmentation, development must be designed and sited in a manner to minimize encroachments and preserve continuous areas of forest blocks by locating structures and roads to the periphery of those areas.

Proprietary Municipal

See the description under Village of Ludlow.

Special Considerations

Wetlands

These are areas, which exhibit suitable soil characteristics and moisture levels, which are defined in the Vermont Wetland Rules. This designation may also encompass lakes, ponds, streams, and other areas of open water. These wetlands must be protected.

Flood Hazard Areas

Any development within flood hazard areas is subject to review under either the Village or Town of Ludlow Flood Hazard Regulations.

Timing of Development

While the Town and Village do not wish to establish a schedule or a timetable for growth, it is the intent of this Plan to encourage the most intensive development to occur in and around the village area. Ludlow may consider phasing larger developments as part of the local land use approval procedure in order to ensure that municipal services have the capacity to accommodate the growth in accordance with Chapter 7, the Ludlow Capital Budget and Program, and department head project review.

6.3 Policies to Guide Ludlow's Future Development



- 6.3.2.1 Development must be consistent with the future land use categories and map.
- 6.3.2.2 Development must be planned in a way that maintains the historic settlement pattern of a compact village center separated by rural countryside. This includes:
 - a. Supporting commercial and higher density residential development within the village limits where the infrastructure exists to support such development.
 - b. Promoting compact development patterns in locations outside of the Village to encourage easier and less expensive municipal service, energy efficiency, and the preservation of open space.
- 6.3.2.3 Ensure that proposed uses of historic sites and structures maintain important historic characteristics.

- 6.3.2.4 To the extent possible, resolve transportation conflicts associated with land uses (access, traffic circulation, parking, and pedestrian/vehicle conflicts).
- 6.3.2.5 Promote recreation, tourism and travel related businesses.
- 6.3.2.6 Commercial development within the Outdoor Recreation district must be limited to those functions directly related to and in support of recreation, and must be consistent with any master plan approved for the development.
- 6.3.2.7 Development must be undertaken in accordance with Smart Growth Principles as defined in 24 V.S.A. §2791(13).
- 6.3.2.8 Franchise architectural design does not contribute toward maintaining Ludlow's sense of place, and is therefore not desired.
- 6.3.2.9 Drive-through, drive-up and drive-in restaurants and bars represent automobile-oriented strip development and are not appropriate within any part of Ludlow.
- 6.3.2.10 All housing projects comprising 10 or more units are required to provide some affordable housing units as specified in the zoning regulations as most recently amended.
- 6.3.2.11 Encourage environmentally responsible building practices.
- 6.3.2.12 Encourage new development to maximize energy efficiencies and to accommodate renewable energy systems. If unable to install renewable energy systems at the time of construction, projects should enable future installation of such systems (i.e. [renewable energy ready homes](#), [zero energy ready homes](#)).

7 How to Make it Happen

Implementation of the Municipal Plan’s goals, policies and recommendations will depend on the combined efforts of residents and local officials, as well as the resources of the Southern Windsor County Regional Planning Commission, and other regional, state, federal and private entities involved in land use planning activities.

This Plan can be used at the state and federal levels to justify and prioritize the use of state and federal funds for community development, transportation improvements, natural resource protection and management, and other investments. In addition, Act 250 requires developers to show that projects conform to local and regional plans. This Plan is also used in the local development review process under Local Act 250 Review.

Ludlow should request that the Regional Planning Commission review the Municipal Plan for compliance with the requirements of Act 200. Benefits of Act 200 approval and confirmation include:

- Eligibility for Municipal Planning Grant funding and Village Center designation;
- Ability to levy impact fees if the municipality wishes to do so;
- State agency plans shall be compatible with the Municipal Plan; and,
- An approved plan is not subject to state review under 24 V.S.A. §4351.

Priority recommendations that are found in this Plan are summarized in the Implementation Matrix found in the Appendices. Also in the Appendices is a list of optional tools for municipal plan implementation that may be considered by any municipality.

7.1 Action Plan



The Town and Village of Ludlow have established the following action steps that they wish to pursue in furthering the vision, goals and policies of this plan. Details about each of these action steps can also be found in the Implementation Matrix (see Appendix I).

High Priority

1. Review and update zoning and subdivision bylaws in order to improve consistency with the updated Municipal Development Plan.
 - a. Town Plan Section – Various
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: High
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Grants (e.g. Municipal Planning Grant), RPC dues, and/or volunteer effort

2. Coordinate with the Windham & Windsor Housing Trust to promote their existing programs and address local housing issues.
 - a. Town Plan Section 5.1
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: Ongoing
 - d. Priority of Need: High
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Volunteer efforts, grants

3. Work with neighboring communities that are actively exploring improved internet and cell phone services. Explore opportunities such as through grants (e.g. Connectivity Initiative) or by establishing Broadband Districts.
 - a. Town Plan Section 5.4
 - b. Responsible Party: Municipal Manager, Village Trustees, Town Selectboard
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: High
 - e. Generalized Cost Estimate: High
 - f. Method of Financing: Grants (e.g. Northern Borders Regional Commission, Connect America)

Medium Priority

4. Identify existing buildings located within flood and erosion hazard areas (i.e. regulatory floodway, floodway fringe, and fluvial erosion hazard areas) that have experienced repeated flood damage, and explore options to mitigate future flood or erosion hazards for those properties.
 - a. Town Plan Section 4.5
 - b. Responsible Party: Planning and Zoning Department
 - c. Expected Timing: 3-5 years
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Grants

5. Investigate options to better protect the river corridors, such as preserving or restoring the river channel access to the surrounding floodplains, reducing flood flows with streambank buffers, protection of channel-contiguous wetlands, preserving or supporting a return to more natural channel dimensions, and avoiding new development and infrastructure within river corridors.
 - a. Town Plan Section 4.5
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: 5-10 years

- d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Medium
 - f. Method of Financing: Grants
6. Coordinate with the SWCRPC, VT Agency of Natural Resources, Black River Action Team, and Lake Association to implement the Tactical Basin Plan.
- a. Town Plan Section 4.5
 - b. Responsible Party: Municipal Manager, Planning and Zoning Department, Planning Commission
 - c. Expected Timing: Ongoing
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Low-Medium
 - f. Method of Financing: Grants
7. Promote the tax credit programs available to property owners to help finance investment in eligible buildings for income-producing uses (e.g. retail, restaurants, professional offices, apartments).
- a. Town Plan Section 5.2
 - b. Responsible Party: Planning and Zoning Office
 - c. Expected Timing: Ongoing
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: No funding needed
8. Consider providing tax incentives for property owners to provide long-term rentals, as opposed to short-term rentals, in order to provide better housing options for employees of local businesses.
- a. Town Plan Section 5.1
 - b. Responsible Party: Municipal Manager, Village Trustees, Town Selectboard
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Medium
 - f. Method of Financing: TBD
9. Work with partner groups (Okemo Valley Chamber of Commerce, Springfield Regional Development Corporation, Ludlow Economic Corporation, and Okemo Mountain Resort) to market the area.
- a. Town Plan Section 5.2
 - b. Responsible Party: Municipal Manager, Planning and Zoning Department
 - c. Expected Timing: 3-5 years

- d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Medium
 - f. Method of Financing: Grants (e.g. USDA Rural Business Development Grant)
10. Maintain Village Center Designation, or consider applying for Downtown Designation, in order to help achieve the goals of the Plan.
- a. Town Plan Sections 5.2, 6.2
 - b. Responsible Party: Municipal Manager, Village Trustees
 - c. Expected Timing: 3-5 years
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: NA
 - f. Method of Financing: No funding needed
11. Complete a village revitalization master plan
- a. Town Plan Section 5.2
 - b. Responsible Party: Municipal Manager, Planning and Zoning Department, Planning Commission, Village Trustees
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Medium
 - f. Method of Financing: Grants (e.g. Better Connections Program, Vermont Community Development Program)
12. Establish local funding to support village revitalization (e.g. revolving loan fund, capital reserve funds).
- a. Town Plan Sections 5.2, 6.2
 - b. Responsible Party: Municipal Manager, Village Trustees, Town Selectboard
 - c. Expected Timing: Ongoing
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Medium
 - f. Method of Financing: TBD
13. Evaluate the feasibility of providing and/or using alternative energy sources for power, transportation and building environment.
- a. Town Plan Appendix H
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Medium
 - e. Generalized Cost Estimate: Low-Medium
 - f. Method of Financing: Grants

Low Priority

14. Educate land owners about programs that can help to protect important farm or forest lands, such as conservation easements, Vermont's Use Value Appraisal (or Current Use) Program, and Vermont's Forest Legacy Program.
 - a. Town Plan Sections 4.2, 4.3
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: Ongoing
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: No funding needed

15. Evaluate adopting a short-term rental ordinance.
 - a. Town Plan Section 5.1
 - b. Responsible Party: Planning Commission
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Grants (e.g. Municipal Planning Grant)

16. Work with the Okemo Valley Chamber of Commerce, local businesses, The Current and other partners to explore options for public transit service enhancements and/or car sharing, such as Uber.
 - a. Town Plan Section 5.3
 - b. Responsible Party: Municipal Manager
 - c. Expected Timing: Ongoing
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Grants (e.g. Federal Transit Administration 5311 Formula Grants for Rural Areas)

17. Study the feasibility of merging the Village of Ludlow with the Town of Ludlow. Consider working with VLCT or MRI if objective third party analysis is needed/desired.
 - a. Town Plan Section 5.4
 - b. Responsible Party: Municipal Manager, Village Trustees, Town Selectboard
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: General Funds

18. Update the Capital Budget and Program, and seek funding to implement high priority municipal facility capital projects as identified in this plan.
 - a. Town Plan Sections 5.3, 5.4
 - b. Responsible Party: Municipal Manager, Village Trustees, Town Selectboard, Department Heads
 - c. Expected Timing: Within 2 years
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low
 - f. Method of Financing: Grants (e.g. Municipal Planning Grant)

19. Develop an open space or community recreation plan to inventory facilities, explore opportunities, identify priority improvements, and establish clear implementation steps.
 - a. Town Plan Section 5.4
 - b. Responsible Party: Planning Commission, Recreation Commission
 - c. Expected Timing: 3-5 years
 - d. Priority of Need: Low
 - e. Generalized Cost Estimate: Low-Medium
 - f. Method of Financing: Grants (e.g. Better Connections Program, Municipal Planning Grant)

7.2 Implementation Tools

There are a variety of tools to assist the Town and Village to implement this Plan including, but not limited to, the following:

Non-Regulatory Implementation Tools

1. Capital Budget & Program [24 V.S.A. §§ 4403 & 4430]
2. Tax Stabilization Contracts [24 V.S.A. § 4403, 32 V.S.A. §4969]
3. Special Assessment Districts
4. Purchase or Acceptance of Development Rights [24 V.S.A. § 4403, 10 V.S.A. Chapter 155]
5. Plans or Inventories Supporting the Municipal Plan [24 V.S.A. § 4403]
6. Advisory Commissions or Committees [24 V.S.A. § 4403]
7. Tax Increment Financing (TIF) [24 V.S.A. § 4403, 24 V.S.A. Chapter 53]
8. Designation under the Vermont Downtown Program
9. Local conservation fund to purchase important natural lands

Regulatory Implementation Tools

1. Permits for highway access or work within municipal Rights-of-Way [19 V.S.A. §1111]
2. Village/Town Highway & Bridge Standards [19 V.S.A. §304(a)(23)]
3. Subdivision regulations [24 V.S.A. §4418]
4. Zoning bylaws [24 V.S.A. §§ 4411, 4414]
5. Site Plan Review [24 V.S.A. §4416]

6. Local Act 250 Review [24 V.S.A. §4420]
7. Official Map [24 V.S.A. §4421]
8. Impact Fees [24 V.S.A. Chapter 131]
9. Adequate Public Facilities and Phasing of Development [24 V.S.A. §4422]
10. Transfer of development rights [24 V.S.A. §4423]
11. Shoreland or Flood Hazard Area Bylaws [24 V.S.A. §4424]
12. Other Ordinances [24 V.S.A. Chapter 59]

Other Tools

1. Municipal participation in the Public Utility Commission’s review of public utility projects that require a Certificate of Public Good under 30n V.S.A. §248.
2. Ludlow Enterprise Fund
3. Ground-Mounted Solar Plant Screening Bylaws [24 V.S.A. §4414(15)]

Funding Opportunities

Many of the identified steps to implement this plan will require money to accomplish (see Section 7.1). The following list identifies a number of possible funding opportunities to assist implementing the action plan. This list is not comprehensive and programs may change over time.

1. Municipal Annual Operating Funds is an option for smaller capital cost items and ongoing operational funding.
2. Create a capital reserve fund to raise the needed funds for capital expenses or to provide the local match on grants for large projects. The purpose of this option is to raise funds in advance of an anticipated capital expense in order to reduce the amount that must be financed or funded by other means. By doing this properly, the municipality can avoid major spikes in annual budget spending over the years.
3. Preparing a capital improvement plan, which is a valuable multi-year municipal capital planning process. This refers to a more informal capital planning effort, the end result of which is not adopted like a Capital Budget and Program (described below).
4. Prepare and adopt a [Capital Budget and Program](#) under 24 V.S.A. §4430 for bigger capital budget costs identified in this plan. By planning the future expenditures that are identified in this plan, priorities may be needed and project ideas further refined based upon available funds.
5. The [Downtown Transportation Fund](#) is a competitive funding opportunity for municipalities to help pay for transportation-related capital improvements within or serving a Designated Downtown. Typical projects include parking facilities, pedestrian and streetscape improvements, and utility relocation.
6. Electric vehicle charging stations can be funded through the [Electric Vehicle Supply Equipment Grant Program](#).

7. The [Better Connections Program](#) is a competitive annual grant opportunity for planning projects that seek to increase transportation options, build resilience, and strengthen economic vitality in Vermont's community centers.
8. The [Bicycle and Pedestrian Program](#) is an annual competitive funding opportunity through VTrans that can fund a variety of bicycle and pedestrian projects, including sidewalks, crosswalks, pedestrian structures and bike paths. A 20 percent local match is usually required.
9. The [Transportation Alternatives Program](#) is another competitive reimbursement funding program from VTrans. Eligible projects are those that have an environmental mitigation and water quality benefits. In previous years eligible projects included a range of things such as sidewalks, bicycle infrastructure, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990. A maximum award of \$300,000 is available, with a 20% local match.
10. The Town Highway Class 2 Roadway Program (see Section 5 of [the Orange Book](#) for more details), which is available through the VTrans Maintenance District Offices. A maximum grant of \$175,000 is available for resurfacing or reconstruction of Class 2 town highways. A 30% local match is required, but the match is reduced to 20% for towns that have adopted 2013-compliant highway codes and standards and conducted a highway infrastructure study per VTrans requirements.
11. Low interest loans (1%) from the [State Infrastructure Bank](#) can be used for roadway, bridge, pedestrian and public transit facility projects.
12. [Regional Brownfield Program](#) funding may be available through the Southern Windsor County Regional Planning Commission for the assessment and cleanup of contaminated sites.
13. The [Vermont Community Development Program \(VCDP\)](#) assists communities on a competitive basis by providing financial and technical assistance to identify and address local needs in the areas of housing, economic development, public facilities and public services
14. [Municipal Planning Grants](#) help municipalities build and enhance the local framework to guide growth and development in step with the community's goals, values and aspirations. Grants fund town plans and updates, zoning bylaws and other planning-related projects.
15. The [Historic Preservation Grant Program](#) helps municipalities and non-profit organizations rehabilitate the historic buildings that are a vital part of Vermont's downtowns, villages, and rural communities, as well as its iconic landscape.

16. [Barn Preservation Grant Program](#) helps individuals, municipalities, and non-profit organizations to rehabilitate the historic agricultural buildings that are a symbol of Vermont's rural landscape.
17. [State income tax credits](#) are available to business and property owners with buildings constructed prior to 1983 and located within a State designated downtown or village center. Credits can help defray the cost of historic rehabilitation, façade and code improvements and technology upgrades.
18. [Federal Rehabilitation Investment Tax Credits](#) (RITC), administered by the National Park Service, a 20% federal income tax credit is available for rehabilitation of income-producing historic buildings, including multi-family housing. Properties must be listed in the National Register of Historic Places and work must meet preservation standards.
19. [Downtown Sales Tax Reallocation](#): municipalities and a project developer may jointly apply to reallocate sales taxes generated by a project located within a designated downtown district. Examples of projects include parking garages, pocket parks and other municipal improvements that enhance the qualified project.
20. [Tax Increment Financing Districts](#): municipalities with a designated downtown or growth center may create a tax increment financing (TIF) district to help pay for the public infrastructure (streets, sewer, water, or parking facilities) needed to support new development.
21. [Caring for Canopy Grants](#) provides seed money to help communities care for tree canopy and foster tree stewardship by taking the necessary actions to develop and sustain a community-wide tree program.
22. The [Connectivity Initiative](#) is the only state program addressing broadband development. Funded by proceeds from the Vermont Universal Service Fund, Connectivity Initiative grants are awarded to internet service providers that agree to extend service to designated areas least likely to be served through the private sector or through federal programs.
23. [Economic Impact Initiative Grants](#) from USDA Rural Development provides funding to assist in the development of essential community facilities in rural communities with extreme unemployment and severe economic depression.
24. [Community Facilities Direct Loan & Grant Program](#) from USDA Rural Development provides funding to develop essential community facilities in rural areas.
25. [Rural Community Development Initiative Grants](#) from USDA Rural Development provides funding to help non-profit housing and community development organizations support housing, community facilities, and community and economic development projects in rural areas.
26. [Water & Waste Disposal Loan & Grant Program](#) from USDA Rural Development provides funding for clean and reliable drinking water systems, sanitary sewage disposal,

sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

27. [Rural Business Development Grants](#) from USDA Rural Development combines the former Rural Business Enterprise Grant (RBEG) and Rural Business Opportunity Grant (RBOG) Programs. According to the website, a rule is currently being developed in order to implement this program.
28. [Our Town](#), which includes two grant programs from the National Endowment for the Arts, provides funding for creative placemaking projects that contribute to the livability of communities and place the arts at their core.
29. Vermont Buildings and General Services [Building Communities Grants Programs](#) provide funding opportunities for recreational, educational and human service facilities, and for economic development.
30. There are a variety of [grant or loan programs](#) available through the Vermont DEC Facilities Engineering Division for municipal drinking water and wastewater systems.
31. The [Northern Borders Regional Commission](#) was expanded recently to include all of Vermont, making Ludlow eligible for their economic infrastructure grant program.

Appendix A: Glossary of Terms

ACCESSORY DWELLING UNIT: In accordance with the Act [[§4412\(E\)](#)] a unit that is located within or appurtenant to a single family dwelling. An accessory dwelling unit means an efficiency or one-bedroom apartment that is clearly subordinate to a single-family dwelling, and has facilities and provisions for independent living, including sleeping, food preparation, and sanitation, provided there is compliance with all the following:

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

ACCESSORY USE OR BUILDING: A use or building customarily incidental and subordinate to the principal use or building and located on the same lot, but not including home occupations.

ACT: The [Vermont Municipal and Regional Planning and Development Act](#), Title 24, Chapter 117, Vermont Statutes Annotated.

ACT 250: Vermont Land Use and Development Law [10 V.S.A.Ch 151](#); the state environmental review process conducted by a District Environmental Commission (DEC) to consider a proposed development's impact using [10 established criteria](#).

ACT 78: The 1987 Vermont Solid Waste Bill.

ADULT BOOKSTORES/ENTERTAINMENT: An establishment that, as its primary business, imports, sells, lends, circulates, distributes, or exhibits a book, magazine, print, picture, movie, or videotape which contains sexually explicit materials either by print, pictures, figures, or description. This will include an establishment which gives or presents a show or entertainment containing sexually explicit activities.

ADVERSE IMPACT: a condition that creates, imposes, aggravates, or leads to inadequate, impractical, unsafe, or unhealthy conditions on a site proposed for development or on offtract property or facilities.

AFFORDABLE HOUSING:

(A) Housing that is owned by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including principal, interest, taxes, insurance, and condominium association fees is not more than 30 percent of the household's gross annual income.

(B) Housing that is rented by its inhabitants whose gross annual household income does not exceed 80 percent of the county median income, or 80 percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including rent, utilities, and condominium association fees, is not more than 30 percent of the household's gross annual income.

AFFORDABLE HOUSING DEVELOPMENT: means a housing development of which at least 20 percent of the units or a minimum of five units, whichever is greater, are affordable housing units. Affordable units shall be subject to covenants or restrictions that preserve their affordability for a minimum of 15 years or longer as provided in municipal bylaws.

AGRICULTURAL LAND: land capable of supporting commercial farming as defined by state law.

AGRICULTURAL USE: [Accepted agricultural or farming practices](#), or accepted silvicultural practices, including the construction of farm structures, as such practices are defined by the Commissioner of Agricultural, Food and Markets, or the Commissioner of Forests, Parks, and Recreation, respectively.

ALTERATION: Structural changes, rearrangement, change of location or addition to a building, other than repairs or modifications in building equipment.

ANIMAL HOSPITAL: A building used by members of the veterinary medical profession for the diagnosis and treatment of animal ailments.

AQUIFER: A water-bearing stratum of permeable rock, sand or gravel.

AREA OF SHALLOW FLOODING: A designated AO or AH zone on a community's Flood Insurance Rate Map (FIRM) with one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

AREA OF SPECIAL FLOOD HAZARD: The land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A or the FHBM. After detailed rate-making has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, or A99.

AUTO SERVICE STATION: An establishment at which motor vehicles are serviced, which may or may not include fuel sales.

BASE FLOOD: Is the flood having a 1 percent chance of being equaled or exceeded in any given year.

BASE FLOOD DEPTH (BFD): The depth shown on the Flood Insurance Rate Map (FIRM) for Zone AO that indicates the depth of water above highest adjacent grade resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year.

BASE FLOOD ELEVATION (BFE): The elevation shown on the Flood Insurance Rate Map (FIRM) for Zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO, V1-V30, and VE that indicates the water surface elevation resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year.

BASEMENT: Any area of a building which has its floor sub-grade (below ground level) on all sides.

BED AND BREAKFAST: An owner occupied home, in which the owner rents guest rooms and serves breakfast only to those guests as part of the room rent.

BEDROOM: Any space in the conditioned (heated) area of a dwelling unit which is primarily used for sleeping which is seventy square feet or greater in size and has an exterior wall, shall be counted as a bedroom.

BEST MANAGEMENT PRACTICES (BMP): the methods, measures, designs, performance standards, maintenance procedures, and other management practices that prevent or reduce adverse impacts upon water quality.

BOARDING HOUSE/ROOMING HOUSE: Buildings in which rooms are rented, with some or all meals provided, to three (3) or more persons. A boarding house shall have no more than eight (8) sleeping rooms for rent. See Lodging House.

BROWNFIELDS: Abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. (U.S. EPA).

BUFFER: A designated strip or area of land intended to visibly and/or functionally separate one use from another; to shield or block noise, lights or other nuisance from neighboring properties; and/or to lessen the visual or physical impact of development on surface waters, wetlands and other natural and scenic areas.

BUILDING: A walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, including a building in the course of construction, alteration, or repair, and a manufactured (mobile) home on a foundation; also a building that is located in a participating community and has not been declared by a state or local government to be in violation of its floodplain management requirements.

BUILDING ENVELOPE: a specific area delineated on a lot within which all structures are to be located, and outside of which no structures are to be located.

BUILDING HEIGHT: The vertical distance measured from the average elevation of the proposed finished grade to the highest point of the roof on flat or mansard roofs, and the mean height between eaves and ridges of other roofs.

BUILDING FRONT YARD SET BACK: The distance from a structure to the centerline of a public right-of-way (see each district for requirements).

BUILD-OUT ANALYSIS: a study that examines an area's capacity for development.

BUSINESS OFFICE: An office from which a commercial or industrial enterprise is operated. (Also see OFFICE)

BYLAWS: municipal land use regulations, such as zoning, subdivision and flood hazard regulations, [adopted under the authority of 24 V.S.A. Chapter 117](#).

CAMPER TRAILER: Includes any vehicle used as sleeping or camping or living quarters, mounted on wheels or a camper body usually mounted on a truck, and any vehicle which is customarily towed by a motor vehicle and used for carrying goods, equipment, machinery, boats or as an office.

CAMPGROUND: Land on which are located one or more cabins, trailers, shelters, houseboats or other accommodations suitable for seasonal or temporary living purposes.

CAPACITY STUDY: an inventory of available natural and human-made resources, based on detailed data collection, which identifies the capacities and limits of those resources to absorb land development. Also, a study of where the Region stands high and low in its economic and social performance relative to other regions and areas.

CAR WASH: A retail establishment for self-service or attendant operated washing of motor vehicles and travel trailers.

CLINIC: An office building used by members of the medical or dental profession for the diagnosis and outpatient treatment of human ailments.

CLUSTER DEVELOPMENT: a development design technique that concentrates buildings in specific areas on the site to allow the remaining land to be used for recreation, common open space, and preservation of environmentally sensitive features; sometimes referred to as planned residential development (PRD) or planned unit development (PUD).

CODE: A systematic collection, compendium or revision of laws, rules or regulations. As the terms are used in this Plan, *bylaws* or *ordinances* refer to local regulations and *code* refers to state regulations (i.e. State Building Code).

COMMERCIAL ACREAGE: Non-residential land used for revenue generating enterprises.

COMMON ACCESSORY USE LAND: A parcel or parcels of land or an area of water, or a combination of both, within the Common Land of a development site, designed and intended for the use and enjoyment of the owners, occupants, and guests of PUD. Such land shall include all accessory buildings, access roads, utility easements, parking areas, sidewalks, swimming pools, playgrounds, tennis courts, club houses, and other recreational facilities.

COMMON LAND: Land owned and for the use and enjoyment of the association of a planned development.

COMMON OPEN SPACE: Land not encumbered by any substantial structure which is (as of the date development began) in its natural state. The land may be developed for trails for walking, riding, and jogging and picnic areas. The developer may allow the common open space to be used by the public at large by a grant of easement to the Town, if accepted by the Town.

COMMUNITY CENTER: Includes public or private meeting hall, place of assembly, museum, library, or church, not operated primarily for profit.

COMMUNITY SEWAGE DISPOSAL SYSTEM: Any wastewater disposal system other than a municipal sewage disposal system, owned by the same person or persons that disposes of sewage for domestic commercial, industrial or institutional uses to two or more users or customers.

COMMUNITY WATER SYSTEM: Any water system owned by the same person or persons that supplies water for domestic, commercial, industrial, or institutional uses to two or more users or customers.

CONDITIONAL USES: These uses may be allowed only by approval of the Development Review Board.

CONDOMINIUM: Single or multi-unit dwelling or dwellings, including detached, semidetached, or multistory structures, or any combination thereof, each of whose residents (unit owners) enjoys exclusive ownership of his individual apartment or unit while retaining an undivided interest, as a tenant in common in the common, facilities and areas of the condominium property.

CONDOMINIUM ASSOCIATION: The community association which administers and maintains the common property, and the elements, of a condominium.

CONFERENCE CENTER: A building or set of buildings used for the purposes of group meetings, seminars, professional workshops, and related business or organizational gatherings, of large numbers of persons.

CONFORMANCE WITH MUNICIPAL PLAN: Means a proposed implementation tool, including a bylaw or bylaw amendment that is in accord with the municipal plan in effect at the time of adoption, when the bylaw or bylaw amendment includes all the following:

- (A) Makes progress toward attaining, or at least does not interfere with, the goals and policies contained in the municipal plan.
- (B) Provides for proposed future land uses, densities, and intensities of development contained in the municipal plan.
- (C) Carries out, as applicable, any specific proposals for community facilities, or other proposed actions contained in the municipal plan.

CONVALESCENT HOME: See HEALTH CARE FACILITY

CORRIDOR: a strip of land associated with the movement of people, wildlife, goods, services, and/or utilities in a Right-of-Way.

COVERAGE: That percentage of the lot area covered by the footprint of the building area.

DAY CARE: Means care in lieu of parental care given for part of the twenty-four (24) hour day to children under six (6) years of age away from their homes, but does not include child care furnished in places of worship during religious services.

DAY CARE CENTER: Means any premises operated for profit in which child day care is provided simultaneously for seven (7) or more children who are not relatives of the operator.

DELICATESSAN: A retail establishment where food is prepared and sold for consumption off site.

DENSITY: The number of dwelling units allowed per lot.

DEVELOPMENT: (see Land Development)

DOCK: Structure providing moorings for boats.

DWELLING UNIT: One or more rooms designed as a separate living quarters with cooking, sleeping, and sanitary facilities provided within the dwelling unit. The term "dwelling unit" shall not include the rooms in a structure that is designed for transient use. Each dwelling unit shall constitute a separate unit for purposes calculating the Lot Area Minimum required in the zoning district.

DWELLING, SINGLE-FAMILY: means a detached building consisting of one dwelling unit.

DWELLING, TWO-FAMILY: is a detached building consisting of two dwelling units.

DWELLING, MULTIPLE-FAMILY: A detached building containing three or more dwelling units.

DWELLING, SEASONAL: A residential building used for casual and intermittent occupancy such as, but not limited to, a second home, vacation home, summer cottage, cabin, mobile home, or similar dwelling. A seasonal dwelling shall not be the principal place of residence of the occupant.

EMERGENCY SERVICES: Ludlow's Police Department, Fire Department and the Ludlow Ambulance Service.

FARM LAND: A parcel of arable land that is worked by plowing and sowing and raising crops. Also a tract of land devoted to pasturage, stock raising, and some allied industries and small wood lots and areas used for small farm roads and buildings.

FARM STRUCTURE: A building for housing livestock, raising horticultural/agronomic plants, or for carrying out other practices associated with agriculture or farming practices, including a silo, but excluding a dwelling for human habitation.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA): The federal agency under which the National Flood Insurance Program (NFIP) is administered.

FEDERAL INSURANCE ADMINISTRATION (FIA): The federal entity within FEMA that directly administers the National Flood Insurance Program (NFIP).

FLOOD: A general and temporary condition of partial or complete inundation of normally dry land areas from:

- i. Overflow of inland or tidal waters;
- ii. The unusual and rapid accumulation or runoff of surface waters from any source;
- iii. Mudslides (i.e., mudflows) which are proximately caused by flood, as defined above, and are akin to a river of liquid and flowing mud on the surface of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current; and,
- iv. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding the cyclical levels which results in flood, as defined above.

FLOOD HAZARD AREA: means the land subject to flooding from the base flood.

FLOOD INSURANCE RATE MAP (FIRM): An official map of a community on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY: An examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations.

FLOODPLAIN: Any land area susceptible to being inundated by floodwaters from any source.

FLOODPLAIN MANAGEMENT: The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to, emergency preparedness plans, flood control works, and floodplain management regulations.

FLOOD PROOFING: means any combination of structural and nonstructural additions, changes, or adjustments to properties and structures that substantially reduce or eliminate flood damage to any combination of real estate, improved real property, water or sanitary facilities, structures, and the contents of structures.

FLOODWAY: means the channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the base flood without accumulatively increasing the water surface elevation more than one foot.

FLOOR AREA: Sum of the gross horizontal area of the floors of a building, excluding basement floor areas. All dimensions shall be measured between interior faces of walls.

FLUSH MOUNTED SIGN: A sign attached to and mounted parallel to the face of a building or structure, where architectural features, such as covered entryways or other building elements except where otherwise prohibited, are clearly designed to accommodate a sign mounted parallel to the building face.

FLUVIAL EROSION: erosion caused by streams and rivers. Fluvial erosion can be catastrophic when a flood event causes a rapid adjustment of the stream channel size and/or location.

FLUVIAL EROSION HAZARD (FEH) ZONE: includes the stream and adjacent lands necessary to accommodate the slope and plan form requirements of a geomorphically stable channel, and is subject to fluvial erosion as defined by the Vermont Agency of Natural Resources and delineated on the current Fluvial Erosion Hazard Zone Map.

FOREST LEGACY PROGRAM: a voluntary [federal grant program](#) available to protect private forestlands in Vermont from conversion to non-forest uses (e.g. subdivision, etc.).

FOREST SERVICE: The USDA Forest Service is an agency of the United States Department of Agriculture that administers the nation's 155 national forests and 20 national grasslands. Major divisions of the agency include the National Forest System, State and Private Forestry, and the Research and Development branch.

FREE STANDING SIGN: means a sign supported by one (1), or more, poles, columns, or supports placed in or on the ground and not attached to any building or structure.

FRAGILE AREA: An area of land or water which has unusual or significant features of scientific, ecological, or educational interest. These areas of natural ecosystem are vulnerable and could be destroyed, severely altered, or irreversibly changed by man-made development or pre-development activities.

FRONT YARD: An open space between the buildings and the street, extending the full width of the lot or, in the case of a corner lot, extending along all streets.

FUNERAL HOME: A dwelling or other structure used and occupied by a professional licensed mortician for burial preparation and funeral services.

GAS STATION: An establishment at which retail vehicle fuel sales are conducted.

GEOGRAPHIC INFORMATION SYSTEMS (GIS): a computerized system capable of performing complex analyses of geographically-related information and displaying that information in tabular or map formats.

GOAL: The end towards which effort is directed.

GOVERNMENT RECREATION AREA: A Town Recreation Area that may be financed by Town, State or Federal Funds, but not operated as a private enterprise.

GRADE, FINISHED: Completed surfaces of grounds, lawns, walks, paved areas and roads brought to grades as shown on plans related thereto.

GREENWAYS: The components of an integrated, continuous open space system. Greenways link to and connect open space areas such as parks and habitat areas.

GROUNDWATER: the water below land surface in a zone of saturation, but not including surface waters.

GROUP HOMES: A group home is defined as a state licensed residential care home serving not more than 6 persons who are developmentally disabled or handicapped. In accordance with the Act [4412(1)], a group home shall be considered by right to constitute a permitted single family residential use of property, except that no such home shall be so considered if it locates within 1,000 feet of another group home.

GROWTH CENTER: an area within a community providing for a concentration of housing, commercial services, employment opportunities and government uses, and served by basic infrastructure.

HABITAT: the physical and biological environment that a community of a particular species of plant or animal requires in order to remain viable.

HAZARD AREA: means land subject to landslides, soil erosion, earthquakes, water supply contamination, or other natural or human-made hazards as identified within a

“local mitigation plan” in conformance with and approved pursuant to the provisions of 44 C.F.R. sections 201.6.

HAZARDOUS WASTE: as defined in [10 V.S.A. §6602\(4\)](#), as may be amended from time to time.

HEALTH CARE FACILITY: Includes sanatorium, clinic, rest home, nursing home, convalescent home, home for the aged, and other places for the diagnosis and treatment of human ailments, except professional office.

HISTORIC BUILDING: buildings possessing eligibility for listing on the State or National Register of Historic Places with respect to age, related historic contexts and historic integrity.

HISTORIC DISTRICT: groups of buildings and land area listed on the State or National Register of Historic Places.

HOME CHILD CARE: (A) In accordance with the Act [§4412(5)], a state registered or licensed child care home serving six or fewer children on a full time basis and up to four additional children on a part time basis, which is conducted within a single family dwelling by a resident of that dwelling, shall be considered a permitted use of the single family residence. No zoning permit is required for home child care providing it meets the requirements of this section.

HOME OCCUPATION: [4412(4)] any nonresidential use conducted entirely within a primary residential dwelling or outbuilding and carried on wholly by members of the family living on the premises, with the exception of one part-time, non-family member employee.

HOUSEHOLD: a family living together in a single dwelling unit.

HUMAN-SCALE: “Human-scale” refers to the size, shape, and proportions of the built environment as perceived by, and in relation to, a pedestrian on the street. While different for different people, an object is considered to be of a human-scale when it appears measurable to the observer and its detail can be appreciated in relation to its overall mass. This is in contrast to an object or space that takes on an awesome or super-human size due to its size and/or distance to the observer. (Lynch, Kevin. *Site Planning*)

INDEPENDENT SCHOOL: Independent schools have a distinct educational mission that public schools are not able to provide; they are independently governed by a board of trustees; and, they are supported by tuition (available from the State), charitable contributions, and endowment revenue (i.e. can receive funds both from the government and privately).

INDOOR RECREATIONAL USES: Those types of uses commonly considered recreational in nature or are related to improving physical fitness, that may occur inside of a building or enclosure including but not limited to swimming and water activities, racket sports, weight training, aerobic training, skating.

INDUSTRIAL PARK: a tract of land planned, developed and operated as an integrated facility for a number of individual industrial uses, with special attention to circulation, parking, utility needs, aesthetics, and compatibility.

INDUSTRIAL USE: the industrial (see industry) purpose or activity for which land, buildings, facilities or other form of land development are designed, arranged, or intended for which land, buildings, facilities or other form of land development are occupied or maintained.

INDUSTRY: those fields of economic activity including mining; construction; manufacturing; transportation; communication, electric, gas, and sanitary services (including the disposal, reuse, recycling and management of solid waste and hazardous waste and any of its associated facilities); and wholesale trade.

INFILL: development or redevelopment of land that has been bypassed, remained vacant, and/or is underused as a result of the continuing urban development process. These areas are already served by municipal infrastructure, and are found within the current extent of the urban development pattern of the community.

INFRASTRUCTURE: services and facilities –such as highways and roads; water and sewer lines and other utilities; communications systems; and public facilities –needed to sustain industry, residential, commercial and all other land use activities.

INN: A commercial facility for the housing of transients, and which may offer meal service.

INTERESTED PERSON: An interested person, defined in §4465 as having the right to appeal a decision of the Development review Board to the Vermont Environmental Court, includes the following:

- a) A person owning title to property, or a municipality or solid waste management district empowered to condemn it or an interest in it, affected by a bylaw, who alleges that the bylaw imposes on the property unreasonable or inappropriate restrictions of present or potential use under the particular circumstances of the case.
- b) The municipality that has a plan or a bylaw at issue in an appeal brought under this chapter or any municipality that adjoins that municipality.
- c) A person owning or occupying property in the immediate neighborhood of a property that is the Article VI. Definitions January 12, 2005 subject of any decision or act taken under this chapter, who can demonstrate a physical or environmental impact on the person's interest under the criteria reviewed, and who alleges that the decision or act, if confirmed, will not be in accord with the policies, purposes, or terms of the plan or bylaw of that municipality.
- d) Any ten persons who may be any combination of voters or real property owners within a municipality listed in subdivision (2) of this subsection who, by signed petition to the appropriate municipal panel of a municipality, the plan or a bylaw of which is at issue in any appeal brought under this title, allege that any relief requested by a person under this title, if granted, will not be in accord with the policies, purposes, or terms of the plan or bylaw of that municipality. This petition to the appropriate municipal panel must designate one person to serve as the representative of the petitioners regarding all matters related to the appeal; and,
- e) Any department and administrative subdivision of this state owning property or any interest in property within a municipality listed in subdivision (2) of this subsection, and the agency of commerce and community development of this state.

INTERMODALISM: refers to making connections, or linkages, between various modes of transportation.

JUNKYARD: Land or building used for the collection, storage, and/or sale of waste paper, rags, scrap metal, or discarded material, or for the collection, wrecking,

dismantling, storage, salvaging, and/or sale of machinery parts or vehicles not in running condition.

LAND DEVELOPMENT: the division of a parcel into two (2) or more parcels; the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any building or other structure; or of any mining, excavation or landfill; or any change in the use of any building or other structure, or land, or extension of use of land. Note: See "Structure."

LANDFILL SITE: any land used for disposal by abandonment, dumping, burial, or any other means and for whatever purpose, of garbage, sewage, trash, refuse, junk, discarded machinery, vehicles or parts thereof, or waste material of any kind.

LAND USE: a description of how land is occupied or utilized.

LAND USE PLANNING: general term used to describe activities such as zoning, subdivision, water/wastewater supply regulations, control of real estate development and use, environmental impact studies and the like.

LEGISLATIVE BODY: the Selectboard in the case of a Town and the Trustees in the case of an incorporated village.

LIBRARY: See COMMUNITY CENTER.

LIGHT INDUSTRY: The assembly, manufacture, processing, packaging, or other industrial operations conducted in such a manner that all resulting cinders, dust, electrical interference, fumes, gas, odors, smoke, and vapor are effectively confined to the premises, or disposed of so as to avoid any air pollution, and conducted in such a manner that the noise level at the property line will not exceed eighty (70) decibels, and objectionable flashing lights and vibrations will not occur.

LIVABLE WAGE: A "livable wage" is the hourly wage or annual income necessary to cover basic needs and all relevant state and federal taxes. The Livable Wage Rates referenced in this Plan are from the Joint Fiscal Office.

LOADING SPACE: Space logically and conveniently located for bulk pickups and deliveries, scaled to delivery vehicles expected. Required off-street loading space is not to be included as off-street parking space in the computation of required off-street parking space.

LOCK-OUT ROOM: A bedroom with a bath and its own separate entrance, and which can be locked-off from a dwelling unit and separately rented. Each dwelling unit may contain no more than one lock-out room.

LODGING HOUSE: Is a building in which the rooms are rented, without meals, to three (3) or more persons. A lodging house shall have no more than eight (8) sleeping rooms for rent. See Boarding House/Rooming House.

LOT: Land occupied or to be occupied by a building and its accessory buildings, together with the required open spaces, having not less than the minimum area, width, and depth required for a lot in the district in which such land is situated, and having frontage on a street, or other means of access as may be determined by the Development Review Board to be adequate for the issuance of a zoning permit.

LOT DEPTH: The mean horizontal distance from the street line of the lot, to its opposite rear line, measured at the right angles to the street line.

LOT FRONTAGE: Distance measured along the width of a lot at the street line.

LOT LINE: The established division line between lots, or between a lot and the street right-of-way.

LOWEST FLOOR: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of the zoning bylaws.

MASONRY HEATER: A solid fuel (typically wood) burning heating appliance constructed of concrete or solid masonry having a mass of at least 500 kg (1,100 lb.), excluding the chimney and foundation. It is designed to absorb and store a substantial portion of heat from a fire built in the firebox by routing exhaust gases through internal heat exchange channels in which the flow path downstream of the firebox includes at least one 180-degree change in flow direction before entering the chimney and which delivers heat by radiation from the masonry surface of the heater, as defined by the Masonry Heaters Association (<http://www.mha-net.org/index.htm>).

MANUFACTURING: Any process whereby the nature, size, or shapes of articles or raw materials are changed or articles are assembled and/or packaged. Processing of produce where it is raised shall not be considered manufacturing.

MANUFACTURED HOME: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, recreational vehicles and other similar vehicles.

MEAN SEA LEVEL: Means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

MILL: a building or group of buildings equipped with machinery for processing raw materials into finished or industrial products (e.g. grain mill, textile mill, etc.)

MIXED USE: any mixture of compatible land uses, including mixtures of residences with commercial, offices with retail, or industrial with offices and retail.

MOBILE HOME: A prefabricated dwelling unit which:

- i. is designed for long term and continuous residential occupancy;
- ii. is designed to be moved on wheels, as a whole or in sections;
- iii. upon arrival at the site, is complete and ready for occupancy, except for incidental unpacking, assembly, connections with utilities, and placing on supports; or
- iv. contains the same water supply and waste water disposal as immovable housing.

MOBILE HOME PARK: A parcel of land under single or common ownership or control, which contains, or is designed, laid out, or adapted to accommodate three (3) or more mobile homes.

MOTEL: A building containing rooms that are rented as a series of sleeping units for vehicle transients, each sleeping unit consisting of at least a bedroom and bathroom.

MULTIPLE DWELLING UNIT BUILDING: A structure containing two or more residential dwelling units, including detached, semi-detached, or multistory structures, or any combination thereof. Unit ownership within a Multiple Dwelling Unit Building may be

either whole ownership, fractional ownership or any other form of common interest ownership. Some or all of a unit in a Multiple Dwelling Unit Building may be rented to transients.

MULTIMODALISM: refers to providing a range of transportation options (e.g. buses, cars, carpools, bikes, walking, etc.)

MUNICIPAL PLAN: the Town of Ludlow Municipal Development Plan as most recently adopted. A document that contains a statement of municipal goals, policies and programs to guide the future growth and development of land in accordance with [the Act §4382](#). This Municipal Plan pertains to both the Village of Ludlow as well as the Town of Ludlow.

MUSEUM: See COMMUNITY CENTER.

MYLAR: Plastic, transparent copies of a blueprint.

NET-METERED: home-based renewable energy systems that send excess power not immediately needed in the home directly back into the electrical grid while crediting the homeowner for the excess power. Net-metered renewable energy systems are governed by the Public Service Board (PSB). Such systems that are not reviewed by the PSB and are not explicitly excluded under the Act are governed by the municipality under applicable zoning bylaws.

NEW CONSTRUCTION: Means construction of structures or filling commenced on or after the effective date of the adoption of a community's flood hazard bylaws.

NONCONFORMING LOTS, OR PARCELS: Means lots or parcels that do not conform to the present bylaws covering dimensional requirements but were in conformance with all applicable laws, ordinances, and regulations prior to the enactment of the present bylaws, including a lot or parcel improperly authorized as a result of error by the administrative officer.

NONCOMFORMING STRUCTURE: Means a structure or part of a structure that does not conform to the present bylaws but was in conformance with all applicable laws, ordinances, and regulations prior to the enactment of the present bylaws, including a structure improperly authorized as a result of error by the administrative officer.

NONCONFORMING USE: Means use of land that does not conform to the present bylaws but did conform to all applicable laws, ordinances, and regulations prior to the enactment of the present bylaws, including a use improperly authorized as a result of error by the administrative officer.

NORMAL MEAN WATER MARK: Acting under the rule-making authority given in the Vermont Statutes Annotated, the Vermont Water Resources Board shall determine normal mean water marks for those waters of the State for which the State has the role of trustee.

NORMAL WATER FACILITIES: Any docks, wharves, floats, or boat houses.

NURSERY: Shall be any land used to raise trees, shrubs, flowers, and other plants for sale or for transplanting.

NURSING HOME: See HEALTH CARE FACILITY.

OFF PREMISE SIGN: A sign which directs attention to a business, profession, commodity, service, or entertainment that is not carried on, sold, or offered on the same premises.

OFFICE: A room or building designed or used in which a person transacts his business or carries on his stated occupation.

ON PREMISE SIGN: A sign which directs attention to a business, profession, commodity, service, or entertainment carried on, or sold, or offered on the same premises.

OPEN SPACE: Land which is set aside from development and designated to remain in its natural state, open (woodland, meadowland, wetland, etc.), for agricultural uses, or for active or passive outdoor recreation uses.

ORDINANCE: a municipal law or regulation adopted by the Town Selectboard or Village Trustees in accordance with [24 V.S.A. Chapter 59](#).

PARKING AREA: an off-street area containing one or more parking spaces, with passageways and driveways appurtenant to.

PARKING SPACE: off-street space used for the temporary location of one (1) registered motor vehicle, which is at least nine (9) feet wide and twenty-two (22) feet long, not including an access driveway, and having direct access to a street or approved right-of-way.

PASSIVE RECREATION: passive recreational activities such as sitting, walking, nature watching and general relaxation. In contrast to “active recreation” that involves dedicated and organized recreational activities such as baseball, soccer, tennis, hockey, etc.

PEDESTRIAN SCALE: an urban development pattern that facilitates walking as a safe, convenient, and interesting mode of travel. It is an area where walking is at least as attractive as any other mode to all destinations within the area.

PEDESTRIAN-ORIENTED DESIGN: Urban design intended to facilitate pedestrian movement in an area, as opposed to design that primarily serves automobile movement. Examples of pedestrian-oriented design include continuous building streetwalls with shop windows, outdoor cafes, street trees, benches, and planters.

PERSON: Any individual, partnership, corporation, association, unincorporated organization, trust, or any other legal or commercial entity, including a joint venture or affiliated ownership which owns or controls land or other property to be subdivided and/or developed under the provisions of these regulations. The word “person” shall also include any municipality or other government agency.

PERSONAL SERVICES: Includes barber, hairdresser, beauty parlor, shoe repair, shoe shine, laundry, laundromat, dry cleaner, photographic studio, and businesses providing similar services of a personal nature.

PLANNED UNIT DEVELOPMENT: means one or more lots, tracts, or parcels of land to be developed as a single entity, the plan for which may propose any authorized combination of density or intensity transfers or increases, as well as the mixing of land uses. This plan, as authorized, may deviate from bylaw requirements that are otherwise applicable to the area in which it is located with respect to lot size, bulk, or type of dwelling or building, use, density, intensity, lot coverage, parking, required common open space, or other standards.

PLAT, FINAL: The final drawings, on which the subdivision is presented to the Development Review Board for approval and which, if approved, shall be filed for record with the Town Clerk.

PLAZA: A building or development, which sits back from the street on which it fronts, so that signs on the individual business establishments are not readily visible to persons passing by in their motor vehicles, and which is designed to contain and contains three

(3) or more business establishments, each business being under separate and unaffiliated ownership.

POLICY: A frame of reference or a set of principles or rules determining what and how things are done by a person or group.

POSTER: A temporary, on premise or off premise, sign; printed, lettered, or drawn on nonpermanent cardboard or paper, advertising a specific event or occurrence at a particular time and place.

PREMISE: The lot, building, or set of related buildings comprising the location of one or more businesses or other ventures.

PRIMARY AGRICULTURAL SOILS (Prime Agricultural Soils): Soil map units (from the Natural Resource Conservation Service County Soil Surveys) are Prime Farmland if they have the best combination of physical and chemical characteristics for producing food, feed fiber, forage, and oilseed crops and are also available for these uses. The present land use may be cropland, pasture, forestland, or other land uses, but not urban and built-up or water. Location, tract size, and accessibility to markets and support industries are not considered when making a Prime Farmland determination. (see Statewide Agricultural Soils)

PRINCIPLE USE: The primary purpose or function that a lot serves or is intended to serve.

PRINCIPLE USE: the primary purpose or function that a lot serves or is intended to serve.

PRIVATE CLUB: A club restricted to members and their guests.

PRIVATE ROAD: is a road owned and maintained by a private individual, organization, or company rather than by a government.

PROFESSIONAL RESIDENCE-OFFICE: Primary residence in which the occupant has a professional office, including, but not limited to, that of an architect, accountant, dentist, doctor of medicine, land surveyor, real estate or insurance broker, etc., which is clearly secondary to the dwelling use for living purposes, and does not change the residential character thereof.

PROJECTING SIGN: A sign attached to, and projecting away from, the face of a building or structure.

PUBLIC NOTICE: means the form of notice prescribed by § 4444, 4449, or 4464 of the Act, as the context requires.

REAL ESTATE OFFICE: a business office engaged in the conduct of real estate sales, rentals, and related management activities.

REAR YARD: an open space between the building and the rear lot line, extending the full width of the lot.

RECREATIONAL USE: For the purposes of local land use regulations, this will include all those activities commonly considered to be recreational in nature, and will also include as examples, but not limited to, the following: skiing, golf courses, horseback riding and polo fields, hunting and fishing, picnic areas, playing fields (such as baseball, soccer, etc.), shooting or archery ranges, snowmobile trails, swimming areas, tennis courts, walking and/or nature trails. This will also include buildings which are accessory to the above activities.

RECREATIONAL VEHICLE (RV): A vehicle which is (i) built on a single chassis, (ii) 400 square feet or less when measured at the largest horizontal projections, (iii)

designed to be self-propelled or permanently tow able by a light duty truck, and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use. This definition was added to the NFIP so that a differentiation could be made between Recreational Vehicles and Manufactured Homes.

RENEWABLE ENERGY RESOURCES: energy available for collection or conversion from direct sunlight, wind, running water, organically derived fuels including wood, agricultural sources, waste materials, waste heat, and geothermal sources.

RESIDENTIAL SIGNS: A sign, not more than one and one half (1 ½) square feet in area, for identification of the residents.

RE-SUBDIVISION: Any change in a recorded subdivision plat, if such change affects any street layout on such plat, or area reserved thereon for public use, or any lot line; or if the change affects any map, plan or conditions recorded in association with the subdivision plat.

REST HOME: See HEALTH CARE FACILITY.

RESTAURANT: An establishment where food and drink is prepared served and consumed primarily within the principal building.

RETAIL USE: Includes enclosed restaurant, café, shop and store for the sale of retail goods, personal service shop and department store; and shall exclude drive-up service, free-standing retail stand, gasoline service and motor vehicle repair, new and used car sales and service, trailer and mobile home sales and service.

RIDGELINE: the highest elevation of a mountain chain or line of hills. (See Chapter 4)

RIGHT-OF-WAY: a strip of land acquired by reservation, dedication, forced dedication, prescription, or condemnation and intended to be occupied by a road, pedestrian way, crosswalk, railroad, electrical transmission lines, oil or gas pipeline, water line, sanitary storm sewer, and other similar uses.

RIPARIAN: of, pertaining to, or situated on, the edge of the bank of a river or other body of water. Riparian trees and shrubs are typically plants whose root systems are in constant contact with groundwater.

ROADS: Any vehicular way that is (1) an existing state, municipal or private roadway; (2) shown upon a plat approved pursuant to law; (3) approved by other official action; (4) shown on a plat duly filed and recorded in the Town Clerk's office prior to the appointment of a Development Review Board and; (5) shown on the official map or adopted plan. It includes the land between the street lines, whether improved or unimproved.

SANATORIUM: See HEALTH CARE FACILITY.

SAND AND GRAVEL PIT: An area that is used for the extraction of soil, sand, gravel, stone or other materials for transport off the parcel from which it is extracted. These activities usually involve heavy equipment and may cause high levels of noise and dust.

SATELLITE DISH ANTENNA: For the purposes of these Regulations, and in the accordance with Title 24, Chapter 117, of the Vermont Statutes Annotated, a satellite dish antenna more than two (2) feet in diameter shall be considered a structure.

SCENIC RESOURCES: those visually pleasing landscapes including mountains, farms, ridge lines and shorelines, and the locations providing scenic vistas of those landscapes.

SECTION 248 (ACT 248): Vermont Law regarding the Public Service Board, including its duties and role and the rules of electricity and natural gas supply and transmission.

SETBACK: the distance a structure has to be from a property line or center of public right-of-way/highway.

SIGN: Any structure, wall display, device, or representation which is designed, or used to advertise, or calls attention or directs a person to a business, association, profession, commodity product, institution, service, entertainment, person, place or thing, or activity of any kind, and is visible or audible from a highway or other right-of-way open to the public. It does not include the flag of any nation or state on a single pole.

SIGNIFICANT WILDLIFE HABITAT: Significant wildlife habitats are those natural features that are essential for the survival and/or reproduction of the native wildlife of Ludlow. This shall include, but is not limited to, (1) deer winter habitat; (2) habitat for rare, threatened and endangered; (3) concentrated black bear feeding habitat (bear-scarred beech and oak stands); and (4) wetlands that provide critical functions for sensitive or unusual wetland-dependent wildlife such as breeding/nesting habitat for wading birds (bitterns, herons), waterfowl (ducks, geese) and otter and vernal pools.

SINGLE FAMILY DWELLING: a building containing one dwelling unit for a single housekeeping unit.

SKETCH PLAN: An informal sketch of the proposed subdivision whose purpose is to enable the subdivider to reach general agreement with the Development Review Board as to the form of the subdivision, objective and requirements of these regulations.

SOFFIT SIGN: A sign hung from and within an overhang which is attached to a building or structure, and which covers a walkway serving that building or structure.

SOLID WASTE: as defined in [10 V.S.A. § 6602\(2\)](#), as may be amended from time to time.

SPRAWL: a pattern of land use that is characterized by dispersed, automobile-dependent development outside of compact urban and village centers, along highways, and in the rural countryside.

STATE PLANNING GOALS: under state statute, municipalities shall engage in a continuing planning process that furthers the thirteen state planning goals established under [24 V.S.A. §4302\(b\)](#), or as most recently amended.

STATEWIDE AGRICULTURAL SOILS (Agricultural Soils of Statewide Importance): This is land, in addition to Prime Agricultural Soils, that is of Statewide importance for the production of food, feed, fiber, forage, and oilseed crops. In Vermont, criteria for defining and delineating Statewide Important Farmland was determined by the appropriate state agencies, working with the Natural Resources Conservation Service.

STORAGE ENCLOSURE/BUILDING: An area or building for holding or safekeeping in a warehouse or other depository to await the happening of some future event or contingency which will call for the removal of the goods.

STREAM: A watercourse having a source and terminus, banks and channel, through which waters flow at least periodically and it usually empties into other streams, lakes, or the ocean, but it does not lose its character as a watercourse, even though it may break up and disappear.

STREET: Any road, highway, avenue, street, land or other way between right-of-way lines, commonly used for vehicular traffic and serving three or more lots.

STREETSCAPE: the visual image of a street, both within and abutting the public right-of-way including the combination of buildings, parking, signs, trees and other vegetation, and other hardscape and street furniture.

STRUCTURE: means an assembly of materials for occupancy or use, including a building, mobile home or trailer, sign, wall, or fence.

SUBDIVISION: Division of any lot or parcel of land, after the effective date of these regulations, into two or more lots of any size, for the purpose of conveyance, transfer of ownership, improvement, building, development, or sale

SUBSTANTIAL AMOUNT OF WORK: Completion of twenty-five (25) percent of the permitted project.

SUBSTANTIAL IMPROVEMENT: means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred. However, the term does not include either of the following:

- i. Any project or improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications that are solely necessary to assure safe living conditions;
- ii. Any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

SWIMMING POOL: A water-filled structure, permanently constructed, having a depth of more than eighteen (18) inches below the level of the surrounding land, or an above-surface pool having a depth of more than thirty-six (36) inches, designed, used and maintained for swimming and bathing.

TECHNICAL DEFICIENCY: Means a defect in a proposed plan or bylaw, or an amendment or repeal thereof, correction of which does not involve substantive change to the proposal, including corrections to grammar, spelling, and punctuation, as well as the numbering of sections.

THEATER: A building or part of a building devoted to showing moving pictures or stage productions on a paid admission basis.

TOURIST HOME: An establishment in a private dwelling that supplies temporary accommodations to overnight guests for a fee.

TOWN PLAN: See MUNICIPAL PLAN

TRAFFIC CALMING DEVICES: Structures built in or adjacent to roadways intended to slow traffic or reduce traffic volumes. Examples include narrowing roadways, speed humps, curb extensions, roundabouts, and traffic diverters.

TRANSFER STATION: Land used for the collection and temporary storage of garbage, sewage, trash, refuse, junk, discarded machinery, vehicles or parts thereof, or waste material of any kind.

TRANSPORTATION DEMAND MANAGEMENT: Transportation Demand Management refers to efforts to influence how and when people use the transportation system. Examples include staggered or flexible work schedules, telecommuting, and car/van pooling.

TRANSPORTATION INFRASTRUCTURE: see Transportation Network.

TRANSPORTATION MODES: Transportation systems are divided into modes. A single "mode" of transportation is automobile, public transit, bicycle or rail, etc. "Multi-modal"

refers to a combination of two or more individual modes. “Intermodal” refers to opportunities to make connections between modes (e.g. truck-to-rail intermodal freight transfer facility).

TRANSPORTATION NETWORK: the system of sidewalks, trails, bicycle paths, public transportation facilities and routes, railroad tracks and rights-of-way, roads, streets, highways, and all other corridors whose major purpose is to provide mobility for people and goods. Synonymous with transportation infrastructure.

UNDUE ADVERSE IMPACT: An adverse impact that meets any one of the following criteria:

- i. Violates a clear, written community standard – including a provision of these regulations or a specific policy of the town plan – intended to preserve the aesthetics or scenic, natural beauty of the area;
- ii. Offends the sensibilities of the average person; or,
- iii. Fails to take generally available mitigating steps that a reasonable person would take to improve the harmony of the proposed project with its surroundings.

UPGRADING: The privilege of the property owner to improve the utility of his building, if it does not change the overall use or size of said building. Example: relocating doors or windows, or replacing the siding of a building.

VETERINARY CLINIC/OFFICE: See ANIMAL HOSPITAL.

VILLAGE CENTER: a traditional center of the community, typically comprised of a cohesive core of residential, civic, religious and commercial buildings, arranged along a main street and intersecting streets. Village Centers may be designated under the Downtown Development Act making the area eligible for many of the same benefits as Downtowns (See [24 V.S.A. §2793a\(c\)](#)).

WATERFRONT SETBACK: The distance measured from the mean level to the nearest building, excluding normal waterfront facilities.

WATER POLLUTION: the addition of pollutants to water in concentrations or in sufficient quantities to result in measurable degradation of water quality.

WATERSHED: an area of land that drains water, sediment, and dissolved material to a common outlet at some point along a stream channel.

WELLHEAD PROTECTION AREA: areas designated by the Vermont Department of Health to protect the quality of public water supplies.

WETLANDS: includes all wetlands identified in Vermont Wetland Inventory (VWI) maps, wetland areas identified as “Ecologically Significant Wetland” by the Vermont Nongame and Natural Heritage Program, and/or wetland areas identified through site analysis to be inundated by surface or groundwater with a frequency sufficient to support vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction pursuant to the Vermont Wetland Rules.

WILDLIFE REFUGE: An area set aside for the conservation of plants, animals and general environment within. These are noncommercial areas usually without any structures on them. A single parking area and walking trails are characteristic of a wildlife refuge.

WINDOW SIGN: Any sign affixed to the inside or outside of a window or door, or a sign placed within a building so as to be plainly visible and legible through a window or door.

Small signs incorporated into a window display of merchandise, totaling no more than one hundred (100) square inches, shall not be considered a window sign.

WIND TURBINE: a rotary engine in which the kinetic energy of wind is converted into mechanical energy by causing a bladed rotor to rotate. Rotating machine which converts the kinetic energy in wind into mechanical energy. If the mechanical energy is used directly by machinery, such as a pump or grinding stones, the machine is usually called a windmill. If the mechanical energy is then converted to electricity, the machine is called a wind generator, wind turbine, wind power unit (WPU), wind energy converter (WEC), or aerogenerator. The term as used in the town Zoning Bylaws excludes net-metered wind turbine systems from this definition and from the effect of local regulations. (See Net-Metered)

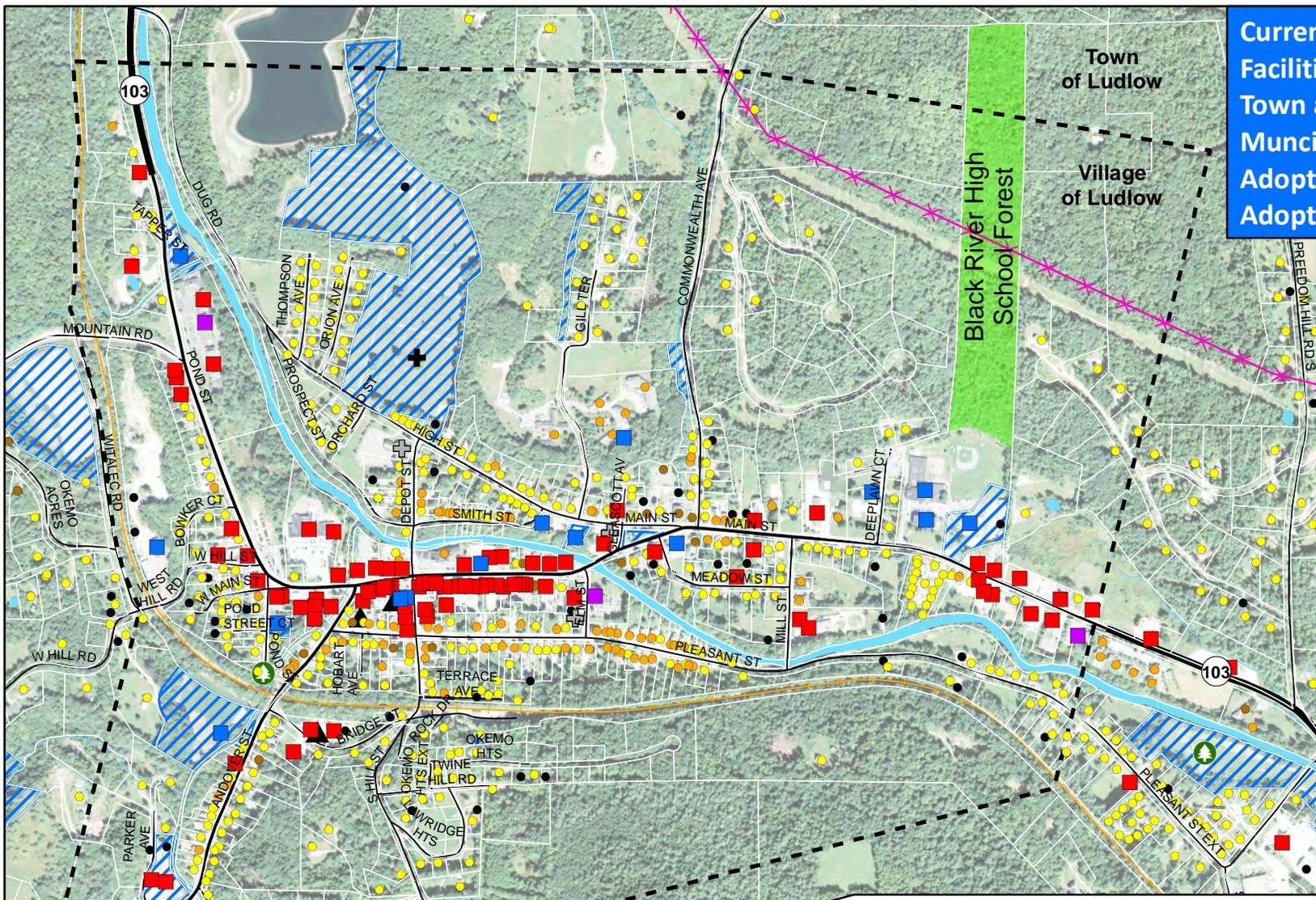
WIRELESS COMMUNICATIONS FACILITY (Wireless Telecommunications Facility): equipment for the distribution of wireless communications, such as cell phones, which may include towers, antennas, equipment shed(s) or housing(s), and electronic equipment.

WIRELESS TELECOMMUNICATIONS SERVICES: all services requiring wireless communications facilities.

YARD: Space on a lot not occupied with a building or structure. Porches and decks, whether enclosed or not enclosed, shall be considered as part of the main building and shall not project into a required yard. Minimum yard dimensions are the minimum perpendicular setback of a structure from a lot line.

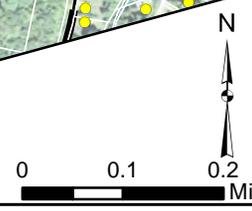
ZONING: the delineation of districts and the establishment of regulations governing the use placement, spacing, and size of land and buildings.

Current Land Use and Facilities Map (Village)
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018



- State Forest
- Town Park/ Forest/ Recreation Area
- Lake or River Access
- Fishing Access
- Other notable recreation site
- Town Owned Land
- Protected Lands
- Transmission Line
- River/ Stream
- Lakes/ Ponds
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Railroad
- Parcels
- Town and Village Boundary
- Boundary

- Telecommunications Facility
- Civic/ Public
- Commercial
- Industrial
- Health Center
- Cemetery
- House of Worship
- Lodging, seasonal housing, or commercial with residential
- Multi-family residential
- Single Family Residential or Mobile Home
- Other
- Waterfall, Cascade or Gorge



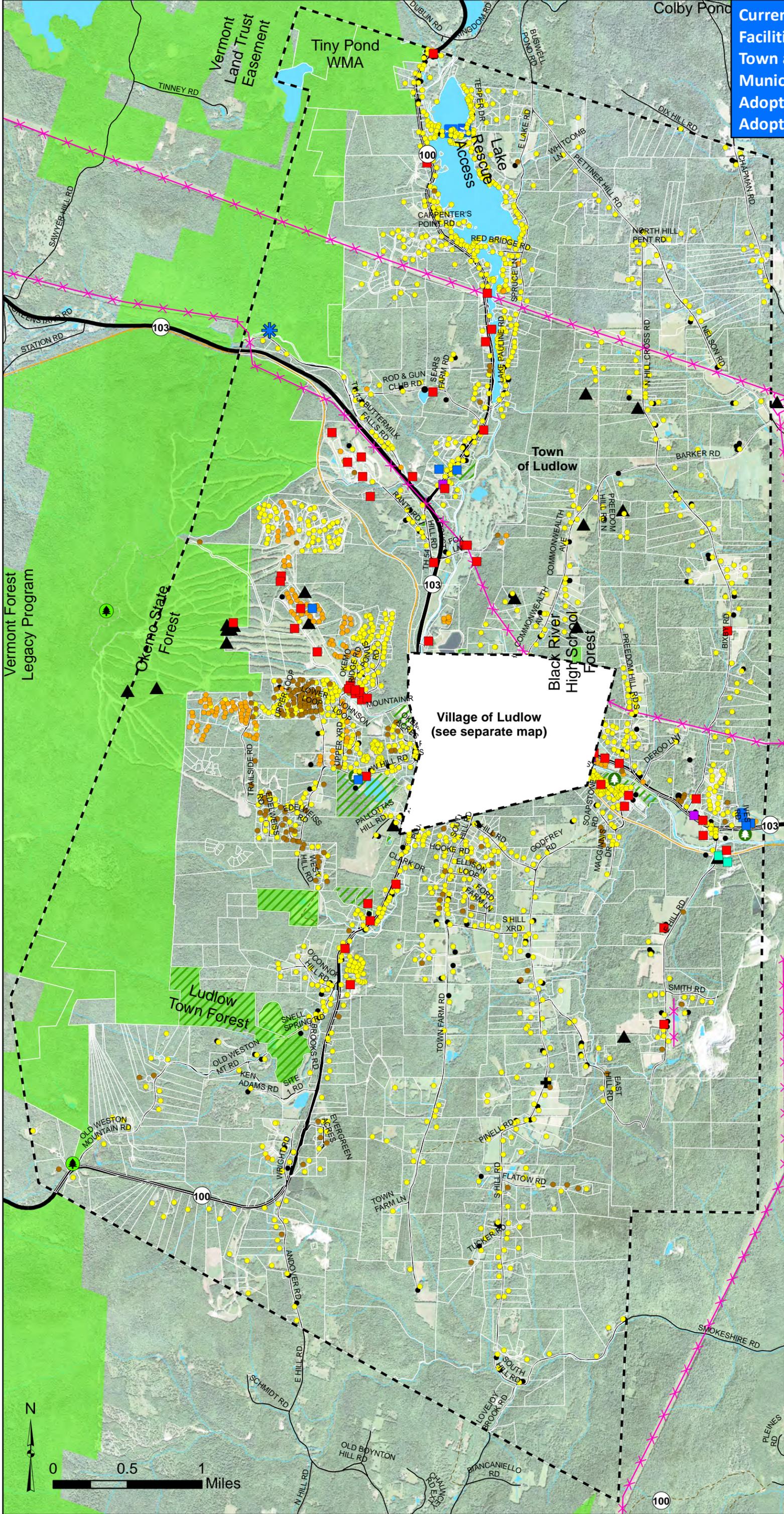
Note: Use of public lands may be restricted.

Data Sources: Telecommunications Tower (Natural Resources Board 2007 and SWCRPC 2013), Electric Transmission Line Corridor (VCGI 2003 and SWCRPC 2015), Waterfalls Cascades and Gorges (ANR 1998), Recreational Sites (RPC 2014), Protected Lands (Public Land and Privately Conserved Land) (VCGI and others 2016), Town Owned Land (RPC 2011), Site types (E911 2015 and RPC 2016), Cemeteries (E911 2015 and RPC 2016), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Parcels (CAI 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
 Map drawn August 7, 2017



Current Land Use and Facilities Map (Town)
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018



- Civic/ Public
- Commercial
- Industrial
- Health Center
- ⊕ Cemetery
- ⊕ House of Worship
- Lodging, seasonal housing, or commercial with residential
- Multi-family residential
- Single Family Residential or Mobile Home
- Other
- 🌲 State Forest
- 🌳 Town Park/ Forest/ Recreation Area
- 🏠 Lake or River Access
- 🎣 Fishing Access
- Other notable recreation site
- 🌊 Waterfall, Cascade, or Gorge
- ▲ Telecommunications Facility
- ▨ Town Owned Land
- 🌿 Protected Lands
- ⚡ Transmission Line
- 🌊 River/ Stream
- 🟦 Lakes/ Ponds
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- 🚂 Railroad
- ▭ Parcels
- - - Town and Village Boundary

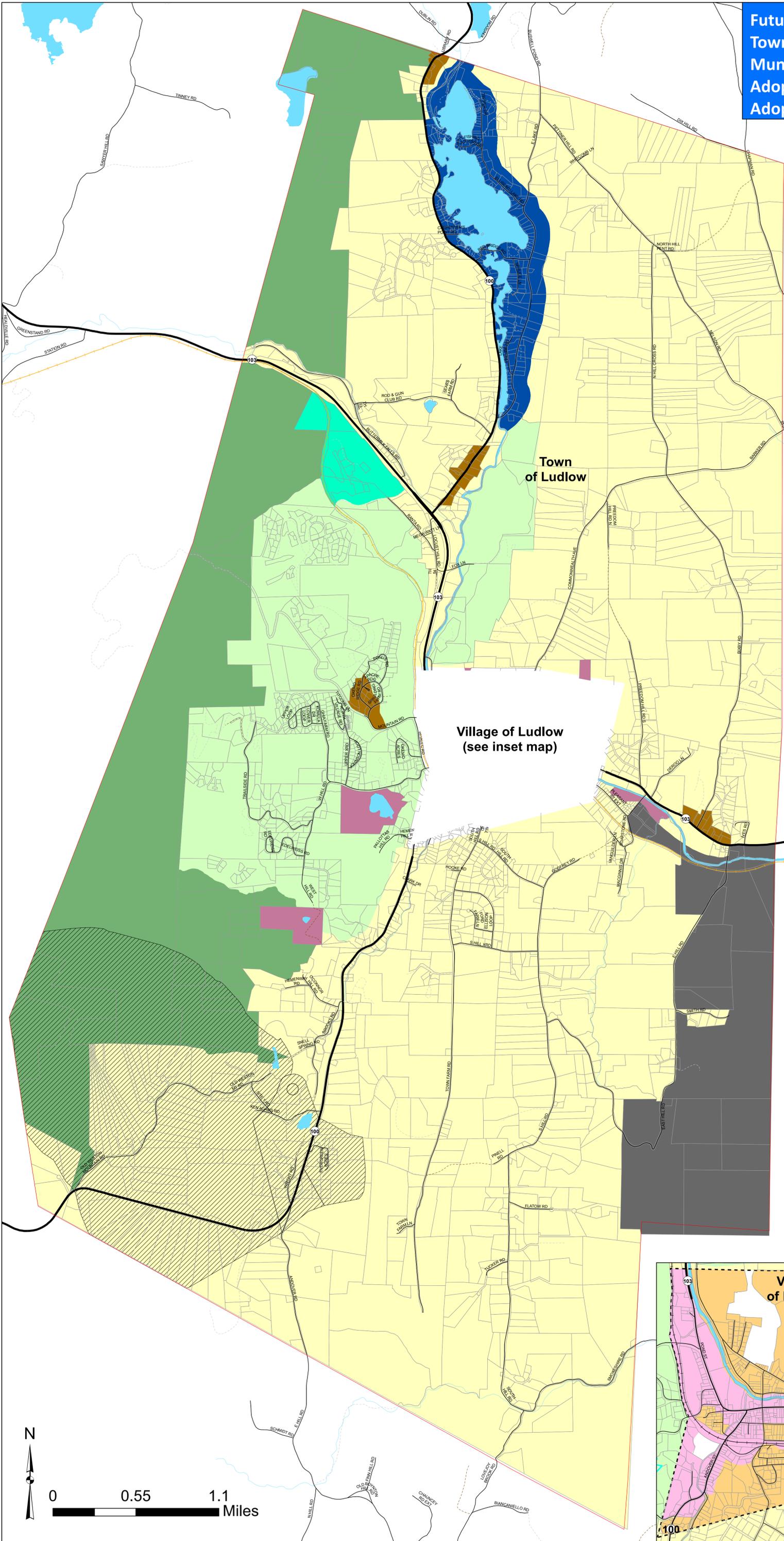
Data Sources: Telecommunications Tower (Natural Resources Board 2007 and SWCRPC 2013), Electric Transmission Line Corridor (VCGI 2003 and SWCRPC 2015), Waterfalls Cascades and Gorges (ANR 1998), Recreational Sites (RPC 2014), Protected Lands (Public Land and Privately Conserved Land) (VCGI and others 2016), Town Owned Land (RPC 2011), Site types (E911 2015 and RPC 2016), Cemeteries (E911 2015 and RPC 2016), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Parcels (CAI 2016), Town and Village Boundary (CA 2014).

Note: Use of public lands may be restricted.

VT State Plane. Meters, NAD 83
 Map drawn August 7, 2017



**Future Land Use Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: Draft
Adopted by Village: Draft**



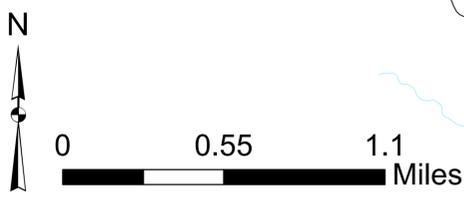
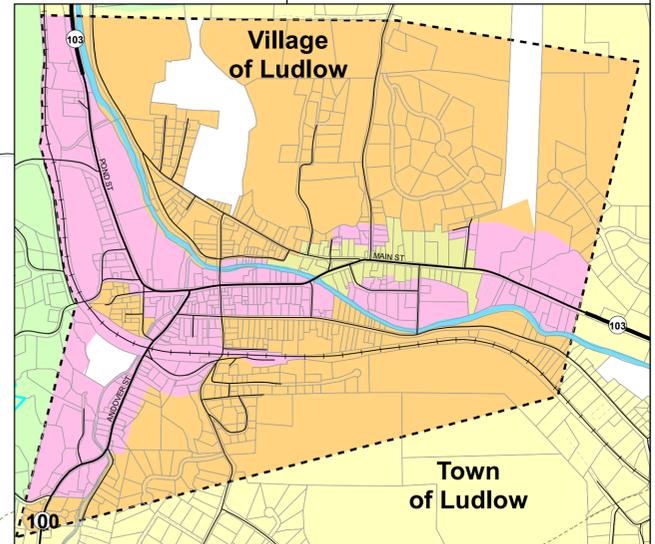
- Town Boundary 2016
 - State Highway
 - Class 1 Town Highway
 - Class 2 and 3 Town Highway
 - Class 4 Town Highway
 - Forest Road, Legal Trail, or Private Road
 - Railroad
 - Parcels
 - Major Lakes and Ponds
 - Major River
 - RiverArea VHD
- Town Future Land Use**
- Forest Resource
 - Industrial
 - Jackson Gore Recreation District
 - Lakes District
 - Outdoor Recreation
 - Proprietary Municipal
 - Residential Commercial
 - Rural Residential
 - Aquifer Protection Overlay
- Village Future Land Use**
- Preservation District
 - Proprietary Municipal
 - Village Mixed Use
 - Village Residential Neighborhoods
 - Designated Village Centers

Data Sources: Future Land Use (RPC 2019), Railroad (VTrans 2018), Waterbodies (VHD 2008), Roads (VTrans 2018), Parcels (CAI 2016), Town Boundary VCGI 2016 and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
Map drawn April 16, 2019



P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org



Transportation Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

-  Traffic Signal
-  Park and Ride Lot
-  Bus Stop (SEVT)
-  Bridge or Very Large Culvert
-  Culvert
-  VAST Trail
-  River/ Stream
-  Lakes/ Ponds
-  State Highway
-  Class 1 Town Highway
-  Class 2 and 3 Town Highway
-  Class 4 Town Highway
-  Forest Road, Legal Trail, or Private Road
-  Railroad
-  Town and Village Boundary
-  Boundary

There are no interstate highways, US highways, or airports.

Bus stops for Ludlow Municipal Transit are not mapped.

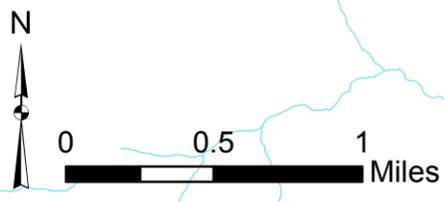
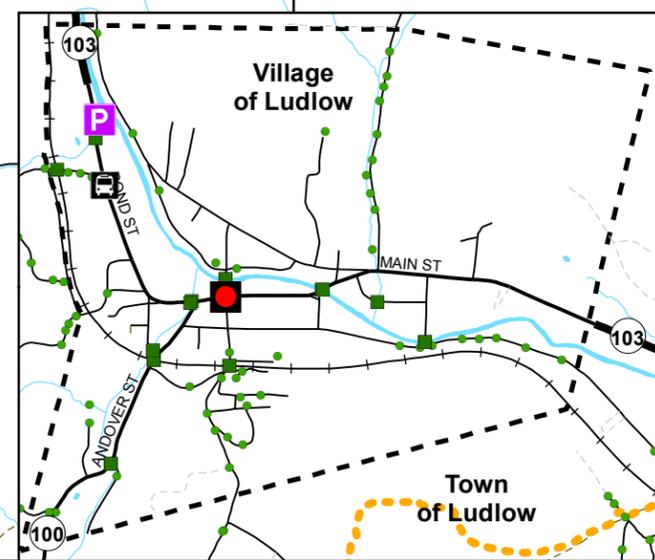
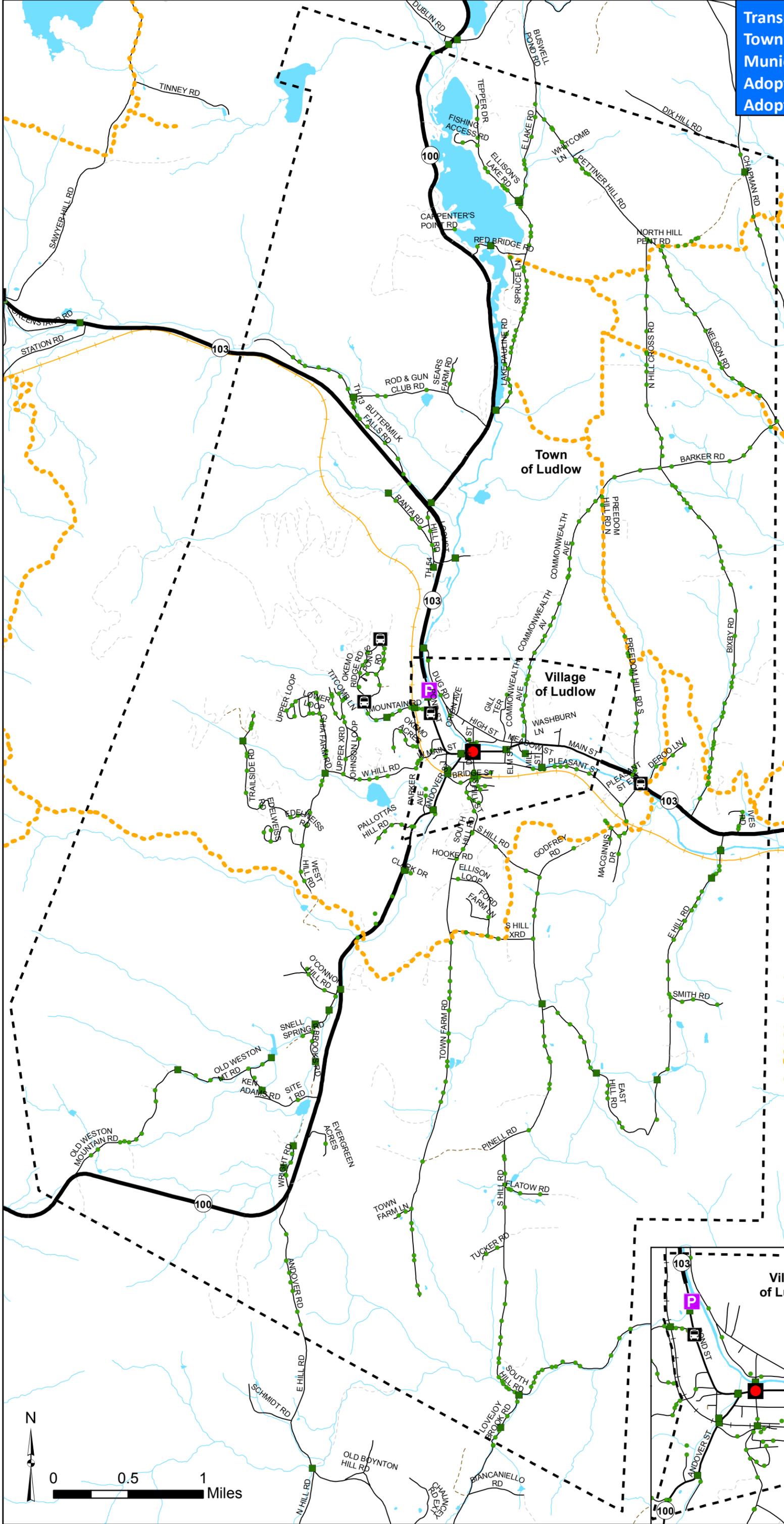
Data Sources: Traffic Signals (RPC 2010), Park and Ride Lots (RPC 2015), Airports (VTrans 2014), State Bridges and Large Culverts (VTrans 2014), Local Bridges and Culverts (SWCRPC and Town 2014), VAST trails (E911 2012), Public Transit Stops and Routes (Windham Regional Commission 2014), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83

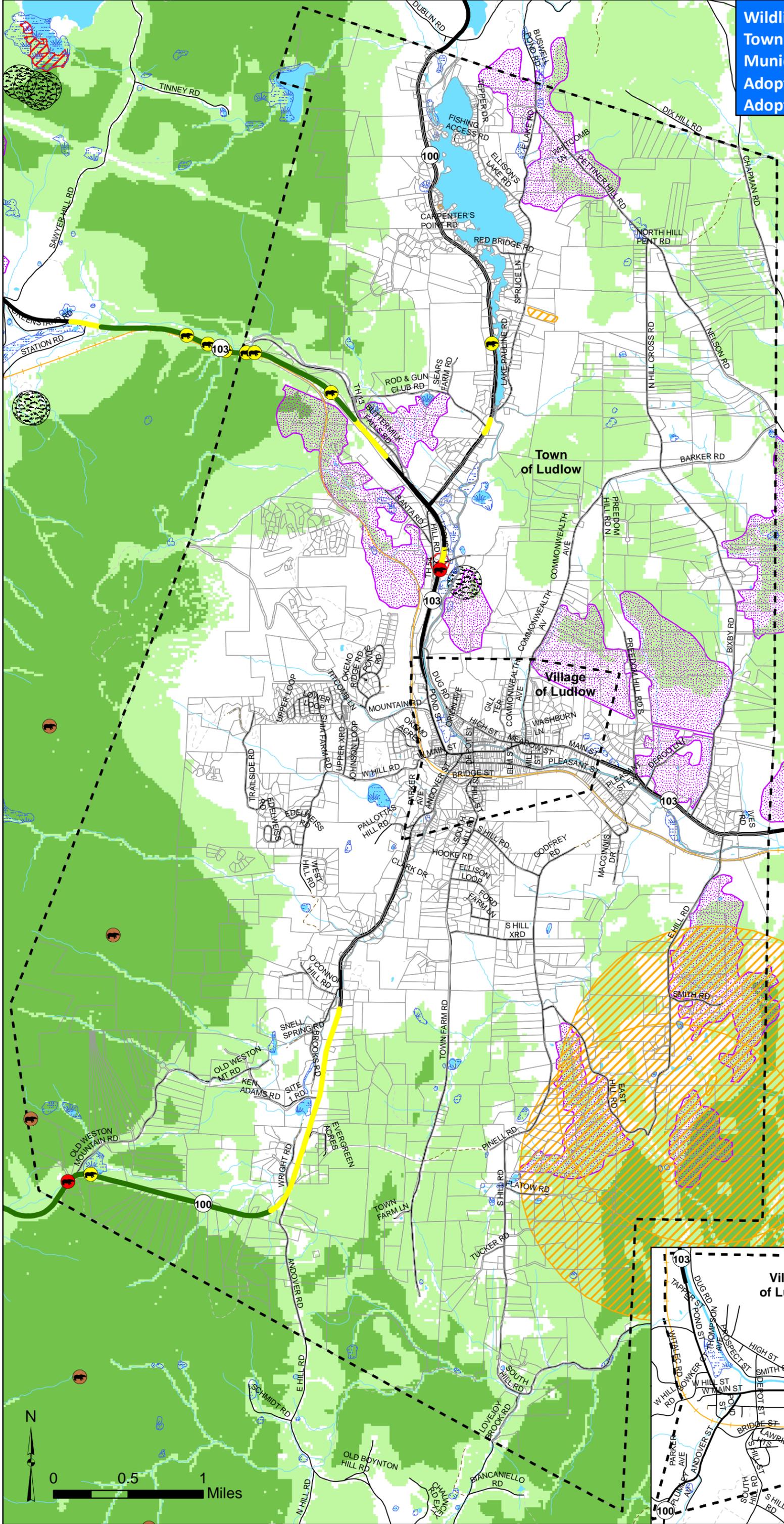
Map drawn August 7, 2017



SOUTHERN WINDSOR COUNTY
REGIONAL PLANNING COMMISSION
 P.O. Box 320, Ascutney, VT 05030
 802-674-9201 www.swcrpc.org



Wildlife Habitat Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

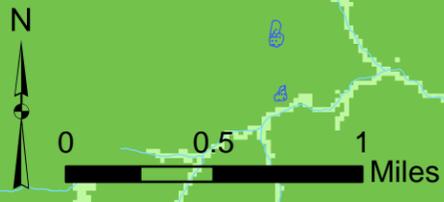
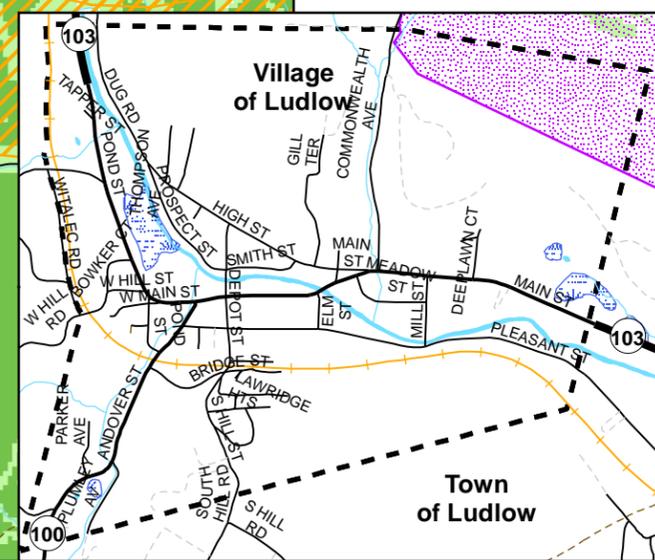


- Bear Collision
 - Bear Travel
 - Bear Mast
 - Wetland
 - Vernal Pool
 - State Threatened Species
 - State Endangered Species
 - Deer Wintering Area
- Wildlife Habitat Suitability**
(out of 10)
- 0 - 6
 - 6.01 - 8
 - 8.01 - 10
- Wildlife Crossing Value**
(out of 10)
- 5 - 6.5
 - 7 - 8.5
- State Highway
 - Class 1 Town Highway
 - Class 2 and 3 Town Highway
 - Class 4 Town Highway
 - Forest Road, Legal Trail, or Private Road
 - Railroad
 - Parcels (large map only)
 - Town and Village Boundary
 - Boundary

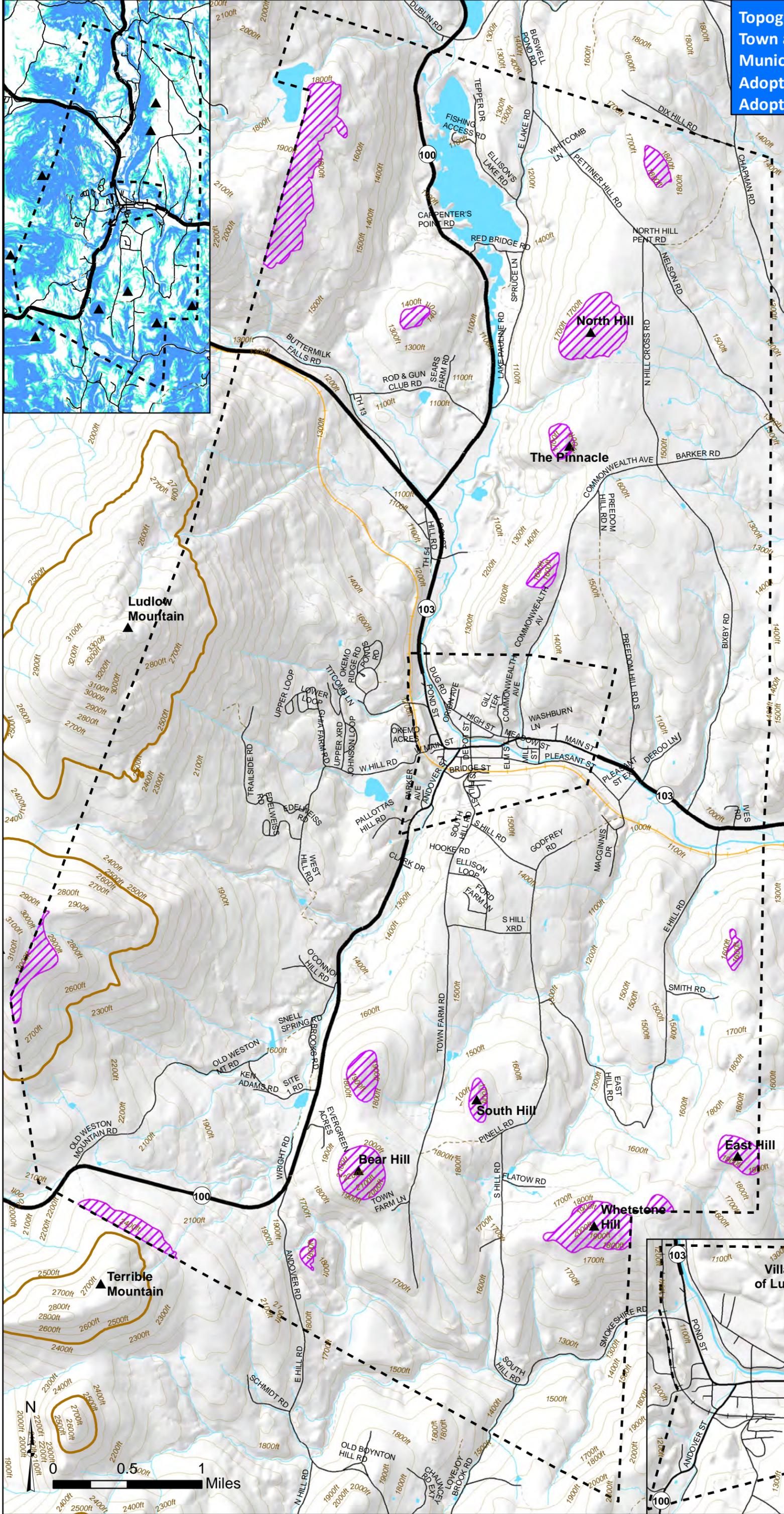
Note: Some data, eg wetlands and vernal pools, is incomplete. Further study may be needed prior to applying for permits to develop or make changes to the land.

Data Sources: Bear Collision (ANR 2004), Bear Travel/ Crossing Area (ANR 2004), Bear Mast (ANR 2001), Threatened and Endangered Species (ANR 2017), Vernal Pools (SN6 component of Biofinder 2013), Wetlands (VSWI, ANR 2010), Deer Wintering Areas (ANR 2011), Wildlife Habitat Suitability (ANR 2006), Waterbodies (VHD 2008), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
Map drawn August 7, 2017



Topography Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018



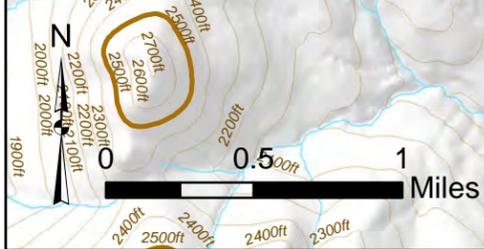
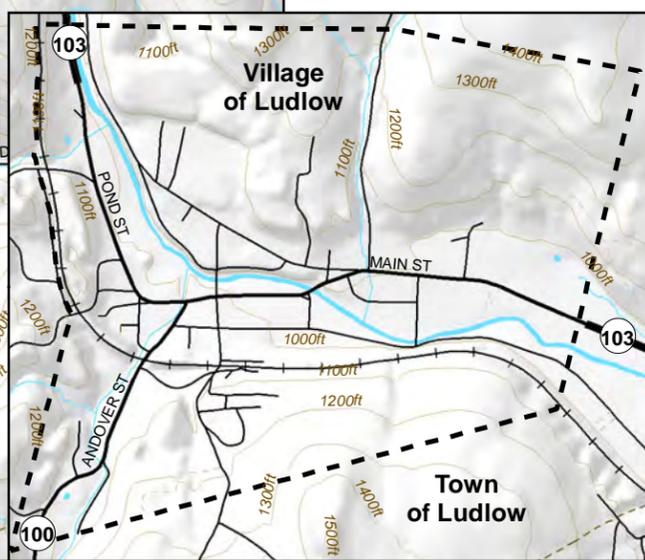
- ▲ Hill or Mountain Summit
- 100ft Contours
- 2500ft Contour
- ▨ Ridgeline Overlay District (Effective 2015)
- River/ Stream
- Lakes/ Ponds
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Railroad
- - - Town and Village Boundary

Steep slopes (small map only)

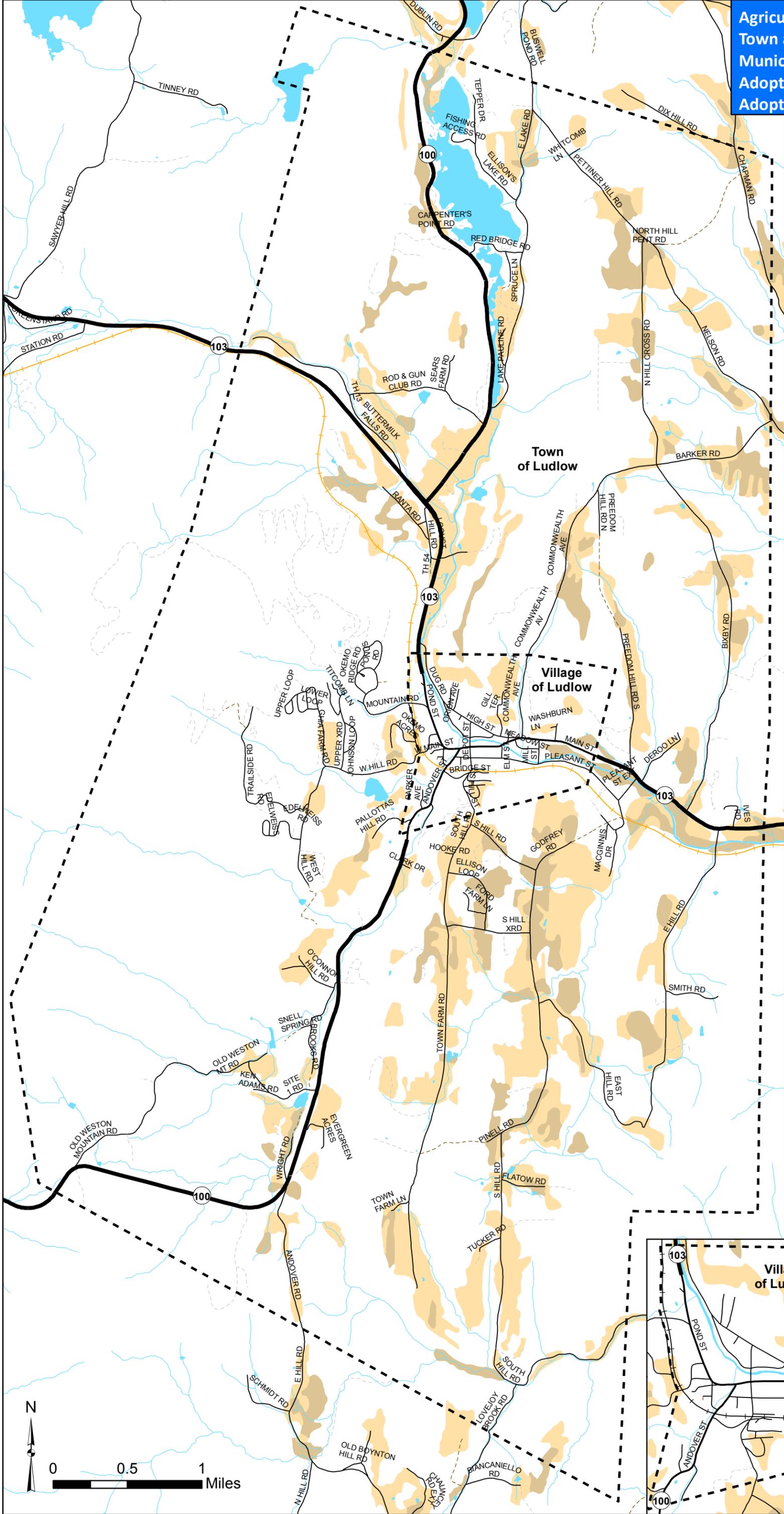
- ▨ Slopes of 16% - 23%
- ▨ 24% and over

Data Sources: Ridgeline Overlay District (RPC 2015, Effective 12/28/2015), Contours, steep slopes and hillshade (derived from 10m Digital Elevation Model, USGS/ VCGI 2012), Hill or Mountain Summit (Unknown source), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
 Map drawn August 7, 2017



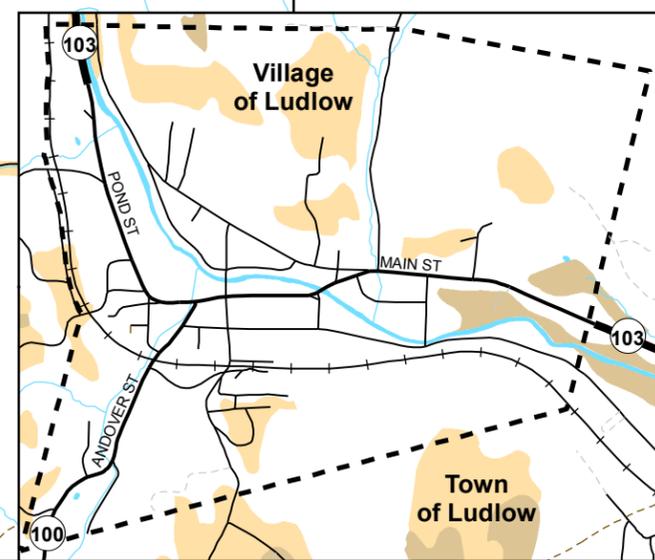
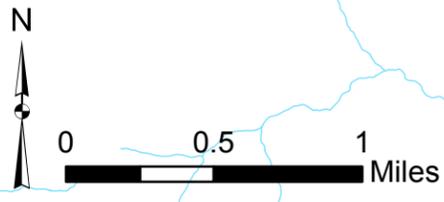
Agricultural Soils Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018



- Prime Agricultural Soils
- Agricultural Soils of Statewide Importance
- River/ Stream
- Lakes/ Ponds
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Railroad
- Town and Village Boundary
- Boundary

Data Sources: Agricultural Soils (NRCS 2011), Railroad (VTrans 2014), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
 Map drawn August 7, 2017



Watersheds

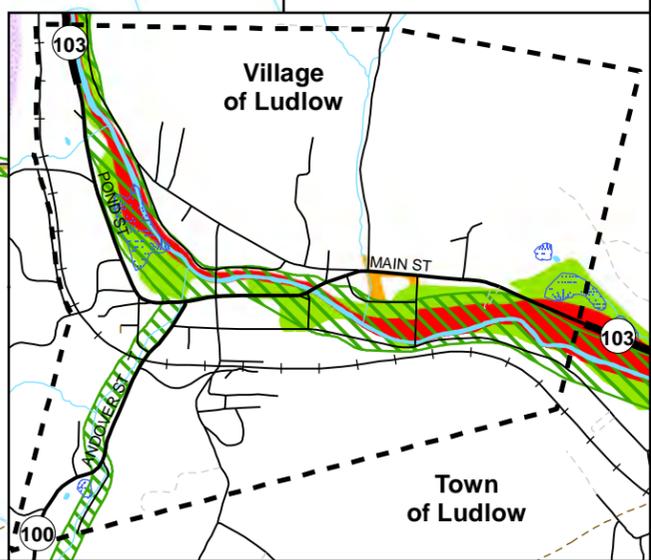
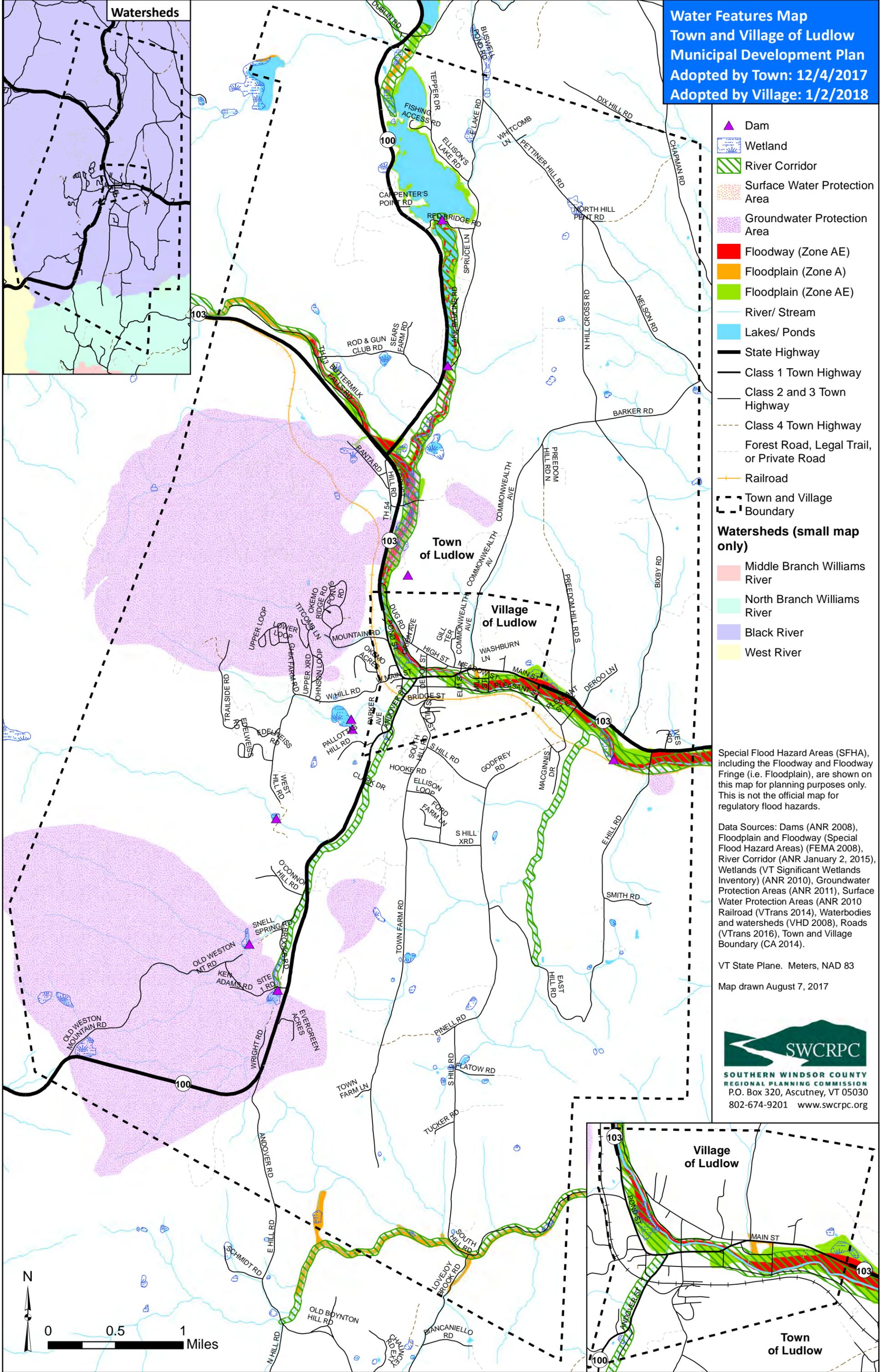
Water Features Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

-  Dam
 -  Wetland
 -  River Corridor
 -  Surface Water Protection Area
 -  Groundwater Protection Area
 -  Floodway (Zone AE)
 -  Floodplain (Zone A)
 -  Floodplain (Zone AE)
 -  River/ Stream
 -  Lakes/ Ponds
 -  State Highway
 -  Class 1 Town Highway
 -  Class 2 and 3 Town Highway
 -  Class 4 Town Highway
 -  Forest Road, Legal Trail, or Private Road
 -  Railroad
 -  Town and Village Boundary
 -  Boundary
- Watersheds (small map only)**
-  Middle Branch Williams River
 -  North Branch Williams River
 -  Black River
 -  West River

Special Flood Hazard Areas (SFHA), including the Floodway and Floodway Fringe (i.e. Floodplain), are shown on this map for planning purposes only. This is not the official map for regulatory flood hazards.

Data Sources: Dams (ANR 2008), Floodplain and Floodway (Special Flood Hazard Areas) (FEMA 2008), River Corridor (ANR January 2, 2015), Wetlands (VT Significant Wetlands Inventory) (ANR 2010), Groundwater Protection Areas (ANR 2011), Surface Water Protection Areas (ANR 2010) Railroad (VTrans 2014), Waterbodies and watersheds (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
 Map drawn August 7, 2017



This map shows existing electric utility service areas and other electric utility resources.

For up to date mapping of three phase electric distribution see www.greenmountainpower.com/innovative/solar_capital/3-phase-service-in-vermont/

For information about the distribution circuit rating for new distributed generation (DG) interconnections see the GMP Online Solar Planning Map <http://arcg.is/2b1a2MU>
All connections are currently good.

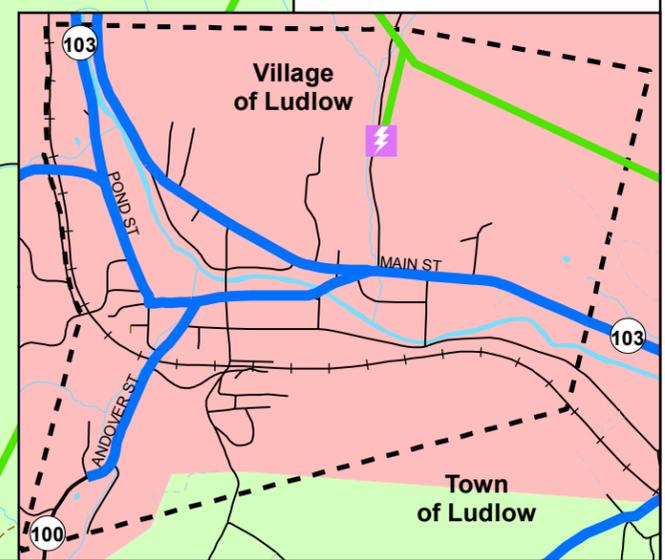
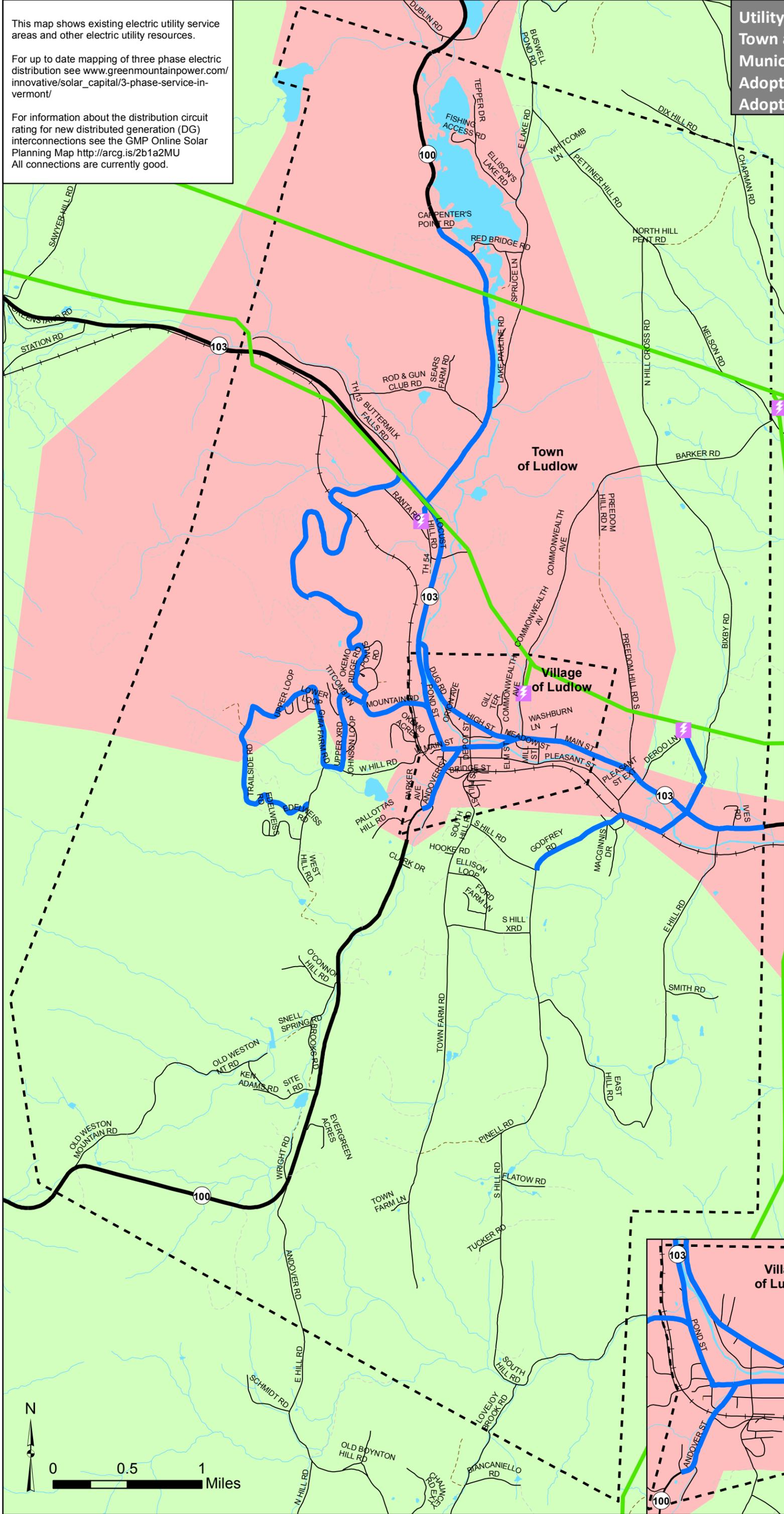
Utility Service Areas Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

-  Substation
-  Electric Transmission Line
-  Three Phase Electricity Distribution Lines
-  Green Mountain Power
-  Ludlow Electric Light Department (Municipal)
-  River/ Stream
-  Lakes/ Ponds
-  State Highway
-  Class 1 Town Highway
-  Class 2 and 3 Town Highway
-  Class 4 Town Highway
-  Forest Road, Legal Trail, or Private Road
-  Railroad
-  Town and Village Boundary
-  Boundary

Data sources: Electric Utility Service Areas (VCGI 2015), Substations (BCRC 2015 and SWCRPC 2017), Three Phase Electricity Lines (BCRC 2015 and Town/ RPC 2017), Transmission Lines (RPC 2016), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83

Map drawn November 20, 2017



This map shows the existing wind energy general sites and the potential for wind energy production considering

- Statewide analysis of solar potential
- Statewide, Regional and Local constraints which prevent or may impact development of solar energy generation facilities

Known constraints include areas that should not be developed with renewable energy generation facilities. Possible constraints include areas that may impact the siting of renewable energy generation facilities, but do not necessarily prevent their development. In addition to constraints listed in the November 2016 Regional Energy Planning Standards, SWCRPC has included no regional constraints and the Town and Village have included the following constraints:

- Known - State-designated Village Center and Zoning Preservation District
- Possible - Zoning Ridgeline Protection Overlay District

The Regional Energy Planning Standards are available at <http://publicservice.vermont.gov/content/act-174-recommendations-and-determination-standards>

Potential wind speeds were calculated using the TrueWind Solutions MesoMap wind mapping system. For more info see www.vtenergyatlas-info.com/wind/methodology

There are currently no commercial wind facilities in the area.

Wind Resources Map

Town and Village of Ludlow

Municipal Development Plan

Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

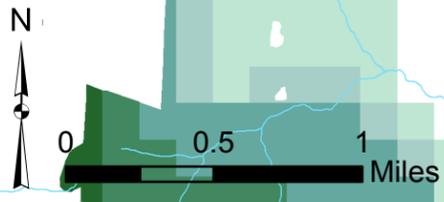
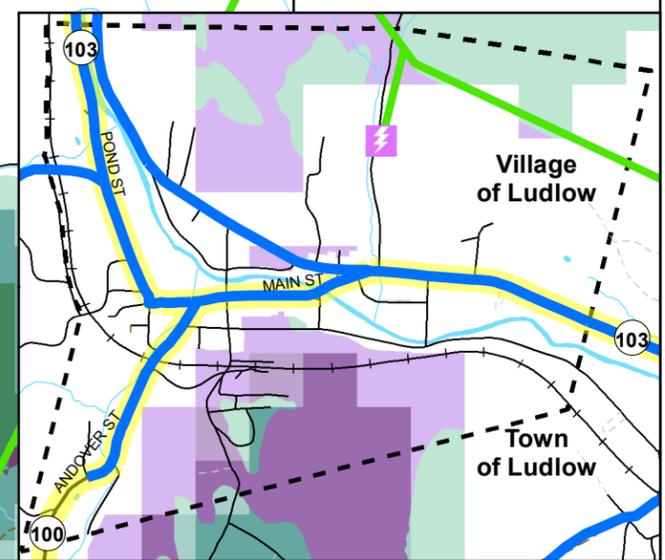
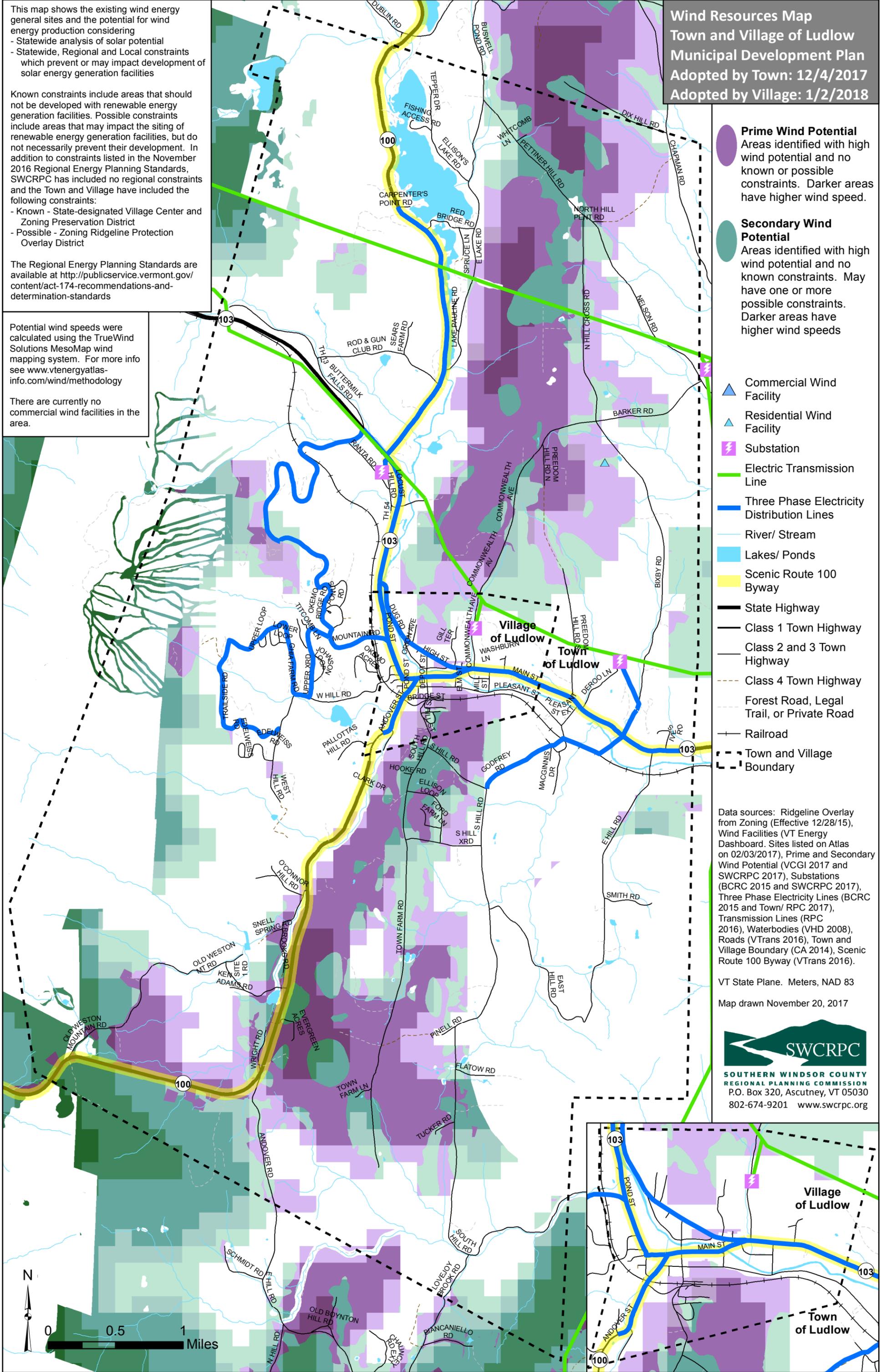
Prime Wind Potential
Areas identified with high wind potential and no known or possible constraints. Darker areas have higher wind speed.

Secondary Wind Potential
Areas identified with high wind potential and no known constraints. May have one or more possible constraints. Darker areas have higher wind speeds

- Commercial Wind Facility
- Residential Wind Facility
- Substation
- Electric Transmission Line
- Three Phase Electricity Distribution Lines
- River/ Stream
- Lakes/ Ponds
- Scenic Route 100 Byway
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Railroad
- Town and Village Boundary
- Boundary

Data sources: Ridgeline Overlay from Zoning (Effective 12/28/15), Wind Facilities (VT Energy Dashboard. Sites listed on Atlas on 02/03/2017), Prime and Secondary Wind Potential (VCGI 2017 and SWCRPC 2017), Substations (BCRC 2015 and SWCRPC 2017), Three Phase Electricity Lines (BCRC 2015 and Town/ RPC 2017), Transmission Lines (RPC 2016), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014), Scenic Route 100 Byway (VTrans 2016).

VT State Plane. Meters, NAD 83
Map drawn November 20, 2017



Solar Resources Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018

This map shows the existing solar energy production according to capacity for electricity generation and organization type. This map also shows the potential for ground-mounted solar energy production considering

- Statewide analysis of solar potential
- Statewide, Regional and Local constraints which prevent or may impact development of solar energy generation facilities

Known constraints include areas that should not be developed with renewable energy generation facilities. Possible constraints include areas that may impact the siting of renewable energy generation facilities, but do not necessarily prevent their development. In addition to constraints listed in the November 2016 Regional Energy Planning Standards, SWCRPC has included no regional constraints and the Town and Village have included the following constraints:

- Known - State-designated Village Center and Zoning Preservation District
- Possible - Zoning Ridgeline Protection Overlay District

The Regional Energy Planning Standards are available at <http://publicservice.vermont.gov/content/act-174-recommendations-and-determination-standards>

The VT Public Service Board divides applications for a Certificate of Public Good by net metering system capacity:

- 15kW or less
- Over 15kW but less than 150kW
- 150kW or more

Solar potential for ground-mounted systems was calculated to consider the following conditions:

- slope direction
- slope steepness
- radiation values from ESRI solar analyst

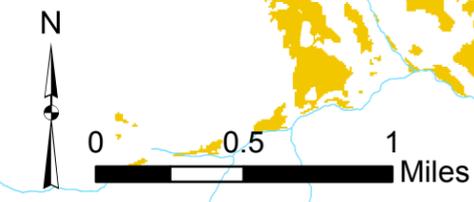
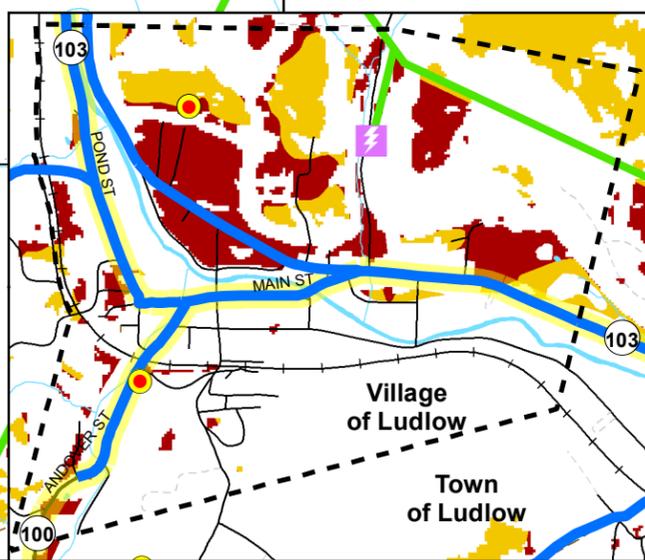
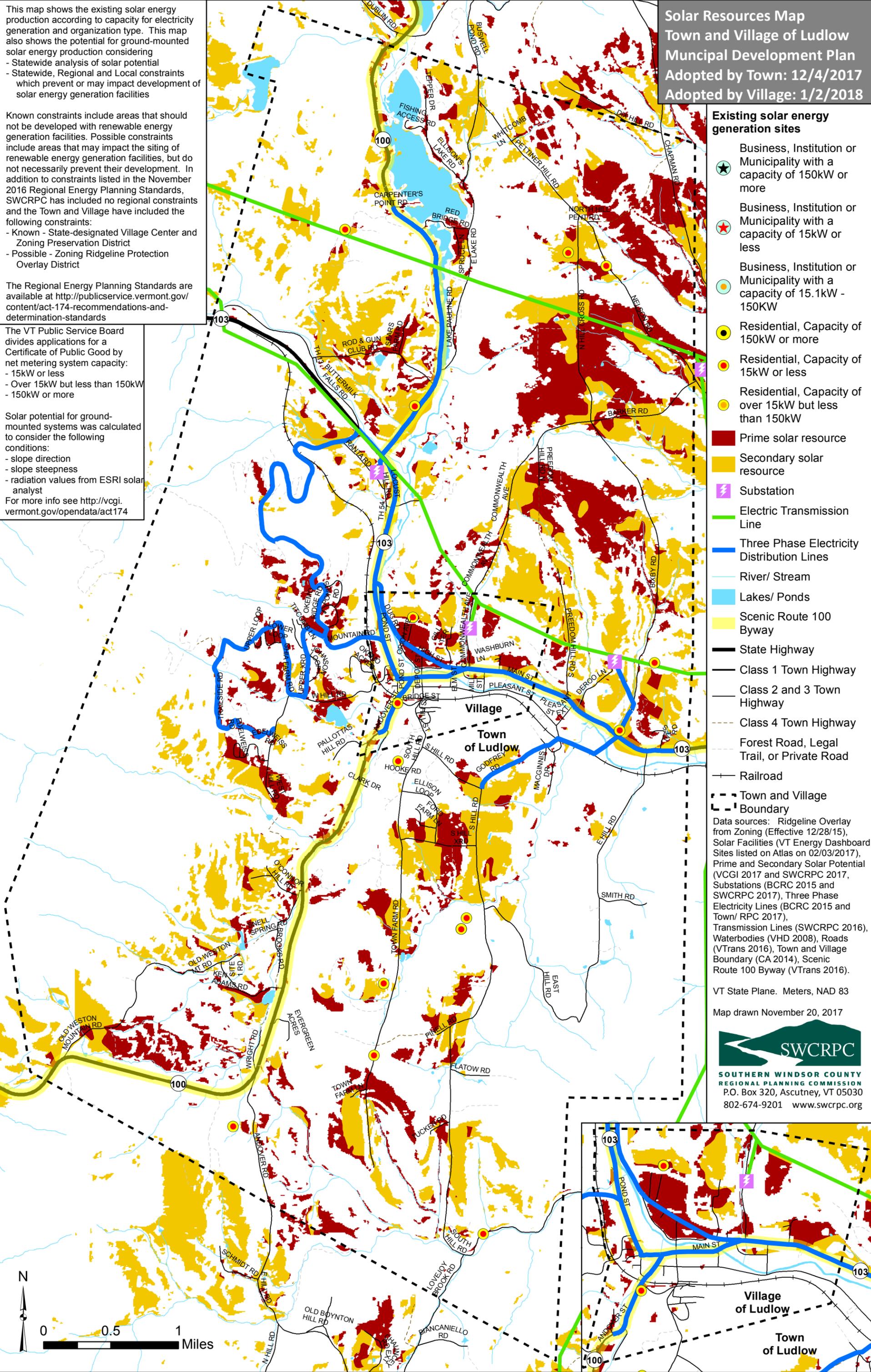
For more info see <http://vcgi.vermont.gov/opendata/act174>

- Existing solar energy generation sites**
- Business, Institution or Municipality with a capacity of 150kW or more
 - Business, Institution or Municipality with a capacity of 15kW or less
 - Business, Institution or Municipality with a capacity of 15.1kW - 150kW
 - Residential, Capacity of 150kW or more
 - Residential, Capacity of 15kW or less
 - Residential, Capacity of over 15kW but less than 150kW
 - Prime solar resource
 - Secondary solar resource
 - Substation
 - Electric Transmission Line
 - Three Phase Electricity Distribution Lines
 - River/ Stream
 - Lakes/ Ponds
 - Scenic Route 100 Byway
 - State Highway
 - Class 1 Town Highway
 - Class 2 and 3 Town Highway
 - Class 4 Town Highway
 - Forest Road, Legal Trail, or Private Road
 - Railroad
 - Town and Village Boundary

Data sources: Ridgeline Overlay from Zoning (Effective 12/28/15), Solar Facilities (VT Energy Dashboard, Sites listed on Atlas on 02/03/2017), Prime and Secondary Solar Potential (VCGI 2017 and SWCRPC 2017, Substations (BCRC 2015 and SWCRPC 2017), Three Phase Electricity Lines (BCRC 2015 and Town/ RPC 2017), Transmission Lines (SWCRPC 2016), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014), Scenic Route 100 Byway (VTrans 2016).

VT State Plane. Meters, NAD 83

Map drawn November 20, 2017



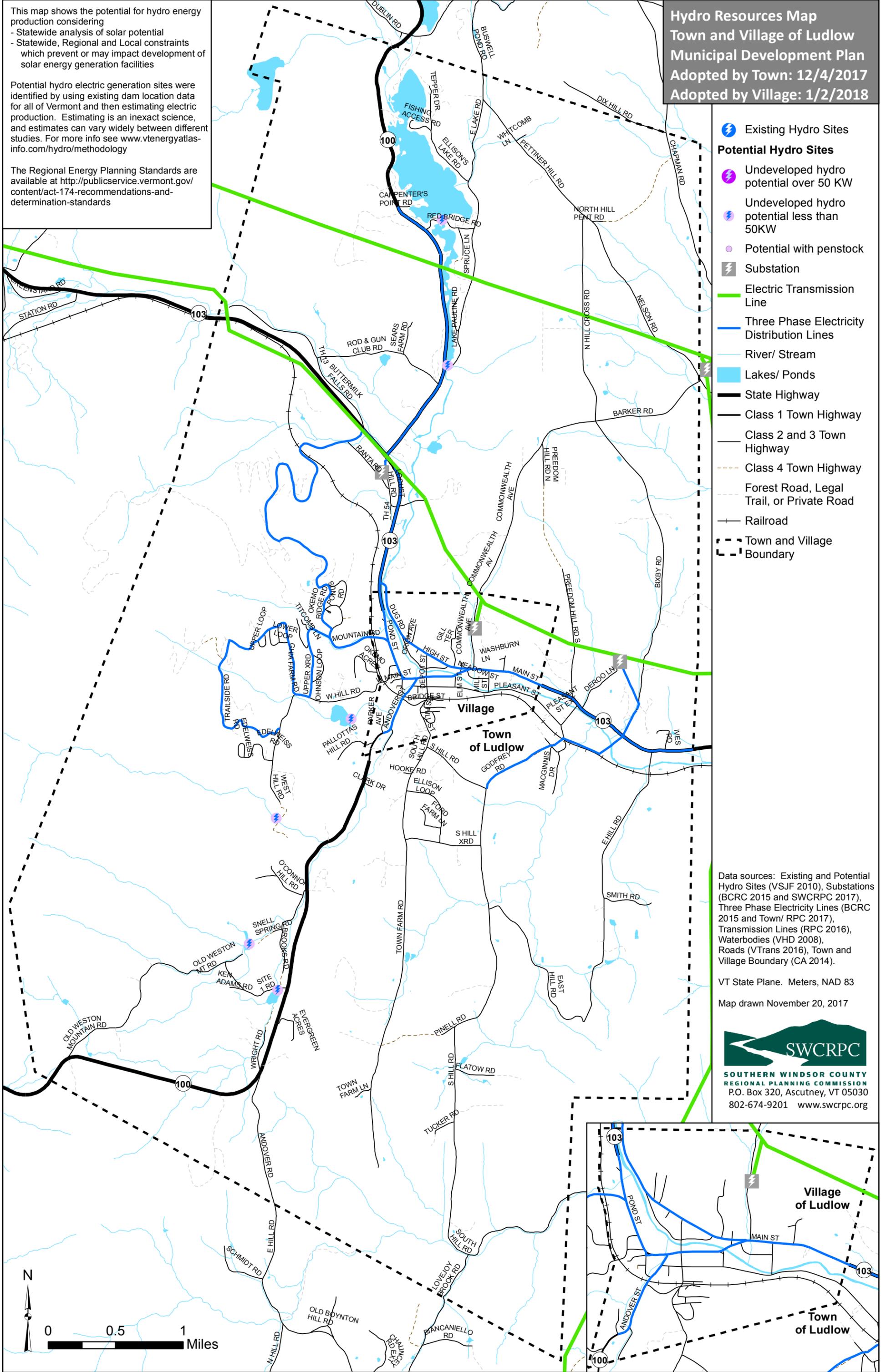
This map shows the potential for hydro energy production considering

- Statewide analysis of solar potential
- Statewide, Regional and Local constraints which prevent or may impact development of solar energy generation facilities

Potential hydro electric generation sites were identified by using existing dam location data for all of Vermont and then estimating electric production. Estimating is an inexact science, and estimates can vary widely between different studies. For more info see www.vtenergyatlas.info.com/hydro/methodology

The Regional Energy Planning Standards are available at <http://publicservice.vermont.gov/content/act-174-recommendations-and-determination-standards>

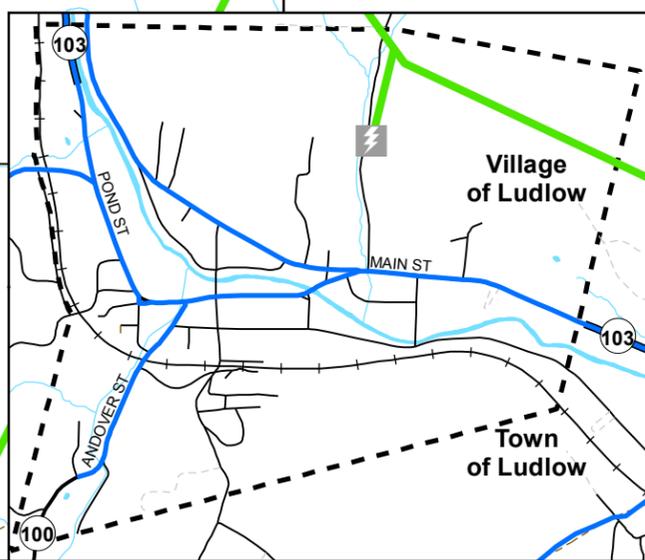
Hydro Resources Map
Town and Village of Ludlow
Municipal Development Plan
Adopted by Town: 12/4/2017
Adopted by Village: 1/2/2018



- Existing Hydro Sites
- Potential Hydro Sites**
- Undeveloped hydro potential over 50 KW
- Undeveloped hydro potential less than 50KW
- Potential with penstock
- Substation
- Electric Transmission Line
- Three Phase Electricity Distribution Lines
- River/ Stream
- Lakes/ Ponds
- State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Railroad
- Town and Village Boundary
- Boundary

Data sources: Existing and Potential Hydro Sites (VSJF 2010), Substations (BCRC 2015 and SWCRPC 2017), Three Phase Electricity Lines (BCRC 2015 and Town/ RPC 2017), Transmission Lines (RPC 2016), Waterbodies (VHD 2008), Roads (VTrans 2016), Town and Village Boundary (CA 2014).

VT State Plane. Meters, NAD 83
 Map drawn November 20, 2017



APPENDIX C: Ludlow Governmental Structure

Town of Ludlow

Select Board – Appoints Municipal Manager, Planning Commission members and Development Review Board members

Municipal Manager – Manages all Town Departments and staff

Select Board also appoints committee members such as Regional Planning Commission, Solid Waste Management District, Health Officer, Recreation Committee, Transportation Advisory Committee, Connecticut River Transit, Fence Viewers, Forest Fire Warden, Pound Keeper, Surveyor of Wood & Lumber, Tree Warden, Weigher of Coal.

Village of Ludlow

Village Board of Trustees – Municipal Manager

Municipal Manager – Manages all Village Departments and staff

Water Commission

Water Commission – Municipal Manager

Municipal Manager – Manages Water Department and staff

Elected Officials

Select Board, Village Trustees, Water Commission, Town Clerk/Treasurer, Constable, Cemetery Commission, Trustees of Public Funds, Boards of Listers, Village Clerk

Appendix D: Municipal Facilities Inventory

Reference Number	Description	E911 Address	Jurisdiction (Village/Town)	Department	Building Value	Contents Value	Valuation Type*	Employees per building	Vehicles Garaged in Building	Comments/Recommendations
1	Vacant Single Family Home; Gift to Town for benefit of Fire Department	8 Terrace Avenue	Town	Fire	\$82,033.00		ACV	0	0	
2	Restroom/ Warehouse/ Bath House	239 West Hill Road	Town	Parks & Recreation	\$148,997.00	\$2,500.00	GRC	0	0	
3	Dorsey Park Recreation Building	Pond & Andover Streets	Town	Parks & Recreation	\$84,720.00	\$10,200.00	GRC	0	0	
4	Little League Park/Playground	Pleasant St. Extension	Town	Parks & Recreation	\$10,199.00	\$0.00	AV	0	0	
5	Town Garage	19 West Hill Road	Town	Highway Department/DPW	\$859,950.00	\$60,000.00	GRC	5	0	
6	Town Hall	37 Depot Street	Town	General	\$4,055,259.00	\$50,000.00	GRC	11	0	
7	Transfer Station	710 VT Route 100 South	Town	Solid Waste - Transfer Station	\$40,637.00	\$5,000.00	GRC	2	0	
8	Black River Senior Center	10 High Street	Town	General	\$850,211.00	\$0.00	GRC	6	0	
9	Black River Academy Museum	14 High Street	Town	General	\$1,915,152.00	\$42,000.00	GRC	2	0	
10	Salt Shed #2	19 West Hill Road	Town	Highway Department/DPW	\$37,993.00	\$0.00	GRC	0	0	
11	Armory Building #3 - Cold Storage	37 Main Street	Town	General	\$37,336.00	\$10,000.00	ACV	0	1	
12	Transfer Station Swap Shop	710 VT Route 100 South	Town	Solid Waste - Transfer Station	\$18,200.00	\$0.00	GRC	0	0	
13	Backstops, Little League Park	Little League Park	Town	Parks & Recreation	\$5,920.00	\$0.00	AV	0	0	
14	Tool house, Pleasant View Cemetery	Pleasant View Cemetery	Town	Cemetery	\$11,723.00	\$1,000.00	GRC	0	0	
15	Salt Shed #1	19 West Hill Road	Town	Highway Department/DPW	\$20,974.00	\$0.00	GRC	0	0	
16	Scale House With Office Addition	336 VT Route 100 North	Town	Solid Waste - Transfer Station	\$33,888.00	\$1,000.00	GRC	3	0	
17	Concession Stand, Little League Park	Little League Park	Town	Parks & Recreation	\$14,424.00	\$1,000.00	GRC	0	0	
18	Chain Link Fence (1,320'), Little League Park	Little League Park	Town	Parks & Recreation	\$11,943.00	\$0.00	AV	0	0	
19	Warehouse	West Hill Road	Town	Highway Department/DPW	\$43,692.00	\$30,000.00	GRC	3	0	
20	Bandstand, Veteran's Memorial Park	Main Street	Town	Parks & Recreation	\$15,783.00	\$0.00	AV	0	0	
21	Ludlow Community Center (previously Armory Building #1)	37 Main Street	Town	General	\$1,818,606.00	\$25,000.00	GRC	8	0	
22	Commercial Tenant (Previously Armory Building #2)	37 Main Street	Town	General	\$847,898.00		GRC	8	1	
23	Scoreboard/Batting Cage/Pitching Machine, Little League Park	Little League Park	Town	Parks & Recreation	\$6,591.00	\$0.00	AV	0	0	
24	Dugouts, Little League Park	Little League Park	Town	Parks & Recreation	\$10,279.00	\$0.00	AV	0	0	
25	Fire Station	59 Pond Street	Town	Fire	\$676,636.00	\$45,000.00	GRC	0	9	
26	Dorsey Park Field/Skate Park/Tennis Courts	Pond Street	Town	Parks & Recreation	\$109,671.00	\$0.00	AV	0	0	
27	Public Safety Building	19 West Hill Road	Town	Law Enforcement	\$1,299,400.00	\$100,000.00	GRC	10	6	

Reference Number	Description	E911 Address	Jurisdiction (Village/Town)	Department	Building Value	Contents Value	Valuation Type*	Employees per building	Vehicles Garaged in Building	Comments/ Recommendations
28	Vault, Pleasant View Cemetery	Pleasant View Cemetery	Town	Cemetery	\$40,578.00	\$14,000.00	GRC	0	0	
29	Maintenance & Office - lower building, Pleasant View Cemetery	Pleasant View Cemetery	Town	Cemetery	\$24,237.00	\$6,000.00	GRC	3	0	
30	Storage Building - upper building, Pleasant View Cemetery	Pleasant View Cemetery	Town	Cemetery	\$60,284.00	\$15,000.00	GRC	0	2	
31	Chlorine Building	Pleasant Street	Village	Sewer/ Wastewater	\$21,159.00	\$0.00	GRC	0	0	
32	Blower Building	Pleasant Street	Village	Sewer/ Wastewater	\$16,128.00	\$0.00	GRC	0	0	
33	Electrical Sub-Station	16 Megawatt Lane	Village	Electric/Light	\$537,601.00	\$0.00	GRC	0	0	Installed 1987, 14MVA
34	Electrical Sub-Station	30 Commonwealth Avenue	Village	Electric/Light	\$537,601.00	\$0.00	GRC	0	0	Installed 1999, 15 MVA
35	Electrical Sub-Station	220 Deroo Lane	Village	Electric/Light	\$537,601.00	\$0.00	GRC	0	0	Installed 2003. 14MVA
36	Garage/Storage	158 VT Route 100 North	Village	Electric/Light	\$1,088,463.00	\$100,000.00	GRC	5	14	
37	Wastewater Treatment Plant Garage	Pleasant Street Extension	Village	Sewer/ Wastewater	\$258,335.00	\$5,000.00	GRC	0	3	
38	Water Pump Station	Bridge Street	Village	Water	\$151,177.00	\$0.00	GRC	0	0	
39	Water Tank	0 Pallotta's Hill Road	Village	Water	\$438,682.00	\$0.00	GRC	0	0	
40	Sewer Plant	212 Pleasant Street Extension	Village	Sewer/ Wastewater	\$2,980,090.00	\$4,000.00	GRC	4	0	
41	Well Site Building	Pleasant Street Extension	Village	Water	\$8,971.00	\$0.00	GRC	0	0	
42	Water Storage	South Hill Road	Village	Water	\$370,888.00	\$0.00	GRC	0	0	
43	Water Booster Pump Station	Gill Terrace	Village	Water	\$84,720.00	\$0.00	GRC	0	0	
44	Customer Service Administration Building	9 Pond Street	Village	Electric/Light	\$312,616.00	\$75,000.00	GRC	3	0	
45	Utility Shed	Commonwealth Avenue	Village	Electric/Light	\$26,692.00	\$20,000.00	GRC	0	0	
46	Lower Vault (Altitude Valve)	Andover Street	Village	Water	\$97,349.00	\$0.00	GRC	0	0	
47	Upper Vault (Pressure Reducing Valve)	VT Route 100 South	Village	Water	\$83,966.00	\$0.00	GRC	0	0	
48	Water Treatment	Old Route 100	Village	Water	\$301,935.00	\$0.00	GRC	0	0	
49	Wastewater Treatment Facility Headworks & Screen	212 Pleasant Street Extension	Village	Sewer/ Wastewater	\$564,803.00	\$0.00	GRC	0	0	
Totals:					\$21,611,991.00	\$621,700.00				

*RC: Replacement Value, GRC: Guaranteed Replacement Value, HRC: Historical Replacement Value, AV: Agreed Value, ACV: Actual Cash Value

Appendix D: Municipal Vehicles Inventory

Reference Number	Year	Make/Model	Vehicle Type	Jurisdiction (Village/Town)	Department	Garage Location	Comments/ Recommendations
1	2016	Ford F550 Horton Type 1 Ambulance	Ambulance	Town	Ambulance/Rescue	19 West Hill Street	
2	2007	Car-Mate Trailer CM824C-CT	Trailer	Town	Ambulance/Rescue	19 West Hill Street	
3	2013	Ford F450 Ambulance	Ambulance	Town	Ambulance/Rescue	19 West Hill Street	
4	2012	Chevrolet Sliverado 2500	Pickup Truck	Town	Buildings & Grounds	19 West Hill Street	
5	2009	Chevrolet 3500 1-Ton Dump	Pickup Truck	Town	Cemetery	43 High Street	
6	2018	John Deere Compact Utility Tractor/Loader/ Backhoe 3033R	Loader/Backhoe/ Excavator	Town	Cemetery	43 High Street	
7	2004	Ford F350	Pickup Truck	Town	Fire	59 Pond Street	
8	1935	Ford Fire Truck	All Other Road Vehicles	Town	Fire	59 Pond Street	
9	2010	International Fire Pumper Tanker Truck	Fire Pumper/Tanker	Town	Fire	59 Pond Street	
10	2014	KME QMAX Custom Pumper	Fire Pumper/Tanker	Town	Fire	59 Pond Street	
11		Kubota Utility Vehicle	All Other Mobile Equipment	Town	Fire	59 Pond Street	
12	1994	Simon LT1 102' Aerial Ladder	All Other Road Vehicles	Town	Fire	59 Pond Street	
13	2006	Pace Cargo Trailer	Trailer	Town	Fire	59 Pond Street	
14	2003	KME Custom Pumper	Fire Pumper/Tanker	Town	Fire	59 Pond Street	
15	2017	Freightliner M2 106	Dump Truck	Town	Highway/DPW	19 West Hill Street	
16	2009	Caterpillar 120 MA AWD Grader	Grader	Town	Highway/DPW	19 West Hill Street	
17	2015	John Deere 410 L Backhoe/Loader	Loader/Backhoe/ Excavator	Town	Highway/DPW	19 West Hill Street	
18	2007	International 7600	Dump Truck	Town	Highway/DPW	19 West Hill Street	
19	2012	Ford F550	Dump Truck	Town	Highway/DPW	19 West Hill Street	
20	2008	Caterpillar Challenger Tractor Roadside Mower	All Other Mobile Equipment	Town	Highway/DPW	19 West Hill Street	
21	2017	Chevrolet 3500	Pickup Truck	Town	Highway/DPW	18 West Hill Road	
22	2018	Cam 19 Trailer	Trailer	Town	Highway/DPW	19 West Hill Street	
23	2011	International 7600 Dump	Dump Truck	Town	Highway/DPW	19 West Hill Street	
24	2006	Komatsu Loader WA250- 5L	Loader/Backhoe/ Excavator	Town	Highway/DPW	19 West Hill Street	

25	2014	International 7400	Dump Truck	Town	Highway/DPW	19 West Hill Street
26	2017	Volvo EC60E Mini Excavator	Loader/Backhoe/Excavator	Town	Highway/DPW	19 West Hill Street
27	2017	Ford Explorer Interceptor	Police Cruiser	Town	Law Enforcement	19 West Hill Street
28	2014	Ford Explorer Interceptor	Police Cruiser	Town	Law Enforcement	19 West Hill Street
29	2016	Ford Interceptor	Police Cruiser	Town	Law Enforcement	18 West Hill Street
30	2000	John Deere 460 Tractor Loader Bucket	All Other Mobile Equipment	Town	Parks & Recreation	19 West Hill Street
31	2012	IC Integrated CE S 66 Passenger W/ Wheelchair	Bus Other	Town	Transit/Buses	19 West Hill Street
32	2014	Ford Collins Mid Bus 30 Pass W/Wheel Chair Lift	Bus 21-60 Passenger	Town	Transit/Buses	19 West Hill Street
33	2010	Freightliner Thomas C2 Bus With Wheel Chair	Bus 21-60 Passenger	Town	Transit/Buses	19 West Hill Street
34	2014	Thomas Chev 051 MS Minotour Bus	Bus 21-60 Passenger	Town	Transit/Buses	19 West Hill Street
35	2017	Thomas SAF T Liner 48 Passenger Bus	Bus 21-60 Passenger	Town	Transit/Buses	19 West Hill Street
36	2017	Ford F550 Bucket Truck	All Other Road Vehicles	Village	Electric/Light	158 VT Route 100 North
37	1999	Caterpillar Loader/Backhoe	Loader/Backhoe/Excavator	Village	Electric/Light	158 VT Route 100 North
38	2009	Ford F150	Pickup Truck	Village	Electric/Light	158 VT Route 100 North
39	2002	Ford Ranger P/U	Pickup Truck	Village	Electric/Light	158 VT Route 100 North
40	1998	Cross Country Utility Trailer	Trailer	Village	Electric/Light	158 VT Route 100 North
41	2016	Ford F350	Dump Truck	Village	Electric/Light	157 VT Route 100 North
42	2016	Ford F150	Pickup Truck	Village	Electric/Light	158 VT Route 100 North
43	2003	International 4400	All Other Road Vehicles	Village	Electric/Light	158 VT Route 100 North
44	1988	Sauber Wire Trailer	Trailer	Village	Electric/Light	158 VT Route 100 North
45	2003	Sauber Wire Trailer 1519	Trailer	Village	Electric/Light	158 VT Route 100 North
46	2001	Freightliner FL70 Digger	All Other Road Vehicles	Village	Electric/Light	158 VT Route 100 North
47	2000	Morbark Chipper 2011-D	Trailer	Village	Electric/Light	158 VT Route 100 North

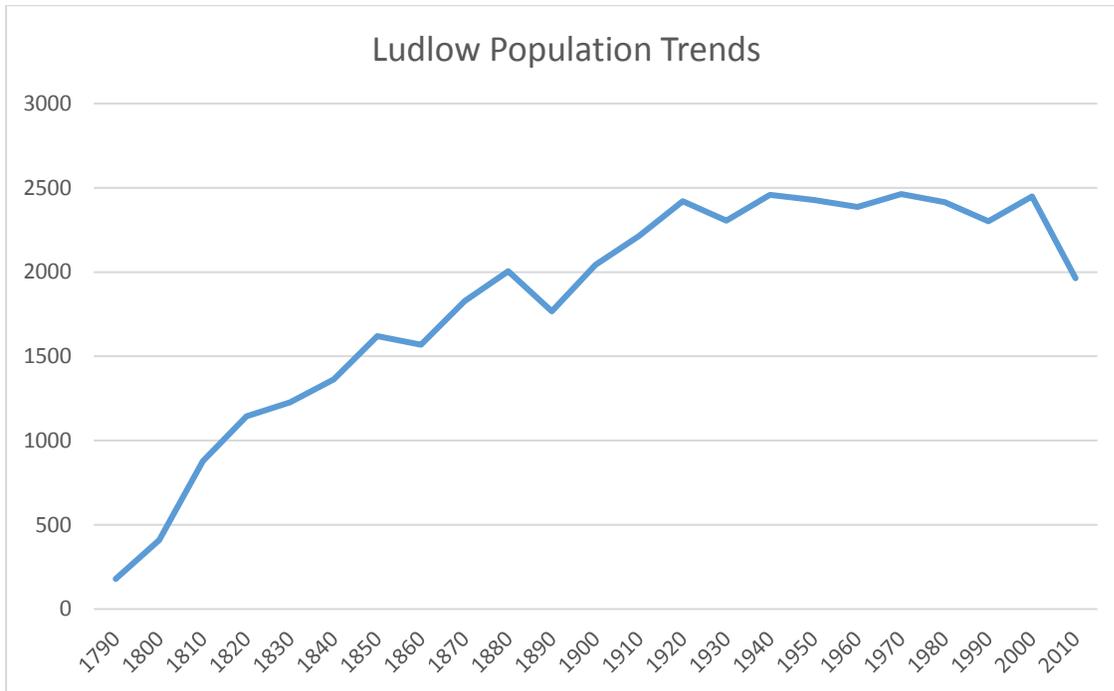
48	2003	Wells Cargo Utility Trailer	Trailer	Village	Electric/Light	158 VT Route 100 North
49	2003	Ford F150	Pickup Truck	Village	Electric/Light	158 VT Route 100 North
50	1985	Ingersoll Rand Air Compressor 100/47	Trailer	Village	Electric/Light	158 VT Route 100 North
51	2007	International 4400 Bucket	All Other Road Vehicles	Village	Electric/Light	158 VT Route 100 North
52	2018	Trackless MT7 Sidewalk Plow & Tractor with Attachments	All Other Mobile Equipment	Village	Highway/DPW	19 West Hill Street
53	1998	Johnson Street Sweeper 3000	All Other Road Vehicles	Village	Highway/DPW	158 VT Route 100 North
54	2018	Chevrolet	Pickup Truck	Village	Sewer/Wastewater	212 Pleasant Street Extension
55	1986	Sreco HM 5/16-TR Roder	Trailer	Village	Sewer/Wastewater	212 Pleasant Street Extension
56	2005	Goodwin Dri-Prime Pump	Trailer	Village	Sewer/Wastewater	212 Pleasant Street Extension
57	2015	Chevrolet 3500	Pickup Truck	Village	Sewer/Wastewater	212 Pleasant Street Extension
58	2008	Sullair Towable Air Compressor	Trailer	Village	Water	212 Pleasant Street Extension

Appendix D: Municipal Dam Inventory

Reference Number	Name	Jurisdiction (Village/Town)	Downstream Hazard Class	Height (ft.)	Normal Storage feet	(acre-	Comments/ Recommendations
1	Lake Rescue	Town	3	9	1,465		
2	Reservoir Pond	Town	3	7	80		
3	Jewell Brook Site No. 1	Town	1	58	17		
4	Jewell Brook Site No. 2	Town	1	70	5		
5	Jewell Brook Site No. 3	Town	1	65	116		
6	Jewell Brook Site No. 3 Dike	Town	3	17	116		
7	Jewell Brook Site No. 5	Town	1	113	10		

Appendix E – Community Data Profile

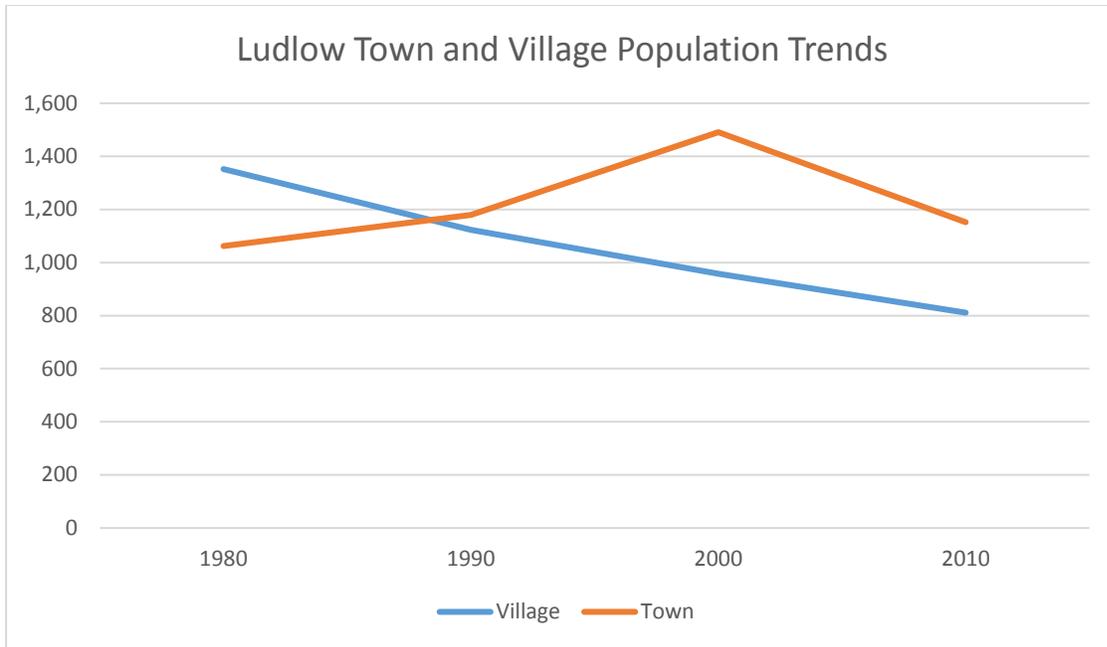
1. Population^{1 2}



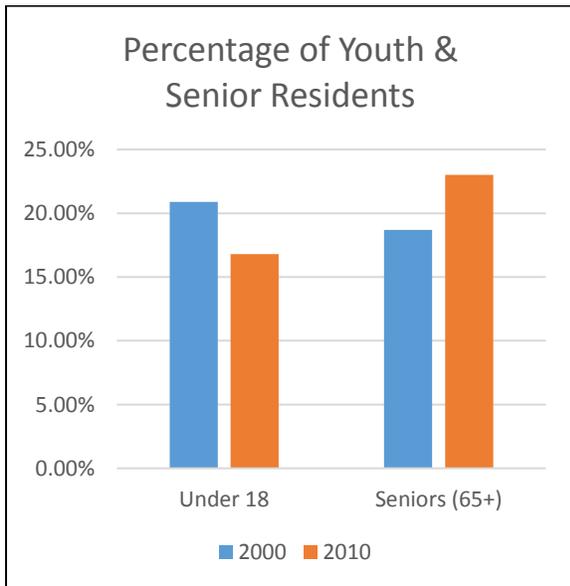
- The population in Ludlow declined between 2000 and 2010. However, it may not have been as steep of a decline since the methodology for population in ski towns changed for the 2010 Census.
- According to American Community Survey data, Ludlow’s population in 2015 is estimated to be 2,140.

¹ 2010 Decennial Census, US Census Bureau

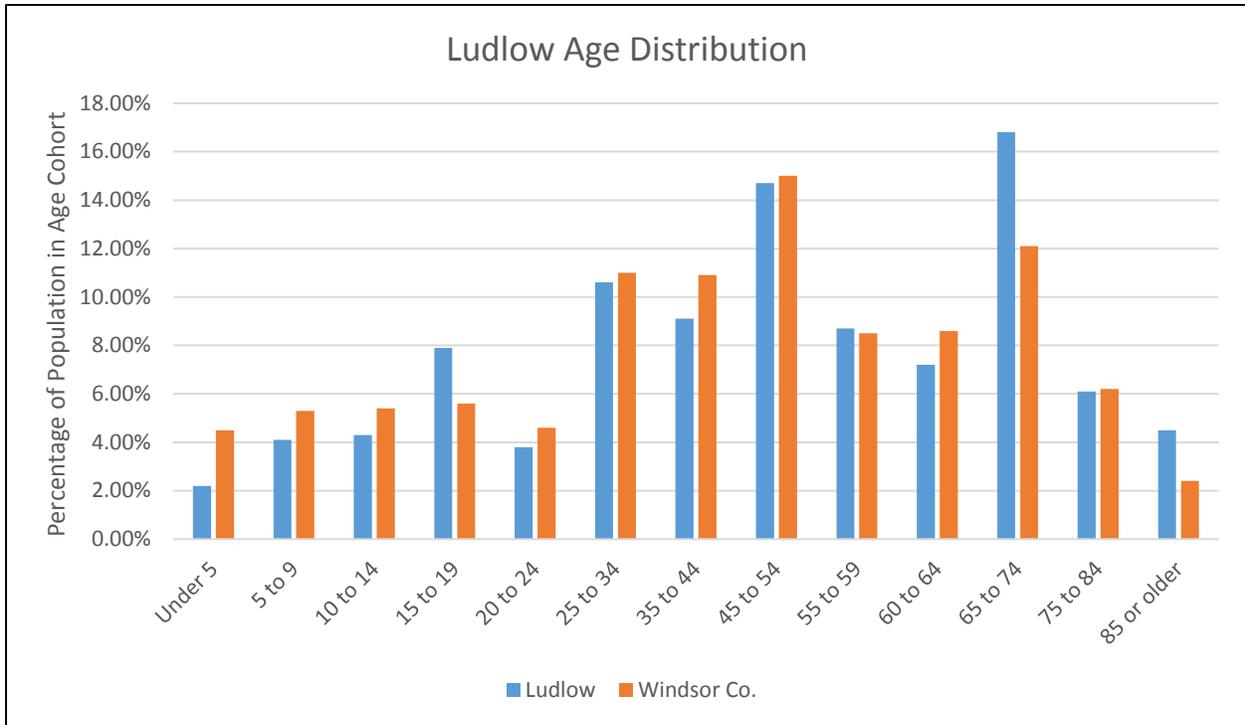
² American Community Survey (2011-2015), US Census Bureau



- Village of Ludlow population has declined ever since 1980.
- The population in the Town of Ludlow increased from 1980 to 2000, then declined between 2000 and 2010.



- Like much of Vermont, Ludlow’s population is aging. As shown above, the proportionality of school-aged children has declined while persons over 65 years of age has increased from 2000 to 2010.



- Generally speaking, Ludlow has an older population than Windsor County, note the higher proportions of those aged 65 to 74 and 85 and older.

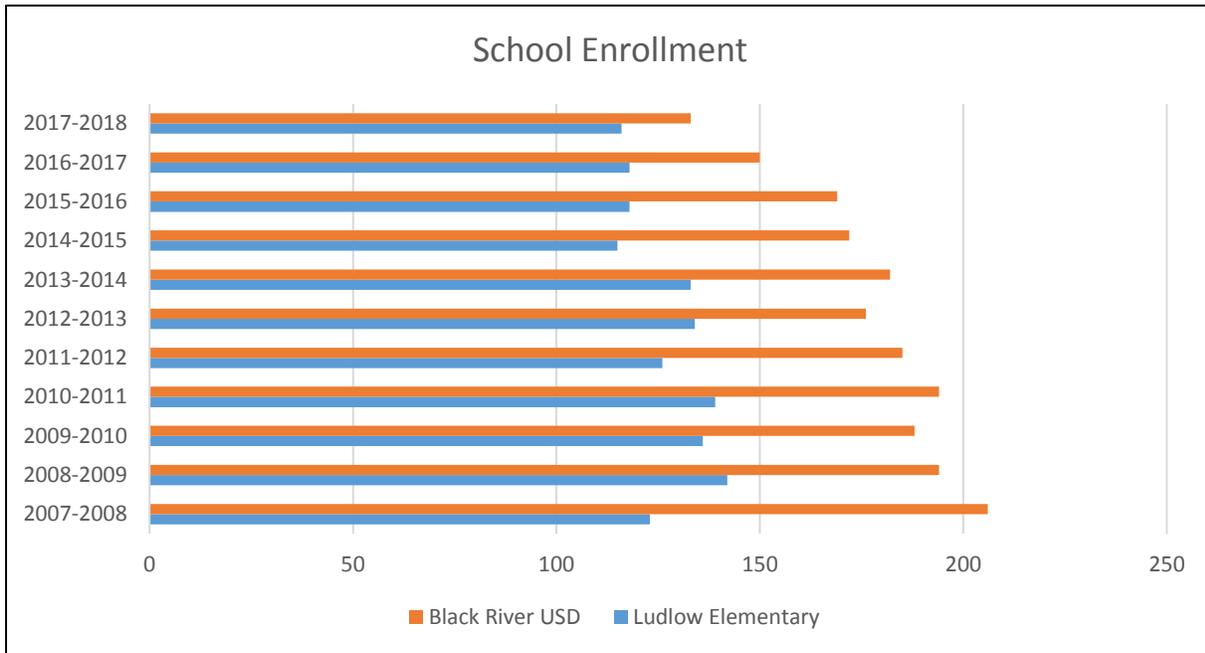
Population Projections³

	Scenario A	Scenario B
2010 Census		
Year	1,963	1,963
2020 Projection	1,855	1,750
2030 Projection	1,770	1,590

- An analysis conducted for the State of Vermont in 2013 estimates a decline in Ludlow’s population over the twenty year period between 2010 and 2030.
- The analysis may have some limitations:
 - These population projections involved two scenarios. Scenario A is based on 1990 to 2000 trends. Scenario B is based on trends during the 2000s, which generally had lower growth rates than in the 1990s.
 - The decennial census methodology changed for the 2010 Census. This generally resulted in lower 2010 population numbers for ski towns in Vermont.
 - As discussed on page E-1, the population in 2015 was estimated to have increased to 2,140.

³ Vermont Population Projections – 2010 – 2030 (VT Agency of Commerce and Community Development, 2013)

2. School Enrollment⁴



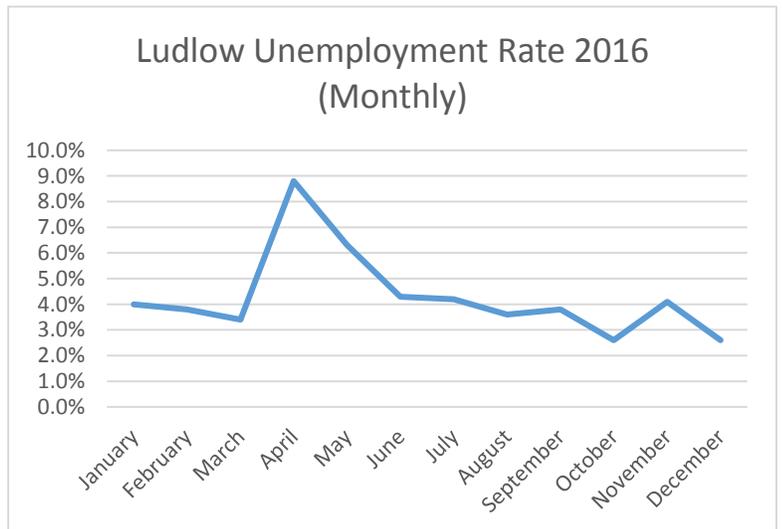
- Ludlow is experiencing declining school enrollment, notably in the Black River Union High School.
- By June 2020, the Black River Union High School will close. Families of students in grades 7 through 12 will have school choice after that.

3. Economic Data

2016 Labor Force⁵

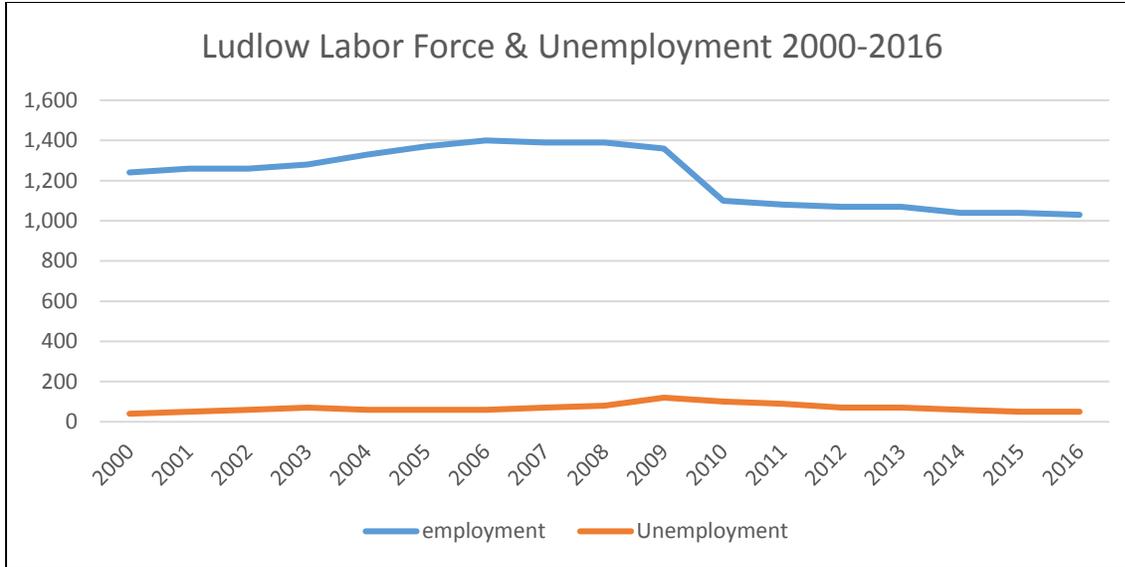
Total Civilian Labor Force: 1,073
 Employment: 1,027
 Unemployment: 46
 Unemployment Rate: 4.3%

- Some jobs in Ludlow are affected by the “shoulder seasons”. Unemployment generally peaks in the spring and fall. In April, unemployment was about 9%. November did not experience a significant spike in 2016.



⁴ Vermont Department of Education (2018)

⁵ Vermont Department of Labor, Economic & Labor Market Information (2018)



- The labor force declined noticeably around 2009 and 2010, which mirrors the national economic recession. Ludlow’s labor force has been fairly steady since then.
- A corresponding spike in unemployment is observable in 2009-2010. The unemployment rate has returned to more “normal” levels since then.

Employment and Work Establishments in Ludlow⁶

NAICS code	Economic Sector	Establishments				Employment			
		1990	2000	2010	2016	1990	2000	2010	2016
11	Agriculture, forestry, fishing & hunting	1	1	1		*	*	*	
21	Mining	2	1	1	1	*	*	*	*
23	Construction	22	21	28	25	*	*	107	102
31-33	Manufacturing	5	6	4	5	141	144	*	*
42	Wholesale trade	5	7	6	5	23	*	*	*
44-45	Retail trade	31	29	25	26	203	190	160	*
51	Information	3	4	3	3	25	23	15	13
52	Finance & insurance	4	7	7	6	30	34	21	21
54	Professional & technical services	12	11	17	13	29	37	29	23
48-49	Transportation & Warehousing	2	2	1	1	10	11	7	9
61	Educational services	61	1	5	3	*	93	88	73
62	Health care & social assistance	6	7	6	6	*	*	*	*
71	Arts, entertainment & recreation	1	1			6	*		
72	Accommodation and food services	26	28	22	27	*	*	866	882
81	Other services, except public admin.	12	15	11	10	50	58	58	57
92	Public administration	1	4	3	2	87	75	89	60

- Common economic sectors in Ludlow include accommodation and food services, education/government, retail trade and construction.

⁶ VT Labor Market Information, Vermont Department of Labor (2017)

Job Locations for Working Ludlow Residents (2015)⁷

	Count	Share
Ludlow village, VT	176	18.80%
Rutland city, VT	60	6.40%
Chester CDP, VT	23	2.50%
Springfield CDP, VT	18	1.90%
Cavendish CDP, VT	13	1.40%
Arlington CDP, VT	12	1.30%
Quechee CDP, VT	12	1.30%
Woodstock village, VT	12	1.30%
Wallingford CDP, VT	11	1.20%
Bellows Falls village, VT	10	1.10%
All Other Locations	587	62.80%

- Ludlow residents have a highly varied commuting patterns. Many travel long distances for work.
- About 20% work locally. The other work locations are significantly dispersed which makes travel by public transit a challenge.

Where Workers of Ludlow Jobs Live (2015)⁷

	Count	Share
Ludlow village, VT	182	9.30%
Springfield CDP, VT	93	4.80%
Rutland city, VT	60	3.10%
Claremont city, NH	55	2.80%
Proctorsville CDP, VT	38	2.00%
Wallingford CDP, VT	36	1.80%
Chester CDP, VT	25	1.30%
North Springfield CDP, VT	21	1.10%
Windsor CDP, VT	21	1.10%
Bellows Falls village, VT	15	0.80%
All Other Locations	1,402	72.00%

- A small percentage of employees at Ludlow businesses live locally; 90% live elsewhere, many of whom travel long distances.
- The Current provides seasonal commuter bus service, funded in part by Okemo Mountain Resort.
- The Bus (Marble Valley) operates a route connecting Ludlow and Rutland.

⁷ 2015 Longitudinal Employer-Household Dynamics, US Census Bureau

4. Housing

Number of Households⁸

Year	Owning	Renting	Total
1960			748
1970	610	250	829
1980	618	310	928
1990	615	320	935
2000	759	301	1,060
2010	611	319	930

Total Housing Units⁶

Year	Total	Owner-Occupied	Renter-Occupied	Seasonal	Vacant-for sale	Vacant-for rent
1940	719					
1950	879					
1960	980					
1970	1,192	610	250			
1980	1,726	618	310	668	12	52
1990	2,677	615	320	1,647	22	39
2000	3,001	759	301	1,873	17	28
2010	3,285	611	319	2,195	39	79

- The number of households declined between 2000 and 2010.
- The number of seasonal and vacant units increased during that same time period.
- A lack of good or available rental units has been expressed as a problem for recruiting employees for certain local businesses.
- Anecdotally, some local apartments are now used primarily for short-term rentals and, therefore, are no longer available for long-term rentals.

Median household income (Census), 2009-2013⁹

Median household income (Census), 2009-2013	\$39,850
... homeowner households	\$60,347
... renter households	\$22,083

- Median household income for renters is significantly lower than for homeowners.

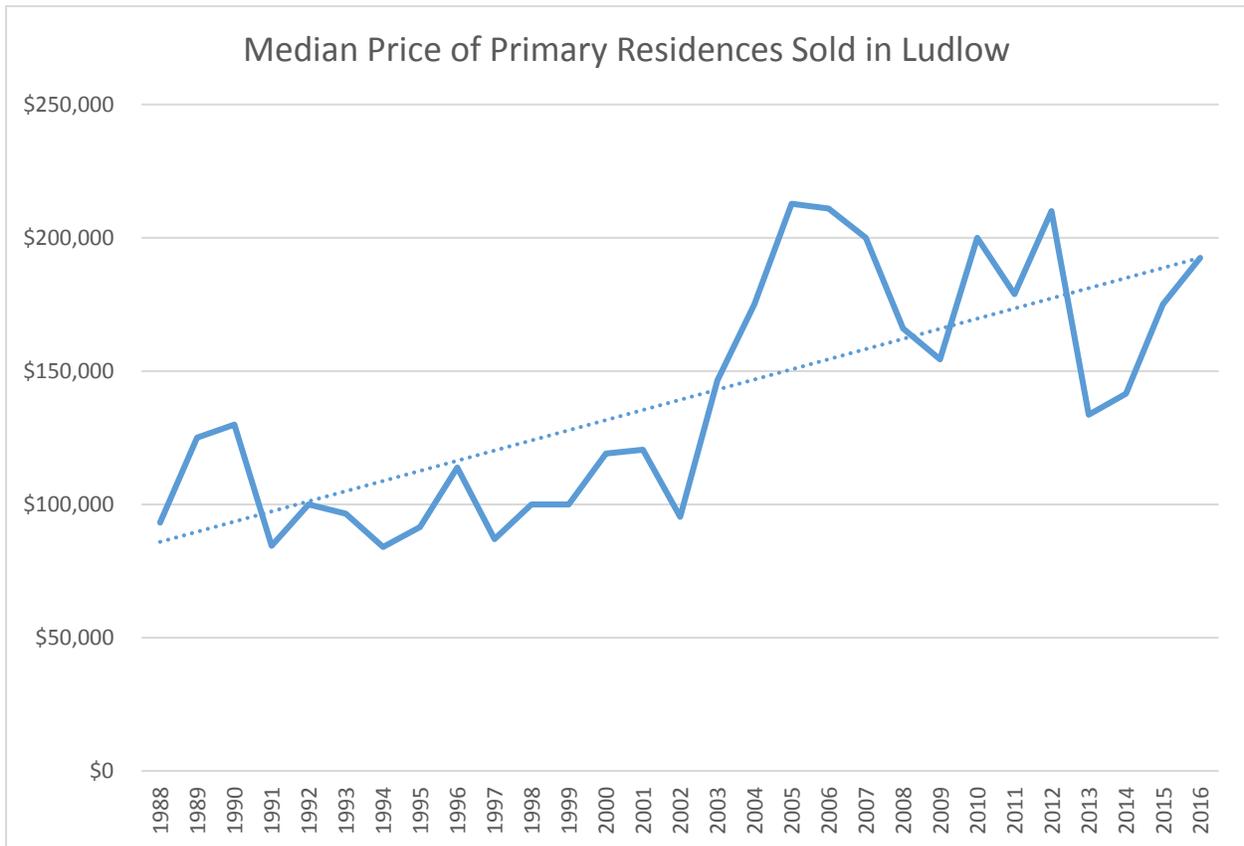
⁸ 2010 Decennial Census, US Census Bureau

⁹ 2009-2013 American Community Survey, US Census Bureau

Ability to Afford⁹

Owner-occupied housing units	588
... at or above 30% of household income	41%
... at or above 50% of household income	18.90%
Specified housing units with gross rent (total)	350
... at or above 30% of household income	38.90%
... at or above 50% of household income	24%

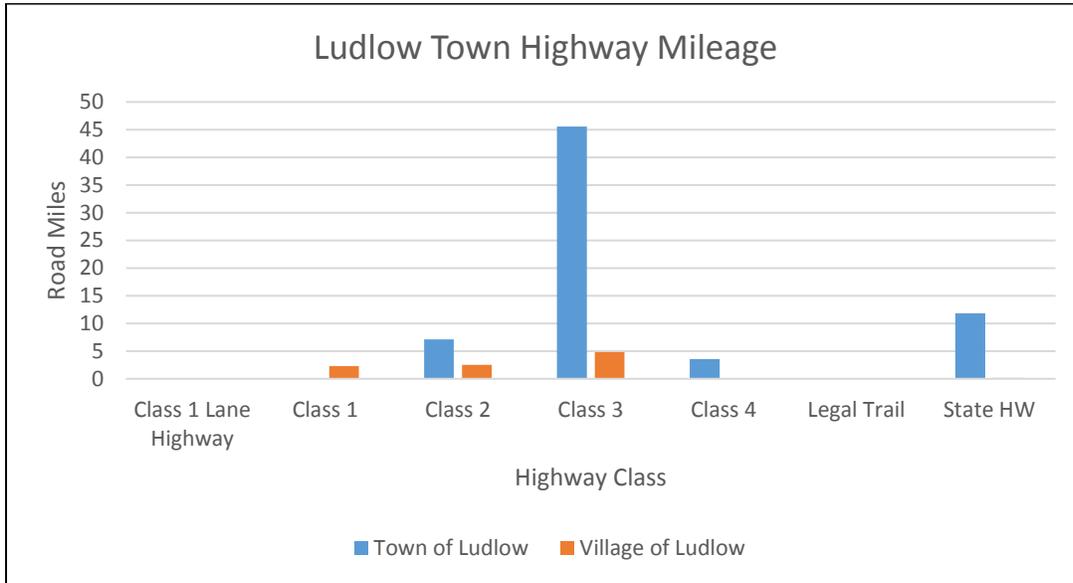
- Despite the discrepancy in median household incomes as discussed above, both homeowners and renters have similar problems in the ability to afford housing in Ludlow. About 2 out of every 5 households pay 30% or more of their income on housing, regardless of whether they own or rent.
- Nearly a quarter of all renter households pay at least half of their income on housing.



- In 2016, the median price of primary residences in Ludlow was \$192,450. In 1988, it was \$93,190.
- Home prices declined dramatically from 2006 to 2009, but have generally trended upwards in more recent years.

5. Transportation

Highway Mileage¹⁰



Insert traffic count and truck volume data

¹⁰ VT Agency of Transportation, 2017

6. Land Use

Lands Enrolled in the Current Use Program

Total Acres	Forest	Non-Productive	Agriculture	Total Enrolled	% Total Acres
21,704	2,458.52	20.55	2,673.96	2,673.96	12.30

Current Land Use Summary¹¹ (2017 Grand List)

Category	Number	Acres	Avg. Acre per Unit	Total Property Value	Avg. Property Value per Unit
Commercial	178	4,652.15	26.14	\$173,028,700	\$972,071
Commercial Apartments	4	21.01	5.25	\$15,293,100	\$3,823,275
Industrial	3	939.78	313.26	\$7,784,900	\$2,594,967
Residential with Less than 6 Acres	1,479	1,753.49	1.19	\$605,813,200	\$409,610
Residential with 6 or More Acres	337	8,306.13	24.65	\$152,047,400	\$451,179
Mobile Home (Landed)	36	284.50	7.90	\$3,829,600	\$106,378
Mobile Home (Un-Landed)	84	0.00	0.00	\$1,871,000	\$22,274
Seasonal Home with Less than 6 Acres	15	11.68	0.78	\$3,317,800	\$221,187
Seasonal Home with 6 or More Acres	6	247.77	41.30	\$791,900	\$131,983
Utilities	3	0.00	0.00	\$14,366,300	\$4,788,767
Woodland	15	472.01	31.47	\$701,900	\$46,793
Miscellaneous	294	4,629.50	15.75	\$31,199,300	\$106,120
Other	1,072	0.00	0.00	\$373,815,200	\$348,708
TOTAL	3,526	21,318.02	6.05	\$1,383,860,300	\$14,023,312

- There appear to be a large number of condos included in the “Other” category in the 2017 Grand List.

¹¹ 2017 Ludlow Grand List (VT Department of Taxes)

Ludlow Municipal Development Plan

Appendix F: Act 250 & Local Act 250 Review

Act 250¹

In the spring of 1970, the Vermont Legislature passed the Land Use and Development Act (Act 250) in order to address growth in the 1960s resulting from the opening of I-89 and I-91, development of the IBM facility in Essex Junction, and expansion of ski tourism in Vermont. Act 250 (10 V.S.A., Chapter 151) establishes a state land use permitting process in order to protect the environment.

The law created nine District Environmental Commissions, consisting of three members appointed by the Governor, to review large-scale development projects and subdivisions using 10 criteria that address environment, aesthetic and community impacts. In Ludlow, the District Environmental Commission has jurisdiction over any project that encompasses more than 10 acres, or with more than 10 housing units or housing lots (within a five-year period of time); and may also apply for construction proposed above 2,500 feet of elevation.

Act 250 also created the Vermont Environmental Court to review appeals coming from District Commission rulings.

The Act 250 process allows for the review and comment on all eligible applications by municipal governments, local and regional planning commissions, the state of Vermont, along with other interested parties. Before a proposed development receives approval it must meet the ten criteria set forth in 10 V.S.A. §6086, which are summarized below:

1. Water and Air Pollution – Will not result in undue water or air pollution. Including the following considerations:
 - 1(A) Headwaters – Will not reduce the quality of surface- or ground-waters in sensitive areas, such as small drainage basins, high-elevation areas, watersheds of public water supplies and aquifer recharge areas;
 - 1(B) Waste Disposal – Will meet state standards for waste disposal, including wastewater and stormwater; and must not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells;
 - 1(C) Water Conservation – Must use and maintain the best available water conservation technology as practicable;

¹ Modified based on the 2009 Regional Plan for the Southern Windsor County Regional Planning Commission

Ludlow Municipal Development Plan

1(D) Floodways – Will not endanger the public health, safety and welfare during flooding. In floodway areas, proposals will not restrict or divert the flow of flood waters. In floodway fringe areas, proposals will not significantly increase the peak discharge of rivers or streams;

1(E) Streams – Proposals along streams or rivers must maintain the natural condition of streams if feasible, and will not endanger the public health, safety and welfare;

1(F) Shorelines – Any proposal along pond or river shorelines must show development in these areas is necessary, maintain the natural condition of the shoreline, and must not diminish public access to public waters; and

1(G) Wetlands – Will not violate the Vermont Water Resources Board rules protecting significant wetlands.

2. Water Supply – Has sufficient water available for the foreseeable needs of the subdivision or development.
3. Impact on Existing Water Supplies – Will not unreasonably burden any existing water supply, if one is utilized.
4. Soil Erosion – Will not cause unreasonable soil erosion or reduce the capacity of the land to hold water.
5. Traffic – Will not cause unreasonably dangerous or congested conditions with respect to highways or other means of transportation.
6. Educational Services – Will not create an unreasonable burden on the educational facilities of the municipality.
7. Municipal or Government Services – Will not create an unreasonable burden on the local government in providing municipal and governmental services.
8. Scenic, Natural Beauty, Aesthetics, Natural Areas and Historic Sites – Will not have an undue adverse effect on aesthetics, scenic beauty, historic sites or natural areas, and
 - 8(A) Wildlife Habitat and Endangered Species – Will not destroy or significantly imperil necessary wildlife habitat or any endangered species.

Ludlow Municipal Development Plan

9. Conformance with a capability and development plan – Will conform with a capability and development plan, and land use plan if adopted, including the following considerations:

9(A) Impact of Growth – The impact the project will not have an undue burden on the town or region:

9(B) Primary Agricultural Soils – Does not significantly reduce the agricultural potential of soils rated by the Natural Resource Conservation Service of the U.S. Department of Agriculture as prime, statewide or local importance;

9(C) Productive Forest Soils - Will not significantly reduce the potential of productive forest soils as defined in 10 V.S.A. §6001;

9(D) Earth Resources – Will not prevent or significantly interfere with subsequent earth extraction activities;

9(E) Extraction of Earth Resources – Will not unduly impact the environment or surrounding land uses, and require planning for site reclamation;

9(F) Energy Conservation – Will reflect the principles of energy conservation and incorporate the best available energy conservation technologies;

9(G) Private Utility Services – Must show that adequate legal and financial mechanisms are in place for private utilities, such as roads or wastewater facilities, when the proposal utilizes private utilities;

9(H) Costs of Scattered Developments – Costs for public service and facilities required to serve a proposal that is not within or adjacent to a settlement area or village must not exceed the tax revenue and other public benefits generated by the development or subdivision;

9(J) Public Utility Services – Will not place an unreasonable burden on public utility services, such as electricity;

9(K) Development Affecting Public Investments – Will not unnecessarily or unreasonably endanger public or quasi-public investments in adjacent government and utility facilities, services and lands; and

9(L) Rural Growth Areas – Proposals in rural areas will be designed to economize on the cost of roads, utilities and land usage in order to protect municipalities from undue financial burdens.

Ludlow Municipal Development Plan

10. Local and Regional Plans – Is in conformance with any local or regional plan or capital budget and program.

Local Act 250 Review

In 2007, Ludlow established a Local Act 250 Review procedure in accordance with 24 V.S.A. §4420, 10 V.S.A. Chapter 151 and Natural Resource Board Rule 19, Section (I), Municipal Presumptions. Under Local Act 250 Review, the Ludlow Development Review Board (DRB) reviews projects for compliance with Criteria 6 (Educational Services), 7 (Municipal or Government Services) and 10 (Conformance with the Municipal Plan). This only applies to larger projects that need to go through the state Act 250 review process. Local Act 250 Review allows for greater local control and should streamline the state Act 250 process. (See the Ludlow Zoning Bylaws for more information.)

Appendix G: Public Outreach Summary

Comments from March 20, 2018 Public Meeting

- a) We are not just a resort town. Ludlow is a town with a ski resort.
[vs. Ludlow is a service community for Okemo]
- b) Okemo is the pillar of the local economy, but other businesses are important too (JELD-WEN, Clear Lake Furniture, Built Right, IMERYS).
- c) Recently there is no growth, we want growth (economic, population).
- d) We need a more diverse economy. We need better paying jobs. Be business friendly. Attract 1-3 larger businesses. Focus on small-scale, high-tech manufacturing. Take advantage of brownfield re-development opportunities.
- e) We need housing options that are more affordable.
- f) Make Ludlow a place that you want to live (bike paths, dog parks, ball fields, quality school, vibrant village).
- g) Need to re-invest in the town recreation areas/parks. Open up views and access to the river and lakes.
- h) Village revitalization
 - 1. Maintain the character of the village.
 - 2. Street lights, street trees, vibrant stores, decorations
 - 3. Consider angle parking more room for street trees (?)
 - 4. Slow traffic speed. Reduce the speed limit. I like Chester's speed sign that says "thank you" for driving the speed limit. Speeding on Buttermilk Falls Road in the summer. Consider speed humps to slow traffic.
 - 5. Safe/walkability. Sidewalk maintenance. Need enhancements of the pedestrian environment by the gas stations. Crosswalk improvements.
 - 6. Fill empty storefronts.
 - 7. Rehab "dead" houses. It is too expensive to rehab larger buildings. Explore incentives.
 - 8. Place telephone/power lines underground or behind buildings.
- i) School is closing. Identify a good re-use for the old Black River School building. Consider establishing an independent school for grades 7-12. What is the cost to renovate?
- j) Gas stations are an eye sore.
- k) Fill empty storefronts
- l) Improve wayfinding (e.g. golf course)
- m) Improve cell phone service in all parts of town.
- n) Faster internet (fiber).

Comments from July 17, 2018 Public Meeting

Elizabeth Bridgewater from Windham and Windsor Housing Trust gave an overview of their programs:

- a) 759 total units
- b) Stewart Property Management serves most of their properties in Windsor County
- c) They offer home ownership counseling and educational services.
- d) The shared equity program helps income-eligible people to buy a home through a subsidy. The subsidy continues with the subsequent owner. There are no shared equity units in Ludlow at this time.
- e) They are currently working on a strategic plan, including efforts to have a greater presence/impact in Windsor County.

Issues and comments raised by attendees of this meeting included:

- o) Affordability is the primary issue. Contributing factors are the second home market and property taxes.
- p) Fewer young families live in Ludlow.
- q) Seasonal rentals for ski industry jobs are less available. Property owners make more money through Airbnb.
- r) Ludlow needs a broader employment base/diversify the economy.
- s) Perhaps there is an opportunity to work with landlords to provide rentals needed to support local seasonal jobs.
- t) Consider a business roundtable to talk about coordination on housing for seasonal workers. For example, rentals for ski employees in the winter, farm workers in the summer. Reach out to Bob Flint at Springfield Regional Development Corp.
- u) Recruit younger adults from other areas to move here and telecommute. Internet speeds in the Village are pretty good. We need better internet speeds in some of the rural parts of town.
- v) Keep coordinating with the Cavendish Telecommunications Committee and other towns in the area to improve internet speeds.
- w) In Mass., there was a successful local's discount club that helped to strengthen the local economy. Consider talking with the Chamber about the feasibility of doing something like that in Ludlow.

Appendix H: Enhanced Energy Plan

Introduction

Ludlow’s Enhanced Energy Plan is a component of the Ludlow Municipal Development Plan prepared in accordance with 24 V.S.A., Chapter 117, Subchapter 5. It serves both the Town of Ludlow and Village of Ludlow. The intent of this plan is to address the requirements of Act 174 of 2016 and to meet the enhanced energy planning standards developed by the Vermont Department of Public Service (DPS). This document was prepared based upon the Guidance for Municipal Enhanced Energy Planning Standards (DPS; March 2, 2017) in order for the Ludlow Municipal Development Plan to be given greater weight in the Section 248 process.

The SWCRPC ~~is currently developing~~ a regional energy plan to meet these standards in order to receive Section 248 substantial deference. Ludlow ~~is coordinating~~ the development of this municipal energy plan with the SWCRPC so that:

1. The municipal plan is informed by the ~~ongoing~~ regional energy planning process; and,
2. The municipal plan is compatible with the regional plan.

This Plan was developed with assistance from the Southern Windsor County Regional Planning Commission (SWCRPC) through funding provided by the Vermont Department of Public Service.

Energy Goals

Through the 2016 Vermont Comprehensive Energy Plan (CEP), the State of Vermont has identified a number of goals and strategies to achieve energy conservation throughout the state. The most significant of these goals being;

By 2050, 90% of Vermont’s total energy will be derived from renewable

The CEP includes additional goals to fully achieve the overall, long-term “90x50” goal. These goals serve as the platform for determining energy policies, targets and pathways for the Town and Village of Ludlow, as articulated throughout this plan.

Ludlow’s Energy Goals

The Town and Village of Ludlow hereby adopt the goals established in the 2016 CEP, and through the detailed policies and actions contained in this plan, Ludlow will strive to achieve these goals. Below is a list of some of the methods outlined in this plan to further energy conservation and efficiency efforts within our community:

- Reducing total energy consumption throughout all sectors, including: electricity, space heating, and transportation.
- Support efforts at the local level to choose energy efficient and renewable options.
- Create a diverse mix of energy sources to reduce the impact of supply restriction.
- Utilize local, renewable sources of energy to decrease reliance on out-of-region, and out-of-state forms of fuel.
- Select energy choices that help preserve the environment.
- Strive for both an adequate supply of electricity, as well as a distribution network to meet the region's needs.
- Maximize energy efficiency by matching fuel type to end use.
- Support adaption and lifestyle changes which are consistent with changes in future energy use and generation.
- Reduce greenhouse gas emissions.

Analysis of Current Energy Use

This section involves a summary and analysis of existing conditions in Ludlow with respect to energy use. ~~Appendices Appendix E A and B~~ includes more detailed data figures, which are summarized in this section. This section relies on data analysis provided by the Southern Windsor County Regional Planning Commission and, as such, the Regional Energy Plan for Southern Windsor County contains an important regional context for this analysis of Ludlow's energy use and targets.

Vermont's Comprehensive Energy Plan calls for 25% of remaining energy needs will be met by renewable sources by 2025, 40% by 2035, and 90% by 2050.

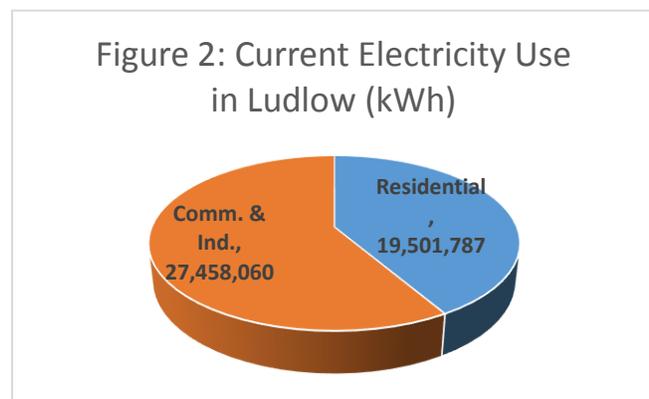
Electricity

Electricity is provided in Ludlow Village and parts of the Town of Ludlow by Ludlow Electric, and by Green Mountain Power in the rural parts of town.

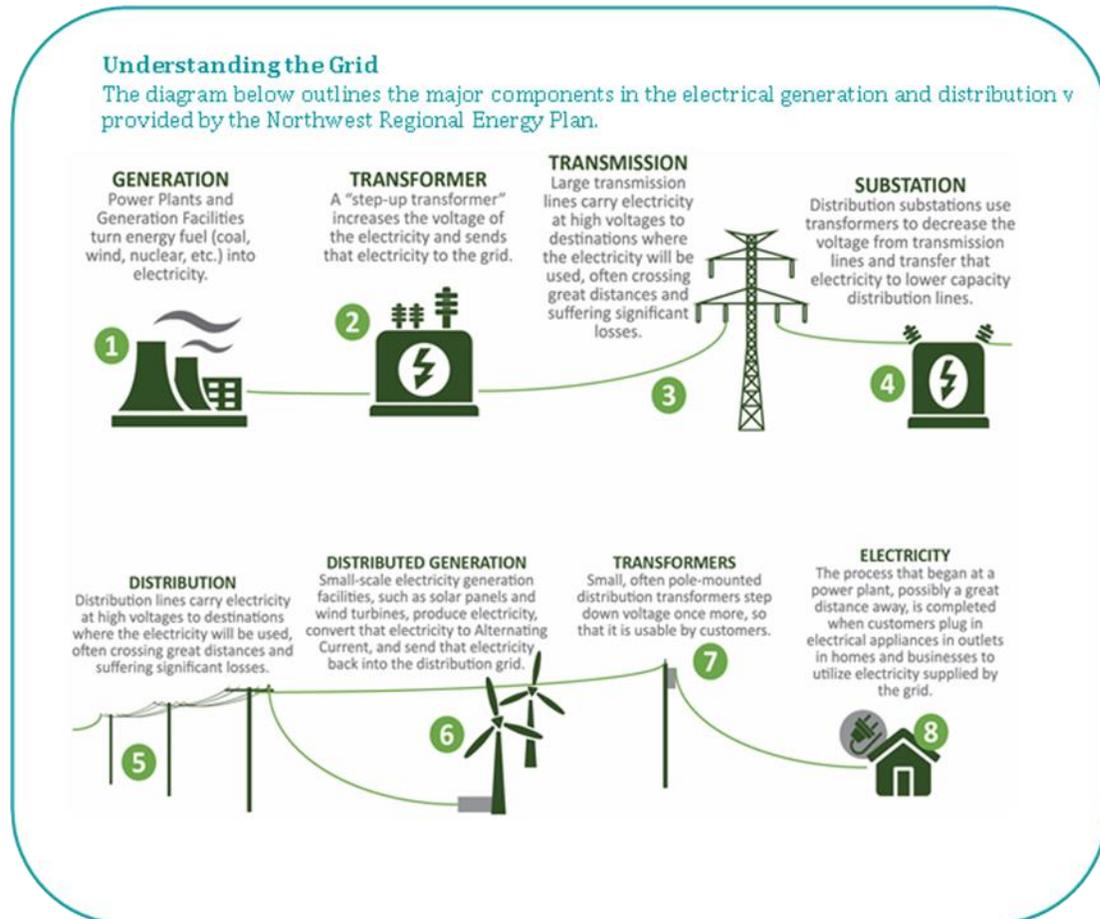
Presently, two transmission lines cross east-to-west across Ludlow. A third transmission line, located in Cavendish, connects into the Coolidge Substation, which is located on the

Cavendish/Ludlow town line. Utility

Services Map E1 shows these existing facilities. An additional transmission line (i.e. New England Clean Power Link) will bring electricity from Hydro Quebec and connect to the Coolidge Substation has received a Certificate of Public Good, but is not yet constructed [Docket #8400]. The Coolidge Solar project was ~~recently~~ approved [Docket #8685] and come online in 2019. ~~It, which~~ involves a short transmission line connection into the Coolidge Substation.



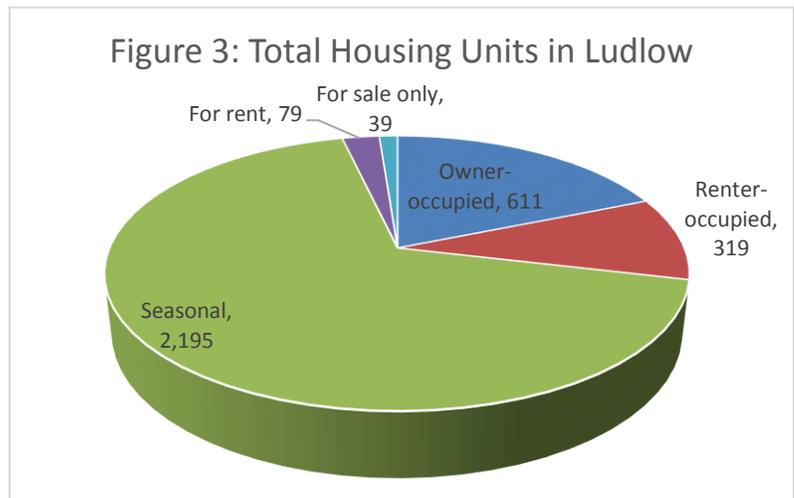
In 2016, residences accounted for 41.5% of the total electricity usage in Ludlow. Commercial and industrial use the remaining 58.5% of the total 46,959,847 kWh used in Ludlow that year. See Figure 2 that summarizes electricity use data provided by Efficiency Vermont. According to Department of Labor statistics, there are 144 commercial establishments in Ludlow. Electricity use has leveled off in recent years.



Thermal (Space Heating)

As a ski town, Ludlow has a large number of seasonal housing units. See Figure 3 which summarizes total housing units in Ludlow by type from the 2010 Census Bureau.

According to American Community Survey (ACS) data (2011-2015), the predominant ways to heat homes in Ludlow include fuel oil (61%), propane (17.9%), wood (13.1%) and electricity (6.6%). See Appendix [A-E](#) for home heating data, including estimates for square footage heated and BTUs. ~~The~~ Appendix [E](#) also includes data about heating the 144 commercial establishments in Ludlow.



Transportation

Ludlow has a network of sidewalks in the village. Bicycling is generally accommodated on the shoulders of the roadway network, some of which are better suited for bicycling than others. Public transportation services are provided by Ludlow Municipal Transit¹ and The Current (Southeast Vermont Transit), with connections to Rutland via The Bus (Marble Valley Transit). In addition, Okemo provides bus service not only for employees but also extensive public ski routes in and around the village. Despite that, the automobile is the primary mode of travel in Ludlow for both commuting and for other daily travel needs, as discussed in more detail in the Transportation Chapter. Common work destinations for residents are Ludlow, Rutland and Springfield. Common home locations for the people who work in Ludlow include Ludlow, Springfield, Chester and Cavendish.

The Green Mountain Railroad hauls freight and offers scenic train excursions, but there is no passenger rail service in Ludlow at this time.

Data was compiled and is presented to understand the existing transportation energy use in Ludlow (see the Appendix [Eees](#)). According to ACS data, there is about 1.7 vehicles per household. The average vehicle miles traveled in a year is estimated at 20,900, which accounts for 1.9 million gallons of fuel used at a total cost of \$4.9 million for fuel.

Scenarios (Targets)

The standards that the Department of Public Service has established for targets must be met if this Plan is to receive substantial deference in Section 248 energy siting proceedings². Ludlow is utilizing targets (or scenarios) developed using the Long-Range Energy Alternatives Planning (LEAP) Model and provided to Ludlow by the SWCRPC. The background for the targets are described in more detail in the [draft 2017-2018 Southern Windsor County Regional Energy Plan](#). The purpose of the targets,

¹ Ending in 2020

² A Certificate of Energy Compliance was issued for Ludlow's Plan on February 11, 2019

when combined with the analysis presented in the previous section, are intended to provide an overview of existing energy use and projections for the pace of change that is needed over the next three-plus decades. In order to meet 90% of Vermont's energy need from renewable sources by 2050, a significant amount of conservation efforts and the development of new renewable energy generation will be necessary.

In order to meet the 90% by 2050 goal, total energy use in southern Windsor County will need to decrease by 50%. Primarily this must involve a vast reduction in the use of non-renewable fuels, such as gasoline and fuel oil. At the regional level, the LEAP model includes the following generalized assumptions to reach the 90% by 2050 goal:

- Electricity use today is about 20% of total energy consumption, but it will increase to 35% of total consumption in 2050;
- The use of non-renewable fuels will be vastly reduced from about two-thirds today to about 10% by 2050;
- Renewables will increase from about 18% now to more than half by 2050. This involves wood consumption remaining relatively constant and biodiesel usage increasing substantially.

Electricity

Targets for electricity are mixed. Significant efforts to reduce electricity usage through conservation and efficiency measures will be needed. However, the LEAP model utilizes increased use of electricity to achieve the goal for both transportation (i.e. electric vehicles) and space heating (i.e. cold-climate heat pumps). See Figure 1.

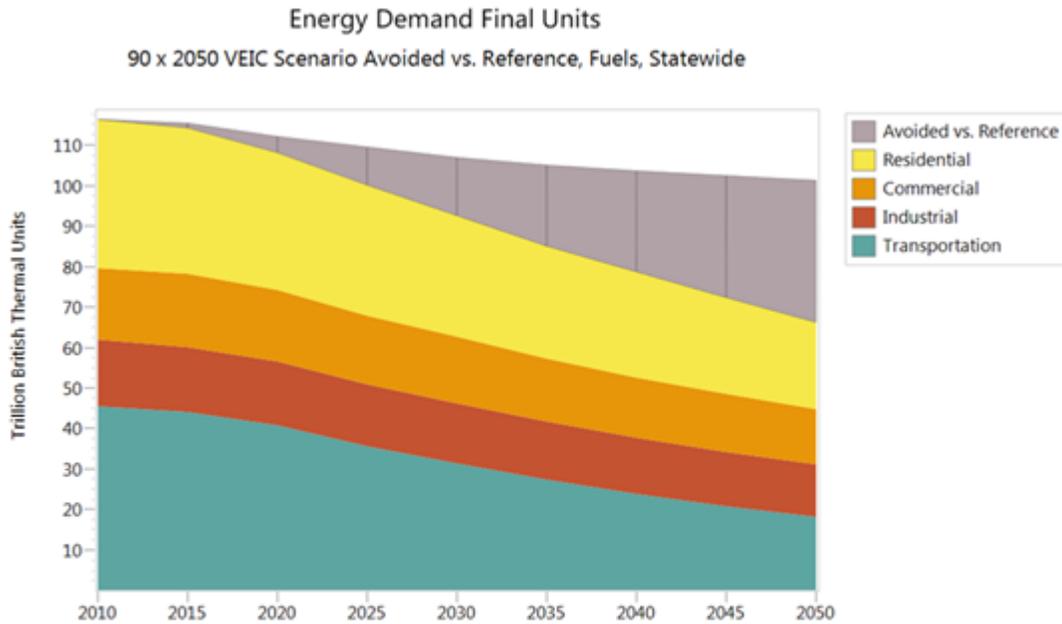


Figure 1: Vermont must significantly reduce total energy use by 2050 to be successful in implementing the goals of the Comprehensive Energy Plan. The LEAP model referenced in this Plan calls for substantial reductions in energy use by residences and transportation. The line above the grey area represents projections for if we do nothing else to reduce energy demand. The grey area itself represents efforts needed to reduce total energy demand.

Reducing electricity demand through energy conservation and efficiency measures will involve taking advantage of programs offered by Efficiency Vermont, utilization of high-efficiency/energy star appliances, LED lighting upgrades, and other efforts at energy demand management.

Electricity targets also include the development of renewable energy generation in Ludlow and the surrounding region. The LEAP model also includes additional imported renewable energy from sources such as Hydro Quebec. However, local generation is also required. Targets for local renewable generation are summarized below in Table 1 and discussed in more detail in the renewable siting discussion [under Section 4 in the Implementation Actions section](#).

Table 1: Renewable Generation Targets (in MWh)			
	2025	2035	2050
Total renewable generation in MWh	5,456.25	10,912.5	21,825

Thermal (Space Heating)

The first step to reduce energy demand for space heating is to encourage homes and businesses to be weatherized (e.g. air sealing, insulation). Table 2 shows the targets for weatherizing existing structures in Ludlow in both percentage of the total existing households and commercial buildings and the number of units of each. We assume that all new structures will comply with the State energy building codes.

Table 2: Thermal Efficiency Targets			
	2025	2035	2050
Weatherize Homes (percentage, number)	17%	31%	63%
	162	296	602
Weatherize Commercial Establishments	4%	7%	15%
	6	10	22

The next step is to move toward the widespread utilization of renewable energy to heat homes and businesses. The LEAP model established the following targets for doing so in Ludlow. Table 3 shows the scale to which buildings should switch over to renewable heating systems in order to meet the state energy goals.

Table 3: Use of Renewables for Space Heating			
Thermal renewable energy use	2025	2035	2050
	48%	63%	93%

In order to achieve the overall renewable target for heating, the LEAP model is calling for investing in new efficient wood heating systems, cold-climate heat pumps or ground-source heat pumps. (See Table 4.)

Table 4: Thermal Fuel Switching Targets (by Number of Heating Units)			
	2025	2035	2050
New efficient wood heating systems	7	18	143
New heat pumps	313	846	1,630

Cold-climate heat pumps are also referred to as air-source heat pumps, mini-splits or ductless heat pumps. These systems are a good option to retrofit existing houses, and can be used to supplement the existing heating system. As explained on the [Efficiency Vermont website](#), “heat is collected from the exterior air, concentrated via an outdoor compressor, and distributed inside through an indoor room unit. Heat pumps require electricity to run, but can deliver more energy than they use.” They also provide air conditioning during the warmer months.

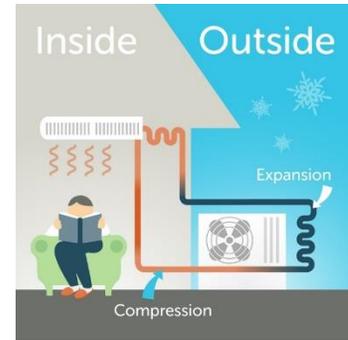


Figure 1: Illustration of how cold-climate heat pumps work. Source: Efficiency Vermont.

Ground-source heat pumps provide space heating and cooling. It works similarly to an air-source heat pump, but instead pumps water or other fluid through pipes buried in the ground to collect heat. A more detailed description for how these systems work can be found on the [US EPA website](#). These are generally a better option for new construction installations.

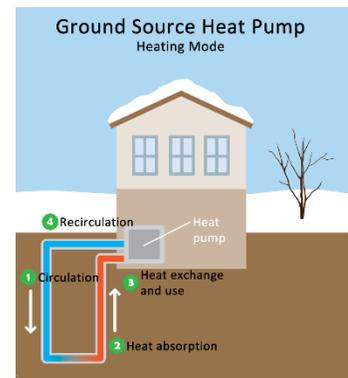


Figure 2: Illustration of how ground-source heat pumps work. Source: US EPA.

Heating with wood is **common**. **Wood is generally encouraged as it uses** a locally-available fuel. However, sustainable wood harvesting is **an important consideration in order** to protect the environment and provide a viable, long-term local energy source. New efficient wood stoves that are EPA-certified are encouraged. Wood-chip heating systems are considered a good option to heat larger commercial, industrial or institutional buildings. See the [Efficiency Vermont website](#) for more information. A number of schools in the region use such heating systems.

Transportation

Transportation is probably the most difficult area to “bend the curve” in order to meet the energy goals. Changing behaviors is challenging. However, it must be done if we are to achieve the 90% by 2050 goal. The LEAP model used a number of assumptions in addressing this issue. The following targets are based on that LEAP model.

Table 5: Renewable Energy Use for Transportation			
	2025	2035	2050
Use of renewables for transportation	10%	31%	90%

Overall, transportation needs to shift to renewable fuel sources as shown in Table 5. The LEAP model is largely expecting this to happen through using electric vehicles, and the use of biodiesel by the trucking industry. Table 6 below shows the fuel switching

targets for Ludlow. Efficiency Vermont has information on its [website](#) about ways to achieve transportation efficiencies. Also required to meet the goals will be additional efforts to lessen the use of energy for transportation, including land use patterns that encourage walking and bicycling, public transportation, driving less and ride sharing.

Table 6: Transportation Fuel Switching Targets			
	2025	2035	2050
Passenger cars switch to electric vehicles	139	955	1,965
Trucks switch to biodiesel	240	447	744

Implementation Actions (Pathways)

In order to meet our stated energy goals and targets, the Town and Village of Ludlow identify the following implementation actions, also referred to as “Pathways”. The reference numbers used in this section are intended to be consistent with those used in the Guidance for Municipal Enhanced Energy Planning Standards (VDPS; March 2, 2017).

Pathways Standard 6: Conservation and Efficient Use of Energy

- a) The Town and Village of Ludlow encourage the conservation and efficient use of energy.

Ludlow has identified the following implementation actions in Sections 6A, 6B, 6C and 6D to achieve this policy.

6A: Encourage Conservation by Individuals and Organizations

Ludlow cannot control the use of energy by individuals and organizations. However, the Town and Village can lead by example, serve as a resource, and encourage individuals and organizations to conserve and use energy efficiently. To do so, Ludlow identifies and promotes the following resources to provide guidance to individuals and organizations:

- a) Inform residents and businesses about available programs that can assist with energy conservation and efficiency improvements, including:
 - 1) Programs available through [Efficiency Vermont](#), such as workshops and educational opportunities to businesses on efficiency in new construction, retrofits, and conservation practices; and,
 - 2) Weatherization Assistance Program through [SEVCA](#) for low-income households.
- b) Inform residents about Efficiency Excellence Network (EEN) contractors by providing [links to EEN information](#) through the municipal website.

6B: Promote Efficient Buildings

Heating buildings accounts for about 30% of all energy consumed in Vermont. Creating more efficient buildings can be achieved through weatherization and high-performance building methods. Ludlow identifies the following to encourage efficient buildings:

- a) Promote the use of Vermont's [residential building energy label/score](#).
- b) Promote the use of the residential and commercial building energy standards:
 - 1) The Planning and Zoning Office will distribute State energy code information to all applicants seeking a zoning permit for a structure that is heated or cooled.
 - 2) The Planning and Zoning Office will not issue a certificate of occupancy until the applicant provides a certificate that ensures compliance with the State energy code.
- c) Promote benchmarking (using the free [EPA Portfolio Manager tool](#) and/or with assistance from Efficiency Vermont) for commercial buildings.
- d) Encourage that all residential and commercial projects follow the ~~stretch energy code or guidelines~~ [stretch energy code or guidelines \(see Appendix A in the RBES and Commercial Stretch Building Energy Guidelines\)](#).
- e) ~~e~~ Encourage new development to maximize energy efficiencies and to [accommodate renewable energy systems. If unable to install renewable energy systems at the time of construction, projects should enable future installation of such systems \(i.e. renewable energy ready homes, zero energy ready homes\)](#).
- f) Consider providing incentives (e.g. density bonuses) to developments located in an area identified as appropriate for growth that exceed the state's energy code.
- g) Promote the use of [landscaping for energy efficiency](#).

6C: Promote Decreased Use of Fossil Fuels for Heating

Heating buildings accounts for about 30% of all energy consumed in Vermont and is the second largest contributor to greenhouse gas emissions. Home heating is heavily reliant on fossil fuels at this time. Solutions to address this situation involve high-efficiency heating system upgrades and fuel switching. Ludlow identifies the following to encourage using less fossil fuels to heat buildings:

- a) Provide educational presentations on ways to decrease the use of fossil fuels, in coordination with Efficiency Vermont and Ludlow Electric.
- b) Promote the use of [cold-climate heat pumps](#) for retrofitting existing buildings.
- c) Support the use of [ground-source heat pumps](#) for new construction.
- d) Promote wood stove change-out programs that take older non-[EPA certified stoves](#) out of service and replace them with more efficient and lower emitting cordwood or pellet stoves.
- e) If renewable energy systems are not practicable, encourage homeowners to replace old furnaces or boilers with a [high-efficiency model](#).

6D: Demonstrate the Municipality's Leadership by Example with Respect to the Efficiency of Municipal Buildings

Ludlow wishes to lead by example and demonstrate to individuals and organizations the benefits of building efficiency through the following efforts:

- a) Seek support and guidance from Efficiency Vermont for efforts to improve the efficiency of municipal buildings.
- b) Assess the life cycle costs of potential energy improvements during design and construction planning. For example, investment in a new, efficient heating system may be more expensive up front, but more economical to operate over time.
- c) Incorporate weatherization/energy efficiency projects into the municipal Capital Budget and Program.
- d) The municipality will construct all new public buildings according to standards of energy efficiency at least equivalent to U.S. EPA Energy Star rating or similar certification where it can be demonstrated to be cost-effective.

Pathways Standard 7: Transportation

- a) The Town and Village of Ludlow encourage the reduction of transportation energy demand and single-occupant vehicle use.
- b) The Town and Village of Ludlow encourage the use of renewable or lower-emission energy sources for transportation.

Ludlow has identified the following implementation actions in Sections 7A, 7B, 7C, 7D and 7E to help achieve these policies.

7A: Encourage Increased Use of Public Transit

Ludlow operates a municipal public transit service and maintains a municipal park-and-ride lot. Two other public transit operators have routes that serve Ludlow and the additional services provided by Okemo. Maximizing public transit ridership is a priority. Ludlow will implement the following actions to encourage public transit:

- a) Improve awareness of existing public transit services and taxi service to residents and visitors.
- b) Assess the coordination of existing services and schedules of the different public transit providers that serve the municipality.
- c) Plan and advocate for access to public transit, especially during the permit review process for all larger developments.

7B: Promote a Shift Away from Single-Occupancy Vehicle Trips

Public transit can meet the needs of some mobility needs, but additional efforts will be needed in order to reach the energy goals for reducing transportation energy use. Ludlow will work to encourage the following actions to encourage a reduction in single-occupant vehicle trips:

- a) Encourage improved internet connectivity and speed, especially in the rural parts of Ludlow, in order to enable telecommuting by all residents.
- b) Promote the [Go Vermont](#) webpage, which provides rideshare, vanpool, public transit and park-and-ride options.

- c) Support employer programs to encourage telecommuting, carpooling, vanpooling, walking and bicycling for employees' commute trips. Encourage employers to offer such programs and provide information on tax benefits that may be available for doing so.

7C: Promote a Shift Away from Gas/Diesel Vehicles to Electric or Other Non-Fossil Fuel Transportation Options

To meet State energy goals, municipalities will need to contribute toward efforts to reduce the number of vehicle-miles traveled (see 7B), and switch to renewable, non-fossil fuel transportation options. Ludlow has identified the following pathways to shift toward electric vehicles and other non-fossil fuel travel:

- a) Increase awareness of the benefits of electric vehicles and alternative-fuel vehicles through education and outreach efforts.
- b) Seek grants to fund the installation of electric vehicle charging infrastructure at strategic locations along major travel corridors and in transit hubs such as park-and-ride locations.
- c) Encourage the use of the biodiesel in all diesel vehicles without compromising the manufacturer's engine warranty.

7D: Facilitate the Development of Walking and Biking Infrastructure

Active transportation, such as walking and bicycling, offers significant health benefits and requires no outside energy resources. Ludlow seeks to encourage completing short trips by walking or bicycling instead of by driving, by planning for safe and convenient infrastructure that support "Complete Streets Principles". In order to do this, Ludlow has identified the following pathways:

- a) Maintain roads in order to better accommodate travel by bicycles. For example, this includes paving/overlays to maintain a smooth roadway surface as well as sweeping to remove sand, dirt and trash multiple times a year.
- b) Update municipal road standards (for maintenance and new construction) to reflect [complete streets principles](#).
- c) Continue to maintain existing walking and bicycling infrastructure in good condition, and seek funding to make strategic improvements to these networks.

7E: Demonstrate the Municipality's Leadership by Example with Respect to the Efficiency of Municipal Transportation

In order to meet the State energy goals, municipalities should lead by example and demonstrate to individuals and organizations the benefits of energy efficiency in transportation. Ludlow wishes to do so through the following ways:

- a) Install electric vehicle charging infrastructure on municipal properties.
- b) Establish minimum fuel efficiency standards for the purchase of new vehicles.
- c) Provide incentives for employees who commute using methods alternative to single occupancy vehicles, e.g. walking, biking, public-transit, and carpooling.

Pathways Standard 8: Land Use Patterns and Densities

- a) The Town and Village of Ludlow encourage maintaining the historic settlement pattern of compact village centers surrounded by rural countryside in accordance with [24 V.S.A. §4302](#).
- b) The Town and Village of Ludlow recognize that compact development has a number of benefits, including furthering both State planning goals and State energy goals.
- c) The land use ~~Chapter~~ [section](#) of the Ludlow Municipal Development Plan (*i.e.* [Section 6: Plan for our Future](#)) encourages the types of land use patterns and densities that are likely to result in the conservation of energy.
- d) Zoning bylaws adopted by the Town and Village (separately) enable the above land use patterns and densities.
- e) The State Downtown Board has designated the Village core area as a Village Center under 24 V.S.A. Chapter 76A.

The DPS anticipates that if municipalities are actively participating in the above statutory frameworks for community planning, they will likely meet Pathways Standard 8. Ludlow hereby documents what the municipalities are doing in this area as it relates to encouraging the conservation of energy through land use development patterns and densities.

8A: The Plan Includes Land Use Policies (and Descriptions of Current and Future Land Use Categories) that Demonstrate a Commitment to Reducing Sprawl and Minimizing Low-Density Development

According to the enhanced energy planning guidance, the reduction of sprawl and low-density development not only reduces energy consumption but also can improve the local and regional economy.

- a) The land use ~~chapter~~ [section](#) in the Municipal Development Plan generally calls for growth to occur in the Village Mixed Use area and in discrete nodes of activity, including the Residential-Commercial and Industrial areas, and the Jackson Gore Recreational District. (See [Section 6: Plan for our Future](#) ~~the Land Use Chapter~~ and the corresponding Future Land Use Map.)
- b) Also included in the land use ~~chapter~~ [section](#) of the Municipal Development Plan is a statement that discourages sprawl and strip development in the Rural Residential area.
- c) The transportation ~~chapter~~ [section](#) of the Municipal Development Plan ([Section 5.3](#)) addresses access management. It notes that VT Route 103 south of the Village and VT Route 100 just north of VT Route 103 both exhibit emerging strip development, and promotes sound access management to address those concerns.
- d) Ludlow has conducted a sidewalk inventory that assesses existing condition, and has actively been working to seek funding to make sidewalk improvements over the past few years.

8B: Strongly Prioritize Development in Compact Mixed-Use Centers

As indicated in the enhanced energy planning guidance, households within a compact, mixed-use center typically use less energy than those located in outlying areas. The energy savings are realized through reduced vehicle-miles-traveled and generally smaller homes, which require less energy to heat and cool. Transportation energy use can be further reduced by locating services such as shopping or daycare within walking or biking distances to the places that people work and live. This enables people to either choose an alternative to driving a single-occupancy vehicle or to significantly reduce the length of their drive. Ludlow chooses to encourage this by:

- a) Maintaining [Village Center Designation](#), and improving the awareness of property owners of the tax credit opportunities to help pay for improvements to eligible buildings within Ludlow's Village Center.
- b) Coordinating with large employers and larger developments to discuss options to promote car-sharing and public transit services, and to install electric vehicle charging stations in convenient locations, such as within the Village Center, municipal park and ride lot or at the ski resort.
- c) Incorporating priority sidewalk investments, multi-use path needs, parking, and other infrastructure improvements into the Capital Budget and Program in order to support village revitalization.

Pathways Standard 9: Statement of Policy on the Development and Siting of Renewable Energy Resources

The heating, transportation and conservation targets and pathways combined are not sufficient to meet the 90% by 2050 energy planning goal. The LEAP model also assumes the purchase of additional out-of-state renewable energy will help to reach this goal; however, that is also not sufficient to meet the energy goals. New local renewable energy generation is also needed in order to achieve the ambitious "90 by 50" energy goal. The following sections discuss how the municipality wishes renewable energy generation to take place in Ludlow.

9A: Evaluate Existing Renewable Energy Generation

There ~~are currently~~were 18 known existing solar sites in Ludlow in the 2015 baseline year for this plan, representing 106.7 kW of installed capacity and 130,857 kWh of generation output. There are two known wind turbines in Ludlow at this time; the one off Bixby Roads is net-metered, the one off Holby Road is not. There are no other renewable energy generation sites in Ludlow at this time included in the baseline conditions for the purpose of this plan. In other words, there are no known hydro power or biomass power facilities in Ludlow currently.

There have been proposals in the past to develop biomass or solar generation facilities in the Dean R. Brown Industrial Park, but no such projects are formally being considered at this time.

The Coolidge Solar project was completed and online in 2019.

9B: Analyze Generation Potential from Preferred Sites and/or Potentially Suitable Areas

An analysis of renewable energy generation potential was conducted for Ludlow by the SWCRPC. This consisted primarily of an analysis of existing and available GIS mapping data based upon the guidelines established by the DPS for enhanced energy planning. Table 7 below summarizes the findings of this analysis.

Table 7: Potential Renewable Energy Generation

Type	Installed Capacity (MW)	Generation Output (MWh)
Roof-top Solar	8	9,747
Ground-mounted solar	197	242,122
Wind	1,286	3,942,577
Hydro	0.01	28
Total	1,491.01	4,194,474

Based upon this analysis, there is significant potential to generate power from renewable sources in Ludlow, primarily through ground-mounted solar and wind. Potential from hydro and rooftop solar projects is limited. Without ground-mounted solar and/or some forms of wind, there is not adequate generation potential from hydro and rooftop solar to meet the “90 by 50 goal” alone.

9C: Identify Sufficient Land for Renewable Energy Development to Reasonably Reach the 2050 Targets

Table 1 in ~~Section 3.1~~ summarizes Ludlow’s overall targets for renewable energy generation. There is more than an adequate land area in Ludlow that has potential for solar ~~potential power~~ to meet our 2050 renewable energy target of 21,825 MWh. That is the equivalent of approximately 17.8 MW of ground-mounted solar at the installed capacity. The guidance assumes 8 acres of land is generally needed to support 1 MW of solar. This would amount to about 143 acres of land to meet this target. This represents about 9% of the total land area in Ludlow that is estimated to have potential to generate solar power.

A mix of renewable generation types are desirable in order to meet the overall renewable targets for Ludlow. The following more detailed targets represent one scenario for how Ludlow can meet the overall renewable generation target for the municipality. Rooftop solar is desirable. Ground-mounted solar is encouraged in the rural parts of Ludlow only as long as it meets our siting criteria as articulated in this plan. Residential-scale wind is also encouraged in the rural parts of Ludlow only.

Retrofitting existing dams with hydro-power generation facilities is acceptable. We assume that creating new hydro facilities is not feasible considering the existing permitting situation. A biomass facility may be acceptable if it is located in the industrial

park and can demonstrate that an adequate and sustainable fuel supply is available and that the fuel transport does not cause undue impacts on the affected infrastructure or neighborhoods.

9D: Ensure that Local Constraints do not Prohibit or Have the Effect of Prohibiting the Provision of Sufficient Renewable Energy to Meet State, Regional or Local Targets

Local constraints for renewable energy generation are as summarized in this section. These constraints have been analyzed, and the Town and Village of Ludlow do not believe that these constraints prohibit or have the effect of prohibiting sufficient renewable projects needed to meet the state, regional or local energy goals.

The following resources are not appropriate locations for renewable energy projects and are hereby excluded from the potential wind and solar sites as depicted on the map:

- a) Vernal pools with a surrounding 50 foot buffer;
- b) DEC river corridors;
- c) FEMA floodways;
- d) State significant natural communities and rare, threatened and endangered species;
- e) National wilderness areas; and,
- f) Class 1 and Class 2 wetlands.

Ludlow has determined that ground-mounted solar and wind turbines at all scales are not appropriate within the state-designated Village Center district and the Preservation District (as depicted on the Official Zoning District Map in effect at the time of the application).

Only residential-scale renewable energy projects are appropriate for the remainder of the area within the Incorporated Village of Ludlow.

The following represent constraints that will ~~likely~~ require mitigation and which may prove a site unsuitable after a site-specific study has been conducted based upon state, regional or local policies that are adopted and currently in effect.

- a) Agricultural soils (NRCS-mapped prime agricultural soils, soils of statewide importance or soils of local importance);
- b) Act 250 agricultural soil mitigation areas;
- c) FEMA special flood hazard areas (floodplain);
- d) Protected lands (state fee lands and private conservation lands);
- e) Deer wintering areas;
- f) ANR conservation design highest priority forest blocks; and,
- g) Hydric soils.

In addition, all renewable energy projects within Ridgeline Overlay District (as depicted on the Official Zoning District Map in effect at the time of the application) must demonstrate that they have taken adequate measures to mitigate their visual impacts as discussed in more detail in the Scenic Resources section of the Ludlow Municipal Development Plan.

9E: Statements of Policy to Accompany Maps

Ludlow hereby promotes the development of renewable energy generation in order to achieve the energy goals and targets as established in this plan. The following statements of policy apply to renewable energy projects:

- a) Ludlow supports rooftop solar projects.
- b) Ludlow supports residential-scale wind turbines located outside of the Incorporated Village Boundary, provided they meet all other applicable standards in this section.
- c) Ludlow is willing to consider additional larger renewable energy projects (i.e. commercial- or utility-scale wind and solar projects over 500kW in capacity) if the proposed project clearly benefits rate payers in Ludlow and meets the other standards in this plan.
- d) Biomass facilities, ground-mounted solar projects and wind turbines must not be located in the following areas:
 1. Vernal pools with a surrounding 50 foot buffer;
 2. River corridors as most recently mapped by the Vermont DEC;
 3. FEMA floodways;
 4. State significant natural communities and rare, threatened and endangered species;
 5. National wilderness areas;
 6. Class 1 and Class 2 wetlands;
 7. State-designated Village Center district;
 8. Preservation District as depicted on the Official Zoning District Map in effect at the time of the application; and,
 9. Within view of the Scenic Route 100 Byway.
- e) Residential-scale wind turbines shall be allowed within the Village of Ludlow, outside of the state-designated Village Center and Preservation District.
- f) Biomass or ground-mounted solar projects must demonstrate that the proposed project siting is appropriate in scale as it relates to the character of the area in which it is to be located, and the applicant must also demonstrate that all reasonable options have been considered in siting the facility.
- g) All ground-mounted solar projects must meet or exceed the setback standards is 30 V.S.A. §248(s).
- h) Any biomass facility and all ground-mounted solar projects of 150 kW or greater that are within view of public roadways (i.e. state highways, US routes, and Class 1, 2 and 3 town highways) must provide adequate landscaping in order to screen the project from the view of the traveling public.
 1. This landscaping must consist of a mix of native plants that provide adequate screening during all months of the year (i.e. conifers or a mix of deciduous and conifers).
 2. All landscaping materials must be planted at a size that provides adequate screening immediately.
- i) The applicant must maintain any required landscape mitigation for the entire life of the project, including the replacement of any dead or diseased vegetation serving as part of the landscape mitigation measures throughout the life of the project or until the project ceases commercial operation.

- j) The applicant must provide a plan for the site to be adequately decommissioned at the time when the project ceases commercial operation. This would involve the removal of all parts of the project from the site including, but not limited to, the solar panels or wind turbine, inverters, metal framework that supports the solar panels, fencing, and any necessary site reclamation.
- k) Ground-mounted solar facilities and wind turbines must not have undue adverse impacts on significant wetlands, significant wildlife habitat, wildlife travel corridors, stormwater, water quality, flood resiliency, important recreational facilities or uses, scenic resources identified in this plan, or inventoried historic or cultural resources. Project proposals must consider placement of such facilities in locations where aesthetic and wildlife impact is minimal or employ reasonable measures to mitigate undue adverse impacts.

9F: Maximize the Potential for Renewable Generation on Preferred Locations

Preferred locations include specific areas or parcels that are specifically identified to indicate preferred locations for siting a generator or a specific size of type of generator. Identifying preferred sites informs the community where renewable generation is desired. The identification of such sites can help to streamline the permitting process.

Preferred sites for Ludlow include:

- a) A canopy over paved parking lots;
- b) Brownfield sites;
- c) Disturbed portions of extraction sites (i.e. gravel pit, quarry); and,
- d) Vacant parcels located within the Dean R. Brown Industrial Park.

9G: Demonstrate the Municipality's Leadership by Example

The Town and Village of Ludlow will lead by example by working with the Ludlow Economic Corporation and other partners to identify opportunities for local renewable energy generation that benefits the community and furthers the goals and policies of this plan.

Implementation Matrix for the Ludlow Municipal Development Plan

Action Plan Recommendation	Section in Town Plan	Responsible Party	Expected Timing				Priority of Need (Low, Medium, High)	Generalized Cost Estimate	Method of Financing
			Ongoing	0-2 Years	3-5 Years	5-10 Years			
<i>Review and update zoning and subdivision bylaws in order to improve consistency with the updated Municipal Development Plan.</i>	<i>Various</i>	<i>Planning Commission</i>		X			<i>High</i>	<i>Low</i>	<i>Grant (MPG), RPC dues and/or volunteer effort</i>
<i>Educate landowners about programs that can help to protect important farm or forest lands, such as conservation easements, Vermont's Use Value Appraisal (or Current Use) Program, and Vermont's Forest Legacy Program.</i>	<i>4.2, 4.3</i>	<i>Planning Commission</i>	X				<i>Low</i>	<i>Low</i>	<i>No funding needed</i>
<i>Identify existing buildings located within flood and erosion hazard areas (i.e. regulatory floodway, floodway fringe, and fluvial erosion hazard areas) that have experienced repeated flood damage, and explore options to mitigate future flood or erosion hazards for those properties.</i>	<i>4.5</i>	<i>Planning & Zoning Dept.</i>			X		<i>Medium</i>	<i>Low</i>	<i>Grant (various)</i>
<i>Investigate options to better protect the river corridors, such as preserving or restoring the river channel access to the surrounding floodplains, reducing flood flows with streambank buffers, protection of channel-contiguous wetlands, preserving or supporting a return to more natural channel dimensions, and avoiding new development and infrastructure within river corridors.</i>	<i>4.5</i>	<i>Planning Commission</i>				X	<i>Medium</i>	<i>Medium</i>	<i>Grants (various)</i>

Action Plan Recommendation	Section in Town Plan	Responsible Party	Expected Timing				Priority of Need (Low, Medium, High)	Generalized Cost Estimate	Method of Financing
			Ongoing	0-2 Years	3-5 Years	5-10 Years			
<i>Coordinate with the SWCRPC, VT Agency of Natural Resources, Black River Watershed Association, Lake Association to implement the Tactical Basin Plan.</i>	4.5	<i>Municipal Manager, Planning & Zoning Dept., Planning Commission</i>	X				Medium	Low-Medium	Grants (various)
<i>Coordinate with the Windham & Windsor Housing Trust to promote their existing programs and address local housing issues.</i>	5.1	<i>Planning Commission</i>	X				High	Low	Volunteer efforts, Grants (various)
<i>Consider providing tax incentives for property owners to provide long-term rentals, as opposed to short-term rentals, in order to provide better housing options for employees of local businesses.</i>	5.1	<i>Municipal Manager, Village Trustees, Selectboard</i>		X			Medium	Medium	TBD
<i>Evaluate adopting a short-term rental ordinance.</i>	5.1	<i>Planning Commission</i>		X			Low	Low	Grants (MPG)
<i>Promote the tax credit programs available to property owners to help finance investment in eligible buildings for income-producing uses (e.g. retail, restaurants, professional offices, apartments).</i>	5.2	<i>Planning & Zoning Dept.</i>	X				Medium	Low	No funding needed
<i>Work with partner groups (Okemo Valley Chamber of Commerce, Springfield Regional Development Corporation, Ludlow Economic Corporation, Okemo Mountain Resort) to market the area.</i>	5.2	<i>Municipal Manager, Planning & Zoning Dept.</i>			X		Medium	Medium	Grant (USDA Rural Business Development Grant)

Action Plan Recommendation	Section in Town Plan	Responsible Party	Expected Timing				Priority of Need (Low, Medium, High)	Generalized Cost Estimate	Method of Financing
			Ongoing	0-2 Years	3-5 Years	5-10 Years			
Complete a village revitalization master plan	5.2	Planning Commission, Village Trustees, Municipal Manager, Planning & Zoning Dept.		X			Medium	Medium	Grants (Better Connections Program, Vermont Community Development Program)
Maintain Village Center Designation, or consider applying for Downtown Designation, in order to help achieve the goals of the Plan.	5.2, 6.2	Municipal Manager, Village Trustees			X		Medium	NA	No funding needed
Establish local funding to support village revitalization (e.g. revolving loan fund, capital reserve funds).	5.2, 6.2	Municipal Manager, Village Trustees, Selectboard	X				Medium	Medium	TBD
Work with the Okemo Valley Chamber of Commerce, local businesses, The Current and other partners to explore options for public transit service enhancements and/or car sharing, such as Uber.	5.3	Municipal Manager	X				Low	Low	Grants (FTA 5311)
Study the feasibility of merging the Village of Ludlow with the Town of Ludlow. Consider working with VLCT or MRI if objective third party analysis is needed/desired.	5.4	Municipal Manager, Village Trustees, Selectboard		X			Low	Low	General Funds

Action Plan Recommendation	Section in Town Plan	Responsible Party	Expected Timing				Priority of Need (Low, Medium, High)	Generalized Cost Estimate	Method of Financing
			Ongoing	0-2 Years	3-5 Years	5-10 Years			
<i>Update the Capital Budget and Program, and seek funding to implement high priority municipal facility capital projects as identified in this plan.</i>	5.3, 5.4	<i>Municipal Manager, Village Trustees, Selectboard, Dept. Heads</i>		X			Low	Low	Grants (various)
<i>Develop an open space or community recreation plan to inventory facilities, explore opportunities, identify priority improvements, and establish clear implementation steps.</i>	5.4	<i>Planning Commission, Recreation Commission</i>			X		Low	Low-Medium	Grant (Better Connections Program, Municipal Planning Grant)
<i>Work with neighboring communities that are actively exploring improved internet and cell phone services. Explore opportunities such as through grants (e.g. Connectivity Initiative) or by establishing Broadband Districts.</i>	5.4	<i>Municipal Manager, Village Trustees, Selectboard</i>		X			High	High	Grants (Northern Borders, Connect America)
<i>Evaluate the feasibility of providing and/or using alternative energy sources for power, transportation and building environment</i>	Appendix H	<i>Planning Commission</i>		X			Medium	Low-Medium	Grants