The Town and Village of Ludlow, Vermont

Photos by Tom Johnson

Municipal Development Plan

Adopted by the Ludlow Select Board on November 5, 2012

Adopted by the Ludlow Village Trustees on March 5, 2013

This Ludlow Municipal Development Plan was developed in 2010 through 2012 by the Ludlow Planning Commission with assistance from the
Southern Windsor County Regional Planning Commission, Ascutney, VT

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2012 Ludlow Municipal Development Plan

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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 F for a summary of the municipal governmental structure.)

History

Ludlow is located in the southwestern part of Windsor County, in southern Vermont, at the crossroads of VT Route 100 Scenic Byway and VT Route 103 (Calvin Coolidge Memorial Highway.) It is bounded on the north by Plymouth, on the east by Chester and Cavendish, on the south by Weston and Andover, and in the west by Mount Holly. The Black River runs through the center of Town.

Some famous residents and alumni of Ludlow, Vermont are featured in text boxes throughout this Plan.

Ludlow is located on the eastern side of the Green Mountains and has Ludlow (Okemo) Mountain on its western border, whose summit rises about 2,400 feet above Main Street and 3,344 feet above sea level.

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.

Market driven trends have heavily influenced the community's current development pattern and residential population trends. Reliance on the existing market forces is likely to result in relatively

Calvin Coolidge, 30th President of the United States.

Born in Plymouth, Vermont on July 4, 1872, Coolidge was the son of the village storekeeper. He graduated from Black River Academy in 1890 and attended Amherst College, graduating with honors, and entered law and politics in North Hampton, Massachusetts. He rose to Governor of Massachusetts as a republican. Both his dry Yankee wit and his frugality with words became legendary. His wife, Grace Goodhue Coolidge, recounted that a young woman sitting next to Coolidge at a dinner party confided to him she had bet she could get at least three words of conversation from him. Without looking at her he quietly retorted, "You lose". He chose not to run for President in 1928. He died in January 1933.

high housing costs, and a trend toward a service economy to support tourism and seasonal homes. These trends suggest a prevalence of tourist-oriented local job opportunities that are heavily reliant upon good winter skiing conditions and a strong housing market. The construction and maintenance of seasonal housing has a strong impact on the local economy, but the second home market tends to increase the cost of housing beyond what is affordable at prevailing local wages.

Purpose

It is important to have a strong Municipal Plan to serve as a guide for growth in Ludlow. Although no plan can dictate the final form which development will take, it can serve as a guide to what is viewed as positive, in terms of Ludlow's needs and desires for growth. Accordingly, this plan is intended as an assessment of the development that is currently taking place, as a guide to the type and location of development for the future, and as a source of ideas for improving the municipality.

The Town and Village of Ludlow Municipal Plan provides a framework to be used for accomplishing community aspirations. The Plan states goals, objectives, and recommendations for actions that will guide further growth and development of land, public facilities, and services.

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

The Plan is to be used, by the Town Select Board, the Village Trustees, commissions, departments, residents and businesses in a number of ways:

1. Provide a framework for planning the future of the municipality.

2. Guide decision making in subdivision, site development plans, and conditional use reviews.

3. Serve as a basis for responding to Act 250 permit (which involves review of Criteria 1-5 and 8-9) requests, including Local Act 250 Review (involving the review of Criteria 6, 7 & 10). (See Appendix B for more description of the state Act 250 and Ludlow Local Act 250 Review procedures.)

4. Provide guidelines for the Vermont Public Service Board (Section 248).

5. Present a framework for updating Zoning and Subdivision bylaws.

6. Recommend future planning studies to be carried out.

7. Assist in the development of a capital budget program.

8. Direct the formulation of departments' policies and strategies.

Vision Statement

Ludlow will plan its growth and manage its resources so that our municipality continues to be a desirable place to live, work and visit. This Plan seeks to encourage a vibrant, year-round local economy, while providing housing for residents of all incomes. It strives to preserve the historical settlement pattern by encouraging commercial and high-density residential growth in the existing village center, and promoting natural resource protections in the rural areas, including the Lakes District, Aquifer Protection District and other sensitive natural areas as defined in this Plan. It also strives to offer high quality municipal services and social, educational, recreational and economic opportunities.

Process

This plan has been developed by the Ludlow Planning Commission. The work was based on the previous Municipal Plan, recommendations by planning consultants, the commission members, municipal staff and input from the community.

The Planning Commission conducted a public survey in 2008; the results of which are included in Appendix D. Regular meetings open to the public were held by the Planning Commission between 2009 through 2011. The Planning Commission held a public hearing in accordance with 24 V.S.A. § 4384.

In addition, at least one public hearing was held by both the Village Trustees and the Select Board pursuant to the provisions of 24 V.S.A. § 4385, of the Vermont Statutes Annotated. All hearings were duly warned and copies of the proposed “plan” were available at Municipal Offices.

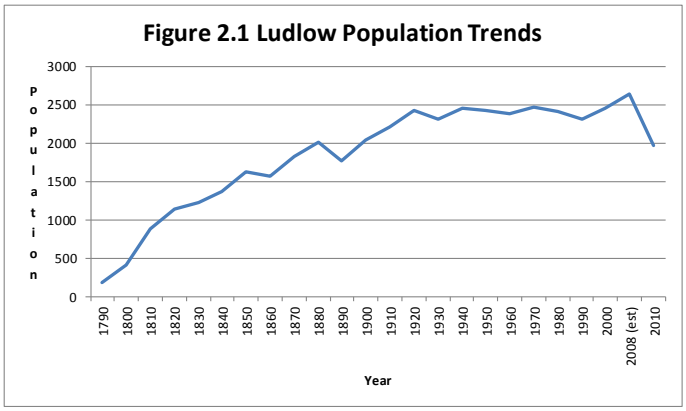
2. COMMUNITY PROFILE

Overview

The characteristics of a local population – size, age and gender, education levels, income levels– all help shape a community's character and affect the demand for local services and facilities. Population trends reveal how those characteristics are changing, and how they are likely to change in the future. Understanding these trends helps local officials anticipate future conditions and plan for future needs. This section summarizes historic population trends[1] in Ludlow[[2] and presents those trends and current characteristics in a regional context.

Population Trends

Ludlow's 2010 population was 1,963, including 811 for the Village of Ludlow (U.S. Census Bureau). 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.



[1] Data is based on the best available information, including the 2000 U.S. Census
[2] References made to "Ludlow" are intended to include both the Town and Village unless otherwise specified.

However, population declined following 2006, likely influenced by the recent housing bubble and economic decline.

The Village lost 27.8% of its population between 1990 and 2010, based on US Census Bureau figures, while the population declined 2.3% outside of the Village. These trends reflect the economic recession's impact on many Vermont ski communities, as well as a shift away from the historic population center of the community to the less densely developed countryside.

Figure 2.2 Birth and Death Rates for Ludlow (Fiscal Year – July to June)

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-09	2009-10
Births	21	12	14	14	11	16	13	13	15	11	11
Deaths	38	36	31	32	41	47	40	31	40	31	33

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 the1970s; 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. Changes in the age distribution of the Town's population between 2000 and 2010 are presented in Table 7 in the Appendix.

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.

Community Profile - Policies

Photograph by Tom Johnson

1. Support regulations that discourage population shifts away from the Village to the outlying areas of town.

2. Encourage younger families with children to migrate into the community.

3. Attempt to balance the local seasonal population with the year-round population. With considerations given to:

    a. Demand for services, especially transportation, emergency services, utilities and infrastructure (e.g., electricity, wastewater disposal)

    b. Economic opportunity in the community

    c. Demand for housing

d. Community character and the local quality of life.

4. Preserve Village vitality.

Community Profile – Recommendations

1. Evaluate and update zoning regulations to ensure that provisions adequately encourage housing for all income levels, with a particular emphasis on housing for low to moderate income families.

2. For planning purposes, it is important to consider the “effective population” of the Town, rather than the year-round or peak populations (although both are important considerations in certain respects as well). Additional information is needed to determine the current effective population.

3. NATURAL RESOURCES

One of Ludlow's greatest assets is the abundance of natural resources and attractions including: Ludlow (Okemo) Mountain, Buttermilk Falls and the Ludlow area lakes, which are available for the use and enjoyment of residents, visitors, businesses, and industries. Ludlow's natural environment provides shelter and sustenance for wildlife and serves as the foundation for much of the municipality's economy.

The intrinsic value of the natural resources in Ludlow can be traced from the Town's early history. The early agrarian society, based on sheep and dairy farming, relied on the land to support their livestock and families. Later, Ludlow's woolen textile mills depended on the Black River to meet needs for power and water. Today, the commercial agrarian segment of the economy has been reduced to next to nothing. Earth mineral resources, including talc, gravel, and gold, have also played a role in Ludlow's development but most have also been greatly reduced in recent years.

Today, the recreational and scenic values of Ludlow's natural environment attract the travel and tourism market. The tourism industry attracts people with a desire to participate in all varieties of outdoor activities. These activities include: skiing, hiking, biking, swimming, snowmobiling, golf, hunting and fishing to name just a few.

Protection and preservation of Ludlow's important natural amenities are vital to maintaining a fundamental component of Ludlow's economic base. Economic pressures on landowners to subdivide and develop large forested areas, fallow

agricultural lands, and land areas beside beautiful streams and lakes can be overwhelming. The potential economic gains associated with tourism, development of second homes, and related businesses and industries must be balanced with efforts to preserve the natural features that created the attraction in the first place. The challenge, for all concerned, with growth and development in Ludlow lies in achieving that crucial balance.

In recent years, energy costs have increased significantly, therefore, we as a municipality need to think "outside the box" on how our natural resources can be sustainably utilized as a local energy source and benefit to our local economic future.

John Garbaldi Sargent, U.S. Attorney General under Calvin Coolidge.

Born October 13, 1860 in Ludlow, Vermont, Sargent was schooled at Black River Academy, graduating in 1883, and then entered Tufts College in Boston, Massachusetts. After college, Sargent returned to Ludlow where he married Mary Lorraine Gordon in 1887. In 1908 Sargent was named Attorney General of Vermont. He campaigned vigorously for Warren G. Harding in 1920 and Calvin Coolidge in 1924.

Sargent was named Attorney General of the United States on March 17, 1925.

In 1930 Sargent returned to Vermont and again took an active role in his law firm. Sargent died at his home in Ludlow, Vermont, on March 5, 1939.

Forest Resources

The management and prevention of forest fragmentation is a key component in the long term health and productivity of Vermont forestland. The creation of smaller forest patches due to development of housing and associated components such as roads and power lines are detrimental to the health and economic viability of forested areas.

Forested land in Ludlow comprises a majority of the total land area and serves as a major asset. The Okemo State Forest and other state-owned lands represent 14.8 percent of the 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 those lands to land uses other than forestry. Vermont's Use Value Appraisal (or Current Use) Program has been successful in bringing a large amount of private forestland in the Region under sound management plans. The Table 3.1 summarizes forested lands enrolled in the Current Use Program, comprising about 11.3 percent of the total land area in Ludlow.

Table 3.1: Current Use Program – Ludlow

Total Acres	Forest	Non-Productive	Agriculture	Total Enrolled	% Total Acres
21,704	2,458.52	20.55	2,673.96	2,673.96	12.3

Vermont's Forest Legacy Program is a

voluntary grant program that seeks to conserve important private forestlands. The funds can be used to acquire property (fee simple) or establish conservation easements allowing for future forestry uses, while also allowing for outdoor recreational uses and wildlife habitat.

Forest Resources – Goal

1. Preserve and protect Ludlow's forest resources to ensure continuation of their environmental, aesthetic, and economic values.

Forest Resources – Policies

1. Encourage measures that balance supporting land-based economies, protecting large blocks of forested lands, with supporting development in or near village centers.

2. Proposed roads or utilities should be sited to cause minimal negative impact to forest contiguity and aesthetics.

3. Support productive, sustainable forestry on large lots, contiguous blocks of forested lands, and forested corridors linking large tracts of forest lands, and maintain accessibility to those lands. Doing so will contribute to maintaining the ecological values and economic vitality of these forested areas.

4. Take advantage of the voluntary Vermont's Forest Legacy Program to set aside tracts of forested areas in Ludlow.

Forest Resources – Recommendations

1. Review Subdivision Regulations for protection against 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 scenic qualities and visual identity in Ludlow, when effectively interspersed with other compatible land uses.

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

Careful consideration shall be given 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.

Soils and Agricultural Resource – Goal

1. Promote land use development patterns that do not diminish the future viability of local agricultural activities.

Soils and Agricultural Resource - Policies

1. Conserve agricultural lands, as shown on the Agricultural Soils Map, for their current and potential value.

2. State-adopted Accepted Agricultural Practices and Acceptable Management Practices shall be used in agricultural and forestry activities, implementation of Best Management Practices (BMPs) are encouraged in such operations, and point and non-point source pollution should be minimized.

3. Seek public/private funds for the conservation of agricultural lands.

4. Development should 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.

Soils and Agricultural Resource - Recommendations

1. Review land use regulations for addressing prime agricultural soils and development on steep slopes and fragile soils.

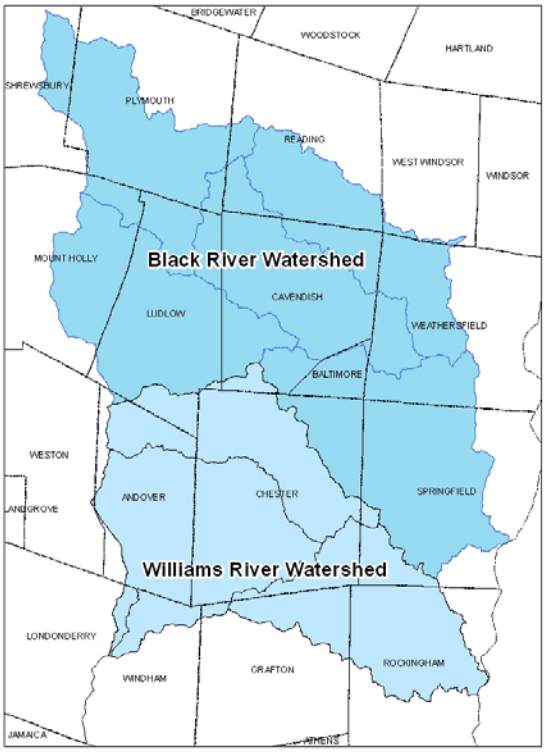
Water Resources: Surface and Groundwater

Surface Waters

General Description: Ludlow's profusion of streams, lakes, ponds and wetlands are interspersed with other landscape elements to provide pleasing visual contrasts throughout the landscape. These surface waters offer a number of important uses, such as but not limited to recreation, wildlife habitat, food supply and industrial or commercial uses.

Much of Ludlow lies within the Black River Watershed (see the Watersheds Map Insert), a subwatershed of 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.

Map Insert: Watersheds



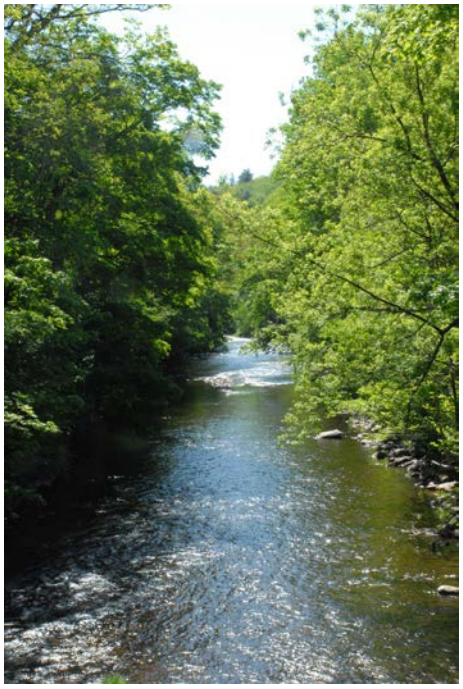
Buttermilk Falls on Branch Brook consists of a series of three falls with a large, shallow pool beneath each with sunny cobble and gravel shores. This area is very scenic and serves as a popular swimming hole.

Historic Usage: 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 a major transportation corridor. As a consequence to 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 and erosion hazards.

Stormwater. Significant changes have been made in recent years to federal and state laws that regulate stormwater runoff. In 2005, the ANR adopted a new stormwater rule for stormwater runoff into water that is not primarily influenced by existing stormwater runoff. Permits from the Vermont Department of Environmental Conservation (DEC) are required for any development that disturbs 1 or more acres or is part of a larger development. Under the rule, towns are responsible for ensuring that development plans have been stamped by a licensed engineer saying that they comply with the Vermont Stormwater Manual. Towns may also adopt local regulations for projects not covered by the State regulations. The Ludlow Development Review Board requires erosion control and stormwater management plans as part of the local development review process.

Low impact development (LID) is an approach to manage development and stormwater runoff based on strategies that mimic natural hydrologic processes. LID techniques include but are not limited to limiting land disturbances, shoreline setbacks/vegetated buffers, rain gardens and minimizing impervious surface areas. The goal of LID is to reduce, control and store stormwater runoff at the source and to maximize groundwater recharge on-site.

Vegetated riparian buffers located between developed areas and bodies of water are used to prevent erosion, filter pollutants from runoff and improve surface water quality. They also provide wildlife habitat, help to mitigate flooding and recharge the groundwater supply. Trees along banks also provide shade which keeps waters cool for native fish populations. The effectiveness and functions of buffers vary according to a number of factors, including soil type, slope and the type of vegetation. Generally, the wider the buffer, the more effective it is in filtering pollutants, protecting banks from erosion, and providing habitat areas for birds and other wildlife.



Photograph by Tom Johnson

Flood and Erosion Hazard Areas. The Federal Emergency Management Agency (FEMA) has designated floodplains in Ludlow along the Black River, and floodplain use is regulated through both the Town and Village of Ludlow Flood Hazard Regulations. (See the Water Features Map.) Large portions of the Village as well as areas along VT Routes 100 north and 103 south are within or adjacent to these flood hazard areas. Low-lying areas were flooded as a result of the 1927 hurricane, a 500-year flood event. Significant floods occurred in 1973 and 1976 (100-year flood events). Smaller, seasonal flooding events are annual events in Ludlow, resulting in damage to culverts, drainage ditches and roads. Dug Road and VT Route 103, below the high school southeast to the wastewater treatment plant, experience annually recurring flooding.

In August 2011, Tropical Storm Irene resulted in very significant flooding and erosion damage both within and outside of the FEMA-designated floodplain throughout Ludlow. Damages were extensive, including to homes, businesses, roads, bridges and sedimentation of the Lakes. Flood recovery activities are ongoing at the writing of this Plan.

Flash flooding has been a problem in a few localized areas in Ludlow, including on Parker Avenue and Commonwealth Avenue. The municipality has adopted Vermont Local Roads Standards and upgraded culverts on Parker Avenue.

Flood control dams were constructed in the late-1960 and 1970s. There are eight known dams in Ludlow, including the four flood control dams. The other dams include Lake Rescue, Lake Pauline and Flood Control Dam #3 (Okemo snowmaking pond).

The Vermont Agency of Natural Resources completed the *Basin 10 Water Quality and Aquatic Habitat Assessment* in June 2000, and is developing a Basin 10 Plan in 2009 and 2010. The Southern Windsor County Regional Planning Commission (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:

- 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.

- Historically, the Black River, Branch Brook and Jewell Brook channels were straightened and streambanks hardened with riprap or concrete, stone or metal walls.

- 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.)

- 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.

- Erosion and road runoff are significant problems in Ludlow's rivers, brooks and lakes. The lakes are experiencing related sedimentation problems.

- 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.

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. Due to their small size and temporary nature, vernal pools are not protected under the Vermont Wetland Rules.

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 septage 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. Of the ten mapped wellhead protection areas, four have been delineated. The standard Vermont 1,000 meter buffer area around the wellhead defines the remaining six.

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.

Water Resources – Goal

1. Protect water resources for the health, safety and enjoyment of Ludlow citizens.

Water Resources – Policies

1. Ensure that development in the watershed areas of Lake Rescue and Lake Pauline does not adversely affect water quality and the scenic value of these lakes.

2. Protect shorelines and stream banks from surface runoff that could lead to excessive erosion, sedimentation, and/or other pollution of surface waters.

3. Protect the quality and capacity of groundwater consistent with state statute and zoning bylaws.

4. Encourage compatible uses of surface waters for recreation, tourism, and economic benefit where such uses will not impair water quality, or wildlife and/or aquatic habitat.

5. Development in flood hazard areas shall be in compliance with the Ludlow's Flood Hazard Regulations.

6. Destruction of Class 1 and 2 wetlands and construction in wetlands should be avoided.

7. Land uses within the Aquifer Protection District and wellhead protection areas shall not threaten the quality of groundwater supplies.

8. The storage or use of chemicals that could contaminate groundwater within Source Protection Areas shall not be allowed.

9. Encourage Low Impact Development (LID), including but not limited to rain gardens, limiting impervious surface lot coverage, and protecting existing natural vegetation, in order to maximize on-site stormwater infiltration and minimize off-site stormwater and erosion impacts.

10. Support efforts to improve the water quality of the lakes, such efforts may include preventing the spread of Eurasian water milfoil, upgrading failing septic systems along lakeshores, implementing proper stormwater management activities to prevent sediment migrating from roads and driveways.

Water Resources – Recommendations

1. Work cooperatively with the Connecticut River Joint Commissions, the Black River Watershed Association, the Lake Association and others involved in water quality issues in order to implement the following water quality protection strategies:

a. Secure grant money to install educational signage about invasive species for Lake Rescue, Lake Pauline and other riparian or wetland areas where there are invasive species concerns;

b. Obtain and distribute existing literature and educational handouts to homeowners around the lakes, river corridors and FEMA-mapped special flood hazard areas regarding the impacts of floodplain loss on water quality and increases in public hazards;

c. Obtain grant funding/volunteers/river corridor easements for stream bank and lakeshore stabilization identified in recent water quality studies.

2. Coordinate with the SWCRPC, VT Agency of Natural Resources, Black River Watershed Association, Lake Association to explore regulatory and non-regulatory implementation measures to address river corridor issues identified in recent Phase 1 and 2 Stream Geomorphic Assessments.

3. 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.

4. Develop appropriate measures to protect or improve water quality in Ludlow's lakes, ponds, rivers, streams, and wetlands. Measures shall include requirements for adequate vegetative buffers and standards for development to control density, soil erosion, sedimentation, and pollution.

5. 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.

6. Explore ways to best discourage development on slopes over 25% and minimize impacts of development on slopes between 15 and 25%.

7. Review current Flood Hazard Regulations to ensure consistency with the Municipal Plan.

Earth Mineral Resources

New England's most common earth mineral resources include granite, marble, sand, gravel, and talc. Ludlow extracts primarily talc, sand, and gravel. 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 resources can provide sand and gravel resources that are useful in local construction and for export. Ludlow's leading mineral extraction is talc. Support for the responsible mining of talc, sand and gravel, with careful attention to environmental concerns and site restoration, should continue to provide Ludlow with a stable economic resource.

Earth Mineral Resources – Goal

1. Promote the economic benefits of wise mineral resource management including sand, gravel and other minerals available in the Ludlow area while also protecting the natural environment.

Earth Mineral Resources – Policies

1. Manage earth mineral resources such that land areas disturbed by earth mineral extraction are restored and that the extraction methods used will not result in degradation to the environmental, aesthetic, or economic values of surrounding areas.

2. Earth mineral extraction activity that may significantly degrade the quality and quantity of other existing and future land uses is discouraged.

3. Earth mineral extraction activity shall not destroy or significantly imperil necessary wildlife, nor result in undue adverse impacts related to noise, dust, or visual degradation of the site and surrounding neighborhood.

4. Ensure that abandoned and un-reclaimed extraction sites do not present an unsightly appearance, pose health and safety hazards, reduce the property value of abutting land, and require expensive reclamation efforts.

Earth Mineral Resources – Recommendations

1. Review land use regulations to evaluate if the existing earth mineral resource provisions are appropriate.

Wildlife Resources

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.

Photograph by Tom Johnson

Maintaining Wildlife Resources should be done by the encouragement of protection measures and preservation of sufficient healthy resources.

Wildlife Resources – Goal

1. Preserve important wildlife habitat for biodiversity.

Wildlife Resources – Policies

1. Control development in environmentally sensitive areas.

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.

3. Establish preservation measures for areas identified as critical habitat for the survival of wildlife species.

4. Support private organizations, landowners and others who are involved in efforts to ensure the continuation or enhancement of Ludlow's wildlife population.

5. Encourage the economic community that involves or relies on fish and wildlife populations to contribute to sustaining Ludlow's wildlife resources.

6. Encourage landowners to avoid subdivision or fragmentation of land that would result in significant loss or degradation of fish and wildlife habitat areas.

Wildlife Resources - Recommendations

1. Ensure bylaws encourage appropriate use and preservation of important resources, including large tracts of forested land, fresh water resources, mineral

deposits, wildlife habitats, agricultural lands and environmentally sensitive and scenic resources.

2. Develop a mitigation policy and provide development guidelines for mitigating any negative effects on deeryards, bear travel corridors or other important habitat areas.

3. Incorporate State, Federal and local educational measures, funding or incentives to encourage land owners to protect and preserve natural resources

4. Work with local, regional, State and Federal agencies to promote appropriate use, preservation, and protection of important resources.

5. Develop an inventory of natural, environmentally sensitive and scenic resources to be used in protecting and preserving these features.

4. **SCENIC AND HISTORIC RESOURCES**

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 identified by the 2008 Ludlow Town Plan Survey. 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:

- The Lakes (Rescue, Pauline, Round Pond)
- Tiny Pond
- Black River
- Buttermilk Falls
- State Forest
- Cemetery
- Forested areas within the Ludlow public water source protection area
- Dark night sky
- Scenic vistas along VT Route 100

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.

Ridgeline and Scenic Resources – Goals:

1. Preserve the identified scenic views and ridgelines that most contribute to Ludlow's rural character.

2. Maintain Ludlow's clear dark sky.

Abby Hemmenway, author of The Vermont Gazetteer.

Abby Hemmenway was born October 7, 1828. She had 2 sisters named Lydia and Carrie. She was born in Ludlow and completed her education at the Black River Academy. Her father's name was Daniel and her mother's name was Abigail Dana Barton. From age fourteen, Abby worked as a teacher. She always had a desire to write. She especially loved history books and she loved Vermont. She wanted to preserve the history of every Vermont village and every Vermont town, so she wrote the Gazetteer. Abby Hemmenway died February 24, 1890 from a stroke. She was sixty-two years old when she died. She died in Chicago and was buried in Pleasant View of Ludlow, Vermont. Abby was an amazing woman that was meant to write. She inspired many writers around the world. The history and memories of Vermont will always be cherished because of her.

Ridgeline and Scenic Resources – Policies:

Photograph by Tom Johnson

1. Development is discouraged in identified scenic areas and ridgelines. Any development in these areas should 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.

2. No clear cutting of trees shall be allowed within 50 feet of the high-water mark of Lakes Pauline and Rescue and Round Pond.

3. Proposed new lighting shall avoid glare and other unnecessary light pollution by utilizing full cut-off exterior lighting fixtures.

4. Telecommunication towers are subject to the requirements of the Ludlow's Telecommunications Facilities Ordinance.

5. Residential-scale wind power generating facilities are encouraged in Ludlow. All such facilities should minimize negative visual and environmental impacts as discussed in policy statement #1.

6. Commercial wind energy systems are prohibited on scenic ridgelines and are subject to the siting policies listed in the Energy Chapter for any project subject to review by the Vermont Public Service Board.

Ridgeline and Scenic Resources – Recommendations:

1. Consider land use regulations for development along ridgelines and in scenic areas in order to achieve developments that minimize visual impacts.

2. Review land use regulations to ensure conformance with exterior lighting policies.

3. Coordinate with the Okemo Valley Chamber of Commerce and other partners to support and promote the VT Route 100 Scenic Byway.

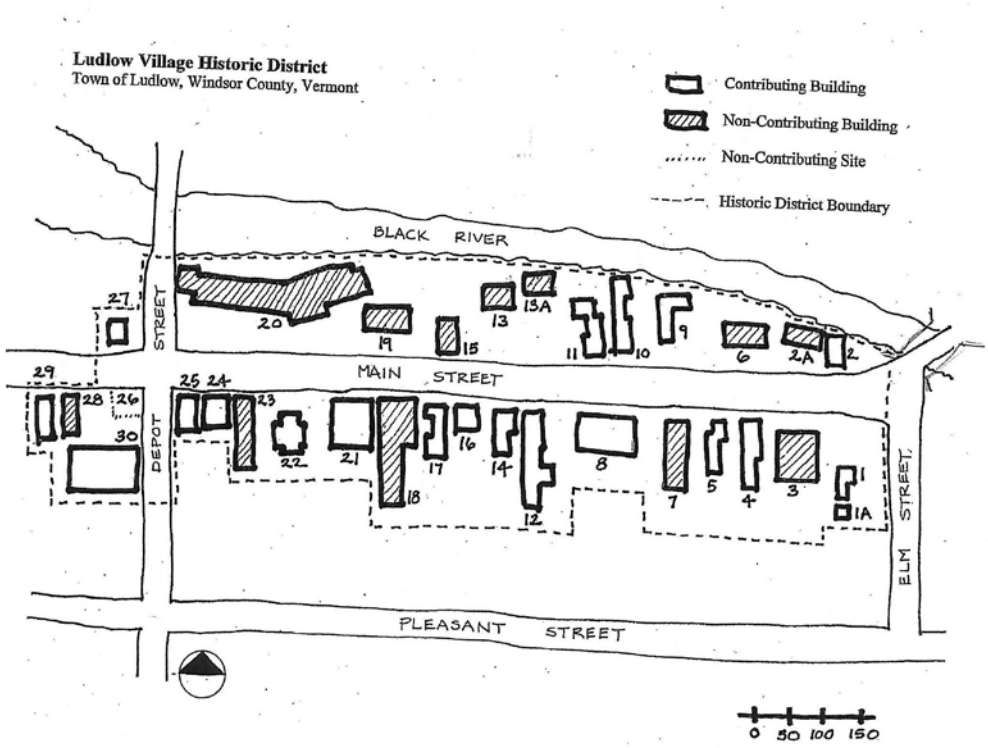
Historic Resources

The history of Ludlow has shaped the character of the municipality, reflected in historic buildings, archeological sites and the rural landscape. Ludlow's history creates a sense of community pride, and historic resources can also provide educational and economic benefits. The community has taken a great interest in historic preservation efforts in recent years, demonstrated by conducting a Village historic resources inventory in 2006, establishing the Ludlow Preservation zoning district, and pursuing a Village Center designation. In addition, the Black River Academy Museum is very active in the promotion and education of local history.

Ludlow National Register Historic District

The Village of Ludlow conducted an historic inventory along Main Street in 2006, and the District was included on the National

Figure 4.1 – National Register Historic District



Register of Historic Places in 2007. Figure 4.1 shows the Historic District. Historic buildings that contribute to the District include:

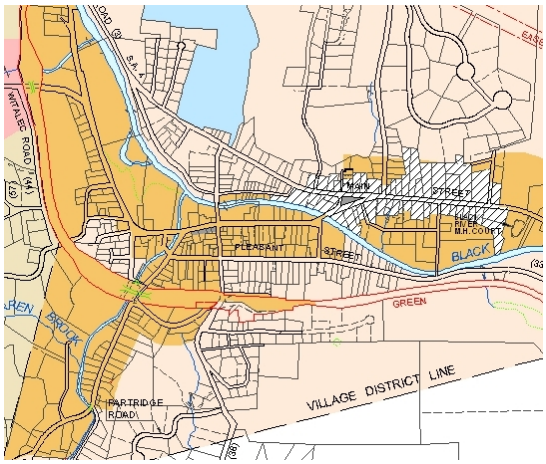
- (1 & 1A) 104 Main Street, Washburn House, 1828, Greek Revival
- (2) 105 Main Street, Ludlow Village Fire House, 1875, Greek Revival
- (4) 108 Main Street, Putnam-Adams-Parker House, 1846, Greek Revival
- (5) 110 Main Street, Barrett-McEwen House, c. 1839, Greek Revival
- (8) 116 Main Street, Hammond Hall, 1872, Italianate

- (9) 117 Main Street, Bigelow-Hemphill-Hammond House, c. 1832, Greek Revival
- (10) 119 Main Street, Haven White House, c. 1835, Greek Revival
- (11) 121 Main Street, Adams House, c. 1865, Greek Revival
- (12) 126 Main Street, Stimson-Bowers-Howe House, c. 1836, Greek Revival
- (14) 130 Main Street, Robbins House, c. 1845, Greek Revival
- (16) 136 Main Street, Streeter-Cooledge House, c. 1826, c. 1855, Greek Revival
- (17) 138 Main Street, Jones House, c. 1836, Greek Revival
- (21) 146 Main Street, Odd Fellows Block, c. 1901, Commercial
- (22) 152 Main Street, Ludlow Savings Bank & Trust Company, 1922, Neo-Classical Revival
- (24) 158 Main Street, Sherman Block, 1895, Italianate
- (25) 162 Main Street, Batchelder-Pettigrew-Gill Block, c. 1841, Greek Revival
- (27) 185 Main Street, Trombetta Filling Station, 1935, Craftsman Style
- (29) 196 Main Street, Whelden Block, c. 1884, Italianate
- (30) 39 Depot Street, Ludlow Municipal Hall, 1924, Neo-Classical Revival

There are other historic buildings in other parts of Ludlow that are listed on the National Register.

Ludlow Preservation District

Figure 4.2: Village Zoning Districts



The area along Main Street (VT Route 103) between the Walker Bridge and the Black River High School and extending up High Street to the Black River Academy Museum is notable for many buildings with interesting historical architecture. (See Figure 4.2 for the boundaries of the Preservation District shown in hatch marks.) This historic area is an attractive gateway for motorists entering the village center along VT Route 103 from the east. The purpose of the Ludlow Preservation District, adopted in the *Village of Ludlow Zoning and Flood Hazard Regulations*, is to maintain the special character and architectural integrity of the area, while allowing home-based businesses and community services. Development in this district is required to reinforce the traditional, compact village settlement pattern with sidewalks and streetscape features. Demolition of historic buildings is regulated. *Village of Ludlow Preservation District Guidelines* assist the Development Review Board to determine the appropriateness of proposed exterior alterations.

Notable historic buildings in this District include:

- Governor's Inn
- Fletcher Library

- Baptist Church
- Black River Academy Museum building

Village Center Designation

The Ludlow Village Center District, designated in 2011, is comprised of the commercial center that includes multi-storied buildings with commercial, office and residential uses, as well as public gathering spaces and civic structures. (See Figure 4.3 showing the boundary of the Village Center.) It encompasses the entire National Register Historic District as well as the core portion of the Ludlow Preservation District.

Figure 4.3: Designated Ludlow Village Center

Village Center designation helps with revitalization efforts for Ludlow's commercial center and provides important incentives for local property owners to reinvest in historic structures in Ludlow's village center. The incentives include the State Historic Rehabilitation, Façade Improvement and Code Improvement tax credit programs. The designation is intended to help implement the Municipal Plan by promoting reinvestment in the commercial center of Ludlow and promoting a mix of commercial and residential development in a dense, pedestrian-oriented village center.

Other Historic Resources

Other important historic resources worthy of preservation in the other portions of Ludlow include:

- Ludlow Graded School #10
- John Garibaldi Sargent House
- Ludlow Woolen Mill
- Crown Point Military Road
- United Church of Ludlow

Historic Resources – Goals

1. Protect and preserve the structures recorded in the state and national registers of historic places.

2. Protect and preserve the historic resources as they are identified in this Municipal Plan

3. Protect and preserve the physical setting and aesthetics of the area within which the historic villages are set.

Historic Resources – Policies

1. The demolition of historically significant structures is discouraged.

2. Encourage and assist property owners of historic structures seeking inclusion in the State or National Registers.

3. Allow the adaptive reuse of historic buildings while also preserving their historic character.

Historic Resources – Recommendations

1. Review bylaws to strengthen protection of historic structures and the aesthetics of the surrounding area.

2. Cooperate with the Black River Academy Museum and the Vermont Division for Historic Preservation to build a public consensus for the value of historic structures.

3. Maintain Village Center Designation.

5. HOUSING

Photograph by Tom Johnson

Overview

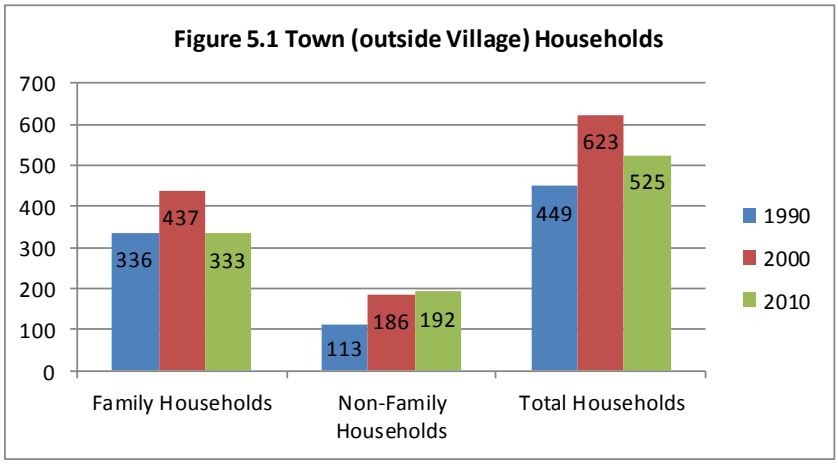
Ludlow's industrial heritage did much to shape the local housing stock. Mill workers lived in homes concentrated close to Village workplaces, while housing in outlying areas was historically associated with agriculture and other land-based industries. The decline of traditional industries and emergence of a resort economy – especially since the 1970s – has had a profound impact on the type and location of housing. This has prompted the community to become more aware of housing issues, including housing affordability for local residents and workers.

Because a decent place to live is one of life's basic necessities, a main goal of local planning is to ensure safe and affordable housing for all current and future Ludlow residents. A diverse housing stock also supports a diverse community – providing homes for families and individuals in various stages of life, who work in town, support community organizations, and contribute to the local economy. This chapter of the plan examines housing trends and characteristics, including housing affordability in relation to household incomes and outlines a series of policies and strategies for addressing housing needs.

Household Trends & Characteristics

How the local population is arranged into households – which include all related and unrelated individuals living together under one roof – affects the demand for housing, employment, public services, and facilities. Between 2000 and 2010, Ludlow's population decreased by 20%. However, the number of total housing units increased

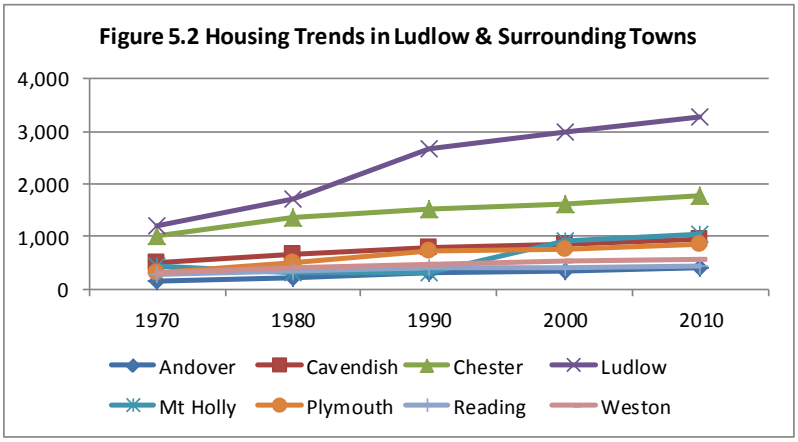
9.5% during this time period – this growth was largely comprised of seasonal housing units constructed in the rural areas of the Town. According to the U.S. Census, there were 930 households in Ludlow in 2010, 44% of which resided in the Village (up from 41% in 2000). During the 2000s, vacancy rates increased, representing a 12% decrease in total households. During the same period, the number of village households decreased by 7% (32 households). Reasons for the declines include changes in U.S. Census methodology, the national economic downturn affecting Vermont ski towns, and the transformation of housing units from residential to second homes or commercial status. Household trends for the Town and Village are illustrated in Figure 5.1.



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. The drop in the number of family households, and modest increase in non-family households, likely explains the smaller household size in the Village.

Despite the generally more rural character of adjacent towns, Ludlow's household characteristics are not much different than those of the surrounding region, county or state. Some minor differences are apparent, however, including:

- Higher percentage of non-family households, especially in the Village.
- Slightly smaller household size in the Town and a substantially smaller household size in the Village than in most



neighboring towns, and the county and state as a whole.

- Higher percentage of elderly (62 years of age or older) living alone in the Village.

Housing Trends

Ludlow and most surrounding towns experienced significant increases in total housing units during the 1970s and 1980s, with the number of units in Ludlow increasing at a much higher rate between 1980 and 1990 (55.1%) than in neighboring communities. Trends in the number of housing units between 1970 and 2010 are illustrated in Figure 5.2.

Housing development in Ludlow continued to increase since the 1990s, but at a slower rate than during the 1970s and 1980s. The Town experienced a 9.5% increase during the last decade. Ludlow Village, however, saw a nearly 3% increase in the number of housing units since 2000 (from 731 in 2000 to 752). The rate of increase in total housing units outside the Village between 2000 and 2010 was 11.6% (263 new units). Based on local permit activity, significant growth in housing occurred outside of the Village during the early- to mid-2000s, but growth activity slowed dramatically in the late-2000s.

Housing Characteristics

A majority of Ludlow's housing units consist of multi-family units (58%). Single-family homes account for 38.6% and mobile homes 3.4% of the total housing units in Ludlow in 2010. Other noteworthy characteristics of Ludlow's housing stock, and recent changes, include the following:

- 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.

- Vacancy rates in Ludlow are higher than the county and state as a whole, which is consistent with other ski towns.

- 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.).

- The housing stock is significantly older in the Village when compared to the much newer housing stock in the rural areas of the Town.

Seasonal Housing

Like many of the changes that have occurred in Ludlow over the two most recent decades, the driving force and greatest transformation in the community's housing stock is the direct result of tourism – most significantly activities at Okemo Mountain Resort. No statistic is more telling of the influence of tourism than the growth in seasonal housing units. 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. Second homes accounted for 87% of all housing units in Ludlow.

The Jackson Gore construction of 326 (184 complete as of May 2009) additional dwellings is associated with the expansion of the ski area and development of a new golf course and related recreation amenities. Out of the 184 units completed at Jackson Gore, 156 are quarter-share units. A quarter-share unit means that there is the potential for 4 owners in each unit, owning a total of 13 weeks per year for each owner. Within Jackson Gore, there are no single family homes. Twenty-eight (28) of the condominium units are whole-ownership, meaning that there is one owner that owns a particular unit 365 days per year. While second home development is often welcomed because of the positive financial implications, it can inflate the local housing costs, underscoring the need for affordable housing for residents.

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

Other Housing

Subsidized Housing - There are 49 affordable housing units in Ludlow, which provide housing for low-income families and individuals. These units (Gill Terrace and Black River Overlook developments) represent 1.6% of the town's housing stock and 4.3% of total occupied housing units. Ludlow's 49 subsidized units comprise 4.5% of the county's supply of subsidized units (excluding mobile home parks). The Windham and Windsor Housing Trust is the overall management company of the Black River units, but daily management has been contracted to a property management company. There are 25 total units, all are rentals and all are Section 8 Housing. Twenty-nine of the 49 units are specifically designated for elderly housing, which is 5.5% of Windsor County's 523 elderly housing units. Five units are considered accessible to the handicapped.

There is a new building at Gill Terrace for elderly housing. The new building consists of 36 units they are all PAC 202 Housing, which is a HUD program for elderly supportive housing. Occupants must be 62 years or older and they pay 30% of their adjusted income for rent. There are a few vacancies in 2010. The old building consists of 24 units that are under the same HUD program; all of those are currently occupied.

Mobile Home Parks - Mobile home parks are viewed by the state as a means of providing safe, sanitary, and affordable housing for low and moderate-income

households. Given the age of many parks, the rate of their sale and conversion to other uses, the lack of new park development, and limited vacancy rates statewide, retaining and improving mobile home parks have become matters of state policy. A number of laws and programs have been adopted in recent years to improve and protect existing parks. This includes the "Mobile Home Park Law (Act 252)" which requires that park residents be given notice of any intent by the owners to sell the park. Residents have a limited period of time to consider purchasing the park once given notice. Creating a resident cooperative or working with a nonprofit housing agency are options available through assistance from the state.

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. Monthly lot rents average $233. Monthly lot rents of two of the parks are less than the state and the county medians, and one is significantly higher. Rents vary in part due to the level of utilities and services provided. One park – Tuckerville – is owned by the Windham and Windsor Housing Trust and managed for perpetual affordability.

Employee Housing - Okemo Mountain Resort, Inc. 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 needs for additional seasonal worker housing in the future.

Housing Affordability

State Planning Goal 11 is "to ensure the availability of safe and affordable housing for all Vermonters" [24 V.S.A. §4302(c)(11)]. Housing in Ludlow is somewhat more expensive than housing elsewhere in the region; however Ludlow's 2005-2009 reported median household income was lower than that of both the county and the state according to American Community Survey from the U.S. Census Bureau (see Figure 5.3). The reported median value of owner-occupied housing in Ludlow Village ($243,800 as of 2005-2009) is 18% higher than that of the county and 21.5% higher than the state median housing values. Reported median gross rent costs for residents were slightly lower than county and state medians.

Figure 5.3 Median Household Income (2005-2009)

	Ludlow	Windsor Co.	State of VT
Median Household Income	$44,276	$51,066	$51,284
For Homeowners	$53,176	$59,403	$62,105
For Renters	$23,719	$27,205	$29,561

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. In 2005-2009, 40.5% of Ludlow's homeowners and 45.7% of renters were paying in excess of 30% of their incomes on housing.

This data suggests that while local housing is relatively affordable for people above the median income level, homeownership is not a viable option for households with lower

incomes and many single wage earner households. A large percentage of renters pay more than the federal affordable housing level for an apartment.

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-family 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.

Housing – Goals

1. Provide housing that meets the needs of a diversity of social and income groups, particularly those of low to moderate income.

2. Promote a balance between affordable, middle and high-end housing.

3. New and rehabilitated housing should be safe, sanitary and conveniently located to employment and commercial centers.

4. New housing in the Village will conform to the existing settlement pattern and character of the area as defined in this Plan.

5. Site new housing development to preserve the maximum amount of open space and blend in harmoniously with the natural environment in rural areas.

Housing – Policies

1. Promote/support zoning that allows and encourages increased densities and affordable housing, while preserving the character of older neighborhoods.

2. Locate affordable housing or housing for individuals with special needs, such as the elderly or those with physical or mental disabilities, in areas where services are available.

3. Encourage accessory apartments within or appurtenant to single-family residences.

4. Promote mixed income, mixed use housing in the Village Residential, Village R-C and Town R-C districts.

5. Promote, encourage and support developers to work with area housing land trusts to provide a mix of affordable housing with more expensive housing types.

6. Permit two- and multiple-family housing in all appropriate districts.

Housing – Recommendations

1. Review zoning and subdivision bylaws and other local regulations for consistency with State housing policies.

2. Develop regulations that require housing developers to provide affordable housing through mechanisms such as contributing to a revolving loan fund for affordable housing, funding an affordable housing trust, inclusionary zoning, revitalization of existing buildings for affordable housing or other options.

3. Develop incentives for developers of affordable housing in order to create more affordable housing units in Ludlow.

4. Review the feasibility of creating a program for special needs housing.

5. Continue to support local and regional affordable housing programs.

6. Work with the Windham and Windsor Housing Trust to assess the affordable housing needs in Ludlow.

6. LOCAL ECONOMY

Overview

Ludlow serves as a center for jobs and services for surrounding towns in southern Windsor County. It became a center for manufacturing, including woolen mills, in the late 1800s. 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. Ludlow[1] 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.

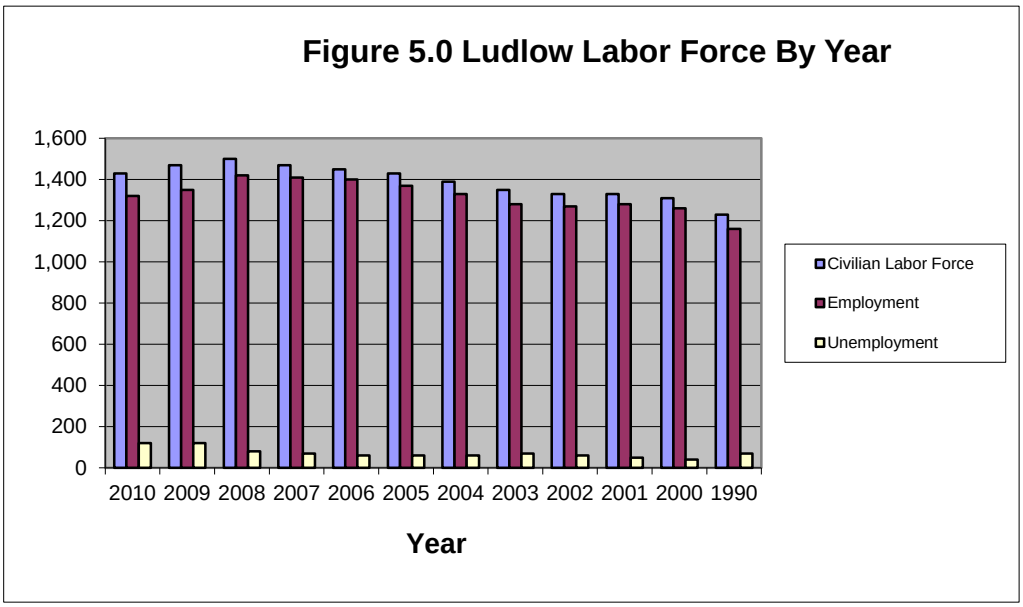
[1] Much of the employment and economic data included in this chapter were not available for Ludlow Village; consequently, all figures presented in this chapter represent both Town and Village combined unless otherwise noted.

Economic Trends

This section highlights Ludlow's economic trends based on the most current data and information available.

Labor Force

Ludlow's labor force[2] is made up of town residents 16 years of age and above that work for wages or salary. In 2010, Ludlow's civilian labor force was 1,430, about 73% of the year-round population. Employment has generally increased between 1990 and 2008, but has decreased between 2008 and 2010, mirroring the national unemployment trends. (See labor force data from the Vermont Department of Labor in Figure 5.0.)



Economic Sectors

While the local economy relies heavily on the tourism industry, the labor force is employed in a diverse cross section of other economic sectors (see Figure 5.1). Based on economic and labor market information from the Vermont Department of Labor, the largest employment sectors include:

1. Leisure and hospitality (46%)
2. Trade, transportation and utilities (10%)
3. Public administration and government (10%)
4. Education, health, and social services (6%); and

[2] Labor force statistics are largely based on data from the Vermont Department of Labor. More current data are reported in this chapter where data is available.

5. Construction (6%).

Figure 5.1 Covered Employment & Wages

Economic Sector	Establishments			Employment		
	1990	2000	2010	1990	2000	2010
Leisure & hospitality	27	29	24	528	803	866
Trade, Transportation, Utilities	36	37	32	226	245	195
Government & public administration	9	8	6	182	178	184
Educational, health & social services	7	8	9	81	100	121
Construction	22	21	28	n/a	n/a	107
Other services (except public administration)	12	15	11	50	58	58
Financial Activities	20	27	22	58	97	52
Professional & business services	19	16	23	51	53	50
Information	3	4	3	25	23	15
Manufacturing	5	6	4	141	144	n/a
Natural resource & mining	3	2	1	n/a	n/a	n/a
TOTAL	**163**	**173**	**163**	**1,436**	**1,812**	**1,886**

Source: VT Dept of Labor, Economic & Labor Market Information (http://www.vtlmi.info/indareanaics.cfm)

Retail and construction trades are connected to the tourism industry, e.g. bad snow conditions can have ripple effects in these related economic sectors.

According to industrial projections from 2006 to 2016 (from Economic and Labor Market Information from the Vermont Department of Labor), the professional, tourism and social service sectors are expected to experience strong growth in the next five years. Based on the same time period, manufacturing and agricultural activities will likely continue to decline, while retail trade and construction are expected to remain level.

Seasonal Employment

According to the Vermont Department of Labor, Ludlow's average unemployment rate in 2010 was 8.1%, compared with a rate of 6.2% for the state. These figures are not seasonally adjusted, although it is clear from historical data that unemployment in Ludlow tends to remain slightly above that of the county and state. This may also be partly due to the seasonal employment opportunities that Ludlow experiences during the ski season. Based on labor statistics, 94.4% of the labor force had work in February, compared to the 89.4% of the labor force employed in May[3].

Work Destinations of Ludlow Residents

Longitudinal Employer-Household Dynamics (LEHD) data available through the U.S. Census Bureau identifies where local residents are employed (for more discussion of work destinations, see the Travel Patterns section in the Transportation Chapter). 2009 LEHD data indicated the following top four employment destinations for Ludlow workers:

1. Ludlow (54% of the local labor force);

[3] Seasonal unemployment figures represent a three year average based on 2009 through 2011 labor statistics from the Vermont Department of Labor, Economic & Labor Market Information.

2. Rutland (9%);
3. Springfield (7%);
4. Cavendish (3%).

Employment trends clearly illustrate that not only are jobs in the lodging and food service industries most prevalent in Ludlow, that sector has experienced the greatest increase over the past two decades (64% increase between 1990 and 2010), accounting for over 75% of the 450 new jobs created during that period. Other sectors that experienced rapid job growth included Education and Health Services (49% increase). Public administration experienced slight job growth (1%) in that 20 year period.

The sharp increase in jobs in the Lodging/Food Services sector was largely attributable to the growth of Okemo Mountain Resort. Since 1982/83, the number of full-time, year-round jobs at Okemo Mountain Resort has increased from 25 jobs to approximately 300 jobs in 2008 and the number of seasonal jobs, many of which are part-time, increased from 150 positions in 1982 to 1,500 in 2008. This large increase in winter employment opportunity is demonstrated by the drop in unemployment during the winter months (e.g. 3.2% in February compared to 6.1% in May, based on a three year average of 2006 to 2008).

Local Employers

The total number of employers increased just slightly in Ludlow from 163 in 1990 (154 of which were private businesses) to 173 in 2000 (164 of which were in the private sector). The number of employers in 2010 fell to 163 (155 private sector employers).

As illustrated in Figure 5.1 (which shows the total number of local employers in Ludlow for 1990, 2000 and 2010) there are a large number of employers in wholesale and retail trade. Although lodging and food service businesses account for 46% of the employment in 2010, that sector only comprises 15% of the total employers.

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.

Average Wages

Despite the relatively high rate of job growth in the community in the last 20 years, average local wages[4] lag behind wages in the county and state. In 2010, the average annual wage for covered workers employed in Ludlow was $26,809 while the "livable wage"[5] for Vermont was $34,840. Thus, the average wage in Ludlow is 77% of the state livable wage. The relatively low wage rate likely reflects the seasonal and part-time nature of many tourist industry jobs, especially those at the ski area (which account for approximately half of the total local employment).

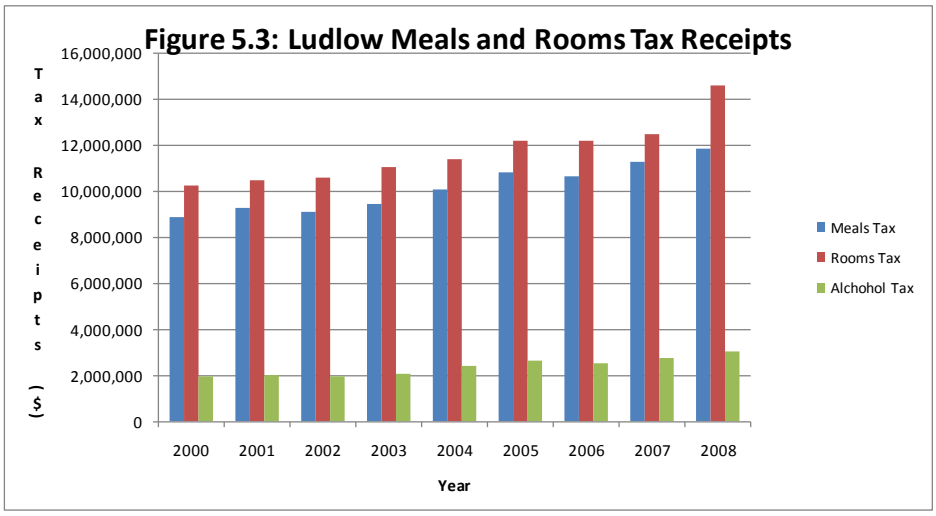
Figure 5.2 Average Wages (2010)

Economic Sector	Ludlow	Windsor Co	State of VT
Leisure & hospitality	$19,527	$18,840	$18,174
Trade, Transportation, Utilities	$30,459	$32,248	$33,788
Government & public administration	$35,486	$45,598	$43,063
Educational, health & social services	$24,476	$40,266	$38,909
Construction	$35,059	$38,698	$42,764
Other services (except public administration)	$31,711	$27,333	$28,320
Financial Activities	$37,625	$42,040	$54,974
Professional & business services	$34,483	$47,557	$51,289
Information	$30,068	$52,224	$45,218
Manufacturing	n/a	$41,269	$52,998
Natural resource & mining	n/a	$29,684	$32,714
Average Wage - All Sectors	$26,809	$37,135	$39,425

Source: VT Dept of Labor, Economic & Labor Market Information (http://www.vtlmi.info/indareanaics.cfm)

Vermont Department of Labor industry projections for the state from 2006 to 2016 indicate that job growth in the lower-wage tourism and social services sectors will likely grow, while higher paid jobs in manufacturing are expected to decline. Retail trade and construction are expected to remain level.

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



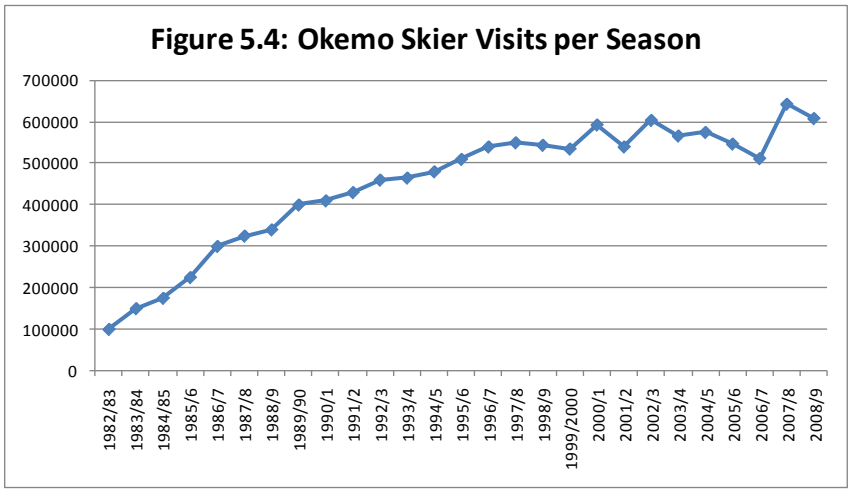
[4] Because of the high number of part-time and seasonal jobs in Ludlow, average annual wages should not be presumed to equate to actual annual income.

[5] 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 average annual wage for a single person with no children. Source: Vermont Livable Wage Campaign (2009)

Sales Receipts

The Vermont Department of Taxes reports total lodging, restaurant and alcohol sales that are subject to the state's rooms and meals tax. Mirroring local economic growth, tax receipts for all three increased between 2000 and 2008. During that time period, meals taxes increased 3.3% annually, rooms taxes increased by 4% annually and alcohol by 5% annually (see Figure 5.3; Vermont Department of Taxes). However, preliminary data for 2009 suggest a significant decrease in business sales.

Ski Area Activity



There is little question that the primary cause of the recent (and historic) growth in local sales and rooms and meals receipts is the ongoing success of Okemo Resort at attracting skiers. Annual skier visits have increased from 95,000 to 608,000 – between the 1982-1983 and 2008-2009 ski seasons. While the annual rate of increase – presented in Figure 5.4 (Okemo Mountain Resort) – is variable in recent years, the overall trend is continually increasing skier visits.

Growth at Okemo has created job opportunities in construction, property management services and other tourist related service jobs.

Community & Economic Development

Okemo Mountain Resort has shown remarkable success in increasing its skier visits and in drawing more visitors to the Ludlow area in the winter months. Current development plans for Okemo involve expansion to a four-season resort.

Current manufacturing operations in Ludlow include Imerys talc mining and JELD-WEN door manufacturers. The Dean R. Brown Jr. Industrial Park, located off Pleasant Street Extension, includes JELD-WEN and LaValley's Building Supply. The industrial park has one remaining undeveloped lot which is roughly 20 acres in size and includes a rail siding.

The Village of Ludlow is actively engaged in revitalization efforts, including streetscaping improvements to the Main Street corridor, and has received Village

Center designation by the State Downtown Board. These municipal efforts are in coordination with several local and regional organizations.

The following section outlines existing development capacity and identifies potential strategies.

Organizational Capacity

Effective community and economic development programs typically require the cooperation of a variety of groups and individuals. Most important is that municipal officials and local businesses communicate openly and work together in a cooperative and coordinated fashion. The following are key participants in any coordinated economic and community development program.

- **Town and Village Government**, including designated staff (e.g., municipal manager), the **Board of Selectmen** and **Board of Village Trustees**, and the **Planning Commission**.

- **Ludlow Economic Corporation** that is being revitalized to promote manufacturing and other value-added jobs in the Town of Ludlow.

- **Okemo Valley Regional Chamber of Commerce**: A Regional Chamber of Commerce serving Ludlow and other area communities. The Okemo Valley Chamber of Commerce completed a 2006 branding study of the Okemo Valley and developed a 2009 Strategic Plan.

Several regional and state organizations are also available to provide a range of assistance to local officials and businesses. Such organizations include:

- **Springfield Regional Development Corporation**, which focuses on creating and retaining manufacturing and value-added jobs in the greater Springfield region including Ludlow.

- **Southern Windsor County Regional Planning Commission,** the statutory regional planning commission entity in the southern Windsor region. The SWCRPC offers services that cover a number of economic development-related areas, including: land use planning, transportation planning, and community development. The SWCRPC also has a Brownfields Program that assists municipalities to redevelop contaminated sites and can assist with environmental assessments and site remediation.

- **Connecticut River Development Corporation**, which operates a revolving loan fund for southern Windsor County.

- **Connecticut River Valley Revolving Loan Fund**, which provides financial and technical assistance to local businesses that employ people of low and moderate income.

- **Connecticut River Valley Workforce Investment Board** that guides workforce development activities in a region that includes the ten towns in southern Windsor County and all of Windham County.

Also available to local businesses are various grants, tax credit programs, and a property tax abatement program – available through programs such as the **Vermont Community Development Program** (VCDP) and the **Vermont Economic Progress Council** (VEPC). Tax credits are also available to property owners of historic buildings within the designated Village Center.

Community Initiatives

The community is actively engaged in a number of economic development-related efforts and initiatives, including but not limited to the following:

- American Legion – Ballard-Hobart American Legion Post #36 supports regular veteran members, Unit #36 Auxiliary members and Squadron #36 Sons of the American Legion members (the Legion Family). The Legion supports all active duty military currently serving the United States of America, especially those who are in war zones. The Legion Family sends troop boxes on a regular basis and is always ready to support those family members who are left behind. The Legion supports the Ludlow community and surrounding towns by providing cemetery flags for all veteran graves in five area cemeteries for Memorial Day. The Legion places street

Paul Harris, founder of the Rotary.

Paul P. Harris was the founder of the Rotary. He was born in Racine, Wisconsin, on April 19, 1868, and spent his early years in Wallingford, Vermont prior to attending the University of Vermont, Princeton University and University of Iowa. His experiences in Vermont Schools were, by the large, not notable for its achievements. After attending Rutland High School for a year, he was enrolled in Black River Academy, from which he was expelled for "pranks". He did manage to get through Vermont Academy, then a military school, and attend the University of Vermont. Here he was again expelled for actions that would be established later that he was innocent. He worked as a newspaper reporter, a business college teacher, a stock company actor and as a cowboy. He resolved to organize a club which would band together, a group of business and professional men in friendship and fellowship.

flags throughout the Ludlow in honor of Memorial Day, Armed Forces Day, Patriots Day (Sept 11th), and Veterans Day. The Legion continues to honor the veterans who gave the ultimate sacrifice of their lives with a Memorial Day parade in Ludlow which is made possible by having a very active Color guard. The Legion honors area veterans who have passed away by providing military honors at burials. The Legion receives torn and worn American flags all year long to properly dispose of during our Flag Day ceremony held annually on June 14th. The Legion also supports the Ludlow and surrounding areas children and youth by providing assistance in areas of need along with providing thousands of dollars in scholarships annually to Black River High School graduates.

- Black River Academy Museum – A local non-profit group focused on preserving and maintaining the history of Ludlow, and to update and maintain the Black River Academy. They sponsor historic walks through town, a tea with Grace Coolidge, plays and readings throughout the year.

- Black River Good Neighbor Services – BRGNS Inc. was founded in 1964 by a group of concerned citizens in the Ludlow for the purpose of providing a local food shelf and to be a clothing source for persons in need. Black River Good Neighbor Services is a 501-(c)(3) non-profit and receives funding from primarily private donations. It also runs a thrift shop to cover some of their expenses. While the food shelf and thrift shop are the primary operations they also provide rent, fuel and other assistance for those who meet established guidelines and are in an emergency situation. BRGNS operates under an unpaid, 15 person Board of Directors and about 65 volunteers. BRGNS also distributes holiday baskets to about 184 households which include a full dinner for all family members and toys for children who would otherwise have nothing to open. Gifts are also included in the baskets for the elderly. More information can be found at www.brgn.org.

- Black River Valley Senior Center – The Black River Valley Senior Center is an active senior center whose mission is to have a place where seniors and others may congregate and have a nutritious noontime meal as well as provide a few hours of fellowship and activities. The BRVSC programs continue to promote successful aging and include exercise, bridge and bingo. It offers health related care in the form of blood pressure checks, flu shots and foot care.

  The BRVSC is also the distributor of Meals on Wheels program. Deliveries are made on a daily basis to seniors and the homebound in roughly a ten mile radius. The annual meal count is approximately 15,230 or about 45 meals per day delivered.

- Community Center – The municipality redeveloped the Armory Building to serve as a community center and recreational facility.

- Enterprise Fund – In 2000, the Enterprise Fund was established for the municipality to work cooperatively with businesses mitigating impacts created by Jackson Gore at Okemo Mountain Resort. The fund will continue for other large-scale developments as time goes on.

- Farmers Market – A farmers market, established by local residents, takes place on Friday's between 4 to 7 PM at the Okemo Mountain School from May to September. During winter months it is held indoors.

- Fletcher Memorial Library – Fletcher Memorial Library is a resource to the Ludlow Community, providing relevant current materials, programs and services for all ages. Recognizing literacy as the keystone to education, the Library is committed to providing our community with the opportunity to learn, grow and acquire knowledge independently via a diverse collection of materials. With Public Internet and Wi-Fi Access available 24/7, the library also serves as the community's link to the information superhighway. The "Friends of the Library" provide programming and they support staff needs. Their meetings are held the first Tuesday of the month at 10AM in the Library's Community Room. The library offers two downloadable audio book services. Books are downloadable from any PC you just need a library patron number. The Youth Library continues to be a very busy destination. In addition to providing and developing programs with Ludlow's schools, new programs are offered for all youth. A great time is had by all who attend the Teen events with overnights, Mystery nights, and much more. www.fmlnews.org

- Friends of Ludlow Auditorium – Friends of Ludlow Auditorium (FOLA) has a singular purpose: To promote the use of the restored auditorium in Ludlow Town Hall so that the residents and other property owners in Ludlow, and surrounding towns, enjoy the maximum entertainment, cultural, and civic benefits from the auditorium and its related facilities. These include, but are not limited to, concerts, recently released and classic family movies, public informational forums, theatrical productions by students and private groups, art and photographic exhibitions, and special events such as holiday celebrations and graduation ceremonies. As a non-profit organization, FOLA will only seek to recover the costs of providing such programs; whenever feasible, FOLA provides such programs at no cost as a public service.

- Lake Rescue Association, Inc. (LRA) – The LRA is a non-profit association of 150 property owners in the Lakes District. According to the by-laws, the purpose of the LRA is to: "Maintain, preserve, restore and improve those bodies of water within the Lake District, including but not limited to Lake Rescue, Round Pond, Lake Pauline, and the portions of the Black River and the watershed lying within the Lake District." For the past eleven years the LRA has employed divers to search the lakes and to keep them free of the

invasive Eurasian milfoil plant. This plant has devastated many other lakes in Vermont, while Ludlow's lakes have been clean for the past five years. The other main threat to the lakes has been the accumulation of sediment, and LRA is working with the State and the Town to limit the sediment washing into the lakes. This is an on-going problem that will continue to be worked on in the coming years.

- Local Act 250 Review – Adopted development review procedures allowing greater local control over three criteria for projects subject to an Act 250 permit (Criterion 6: educational services, 7: municipal services, and 10: conformance with local plan).

- Ludlow Garden Club – The Ludlow Garden Club has traditionally purchased and maintained the planters in front of Town Hall, Daniel Kesman Memorial Park, the bridge boxes at either end of town and the flowers at the Gazebo and the library. Members maintain the grounds at the Black River Academy Museum holding clean-up days in the spring and the fall when they do weeding, trimming and mulching. The Club purchases flowers, shrubs and many bags of mulch to beautify the Town. Each winter the Club puts a large Christmas tree in the Fletcher Memorial Library and decorates it. The members make flower arrangements for the residents of the Gill Home in November. Their only fundraiser is an annual Plant Sale held in June.

- Ludlow Streetscapes, Inc. – Ludlow Streetscapes, Inc. is a non-profit, 501-(c)(3) corporation, whose mission is to make Ludlow a more attractive location in which to live, work and play, by ensuring the vitality of its central business district. Streetscapes works with residents, businesses, service organizations and local government to develop programs to enhance the quality of life in Ludlow and promote a greater sense of pride in the community.

  Since 2003, Ludlow Streetscapes, Inc. has raised funds that have allowed them to complete the following projects, with help from community partners and volunteers:
  1. New street lighting on Main Street, Depot Street and High Street
  2. New lamp posts and hanging flower baskets on the Walker Bridge and the Vail Bridge
  3. Locust trees and cast iron tree guards in front of The Mill
  4. New sidewalks (cobblestone pavers) in front of The Mill on Main Street and Depot Street
  5. Cast iron planters and flower boxes installed in front of Town Hall and on the Elm St. and Main St. green space
  6. Benches and trash receptacles installed throughout the central business district
  7. Renovation of the Welcome to Ludlow signs on 103 and 100 South, including solar lighting

8. Renovation of the plantings on the Daniel Kesman Memorial Park
9. Planting annuals in the hanging flower baskets and all planters every spring
10. Maintaining all the trees and plantings we have installed
11. Partnering with the Ludlow Enterprise Fund to completely repave the Daniel Kesman Memorial Park

- Preservation District – Established a preservation zoning district in order to maintain the special character and architectural integrity, while allowing home-based businesses, professional and tourist services.

- Rotary – Rotary is a volunteer organization of 1.2 million business and professional leaders united worldwide to provide humanitarian service and help build goodwill and peace. About 32,000 Rotary clubs in more than 200 countries and geographical areas conduct projects to address today's challenges - including illiteracy, disease, hunger, poverty, lack of clean water, and environmental concerns - while encouraging high ethical standards in all vocations. The Ludlow Rotary Club holds fund raising activities such as the Chili Cook-off, Duck Race, Penny Sale, and Bike Race. The proceeds from these events support the needs of local organizations. They annually award $6,000 in scholarships to Black River HS and/or Green Mt. HS seniors. The Ludlow Rotary Club contributes funds internationally to the eradication of Polio and Pure Water for the World, as well as relief efforts for natural disasters around the globe. Members are committed to serve the areas of Cavendish, Ludlow, Mount Holly and Plymouth.

- Vendors Ordinance – Established in 2008, this ordinance requires a permit for any street vendors in the Village of Ludlow.

- Village Center – The Village has received a Village Center designation, which provides tax incentives to improve building facades and other improvements.

- Village Streetscapes and Parking – One of the common issues expressed in the community is a lack of public parking within the Village. A recent paving project developed some of the additional on-street parking spaces proposed in the Village's Streetscape Improvement Feasibility Study. Public parking is now available behind the Brew Fest building on Main Street.

Local Economy – Goal

1. Maintain and enhance the "quality of life" enjoyed by Ludlow residents in order to retain and attract new businesses and workers.

2. Provide a strong and diverse economy that provides satisfying and rewarding year-round job opportunities and maintains high environmental standards, and

expand economic opportunities in areas with high unemployment or low per capita incomes.

Local Economy – Policies

1. Enhance the vitality of the Village, especially to maintain its function as a commercial and cultural center in the face of competition from commercial enterprises located outside the Village.

2. Fostering greater diversification of the economic base, including small-scale light industrial/manufacturing businesses, especially through building-out the Dean R. Brown, Jr. Industrial Park.

3. Encourage diversification of the tourism industry, including amenities and events that support summer/fall tourism as an alternative to or in conjunction with expanded ski area capacity.

4. Support historic preservation activities that maintain the community's historic character while encouraging the adaptive re-use of historic structures that are no longer functionally viable.

Local Economy – Recommendations

1. Target infrastructure development, and allocation of capacity, to support economic development.

2. Evaluate current land use regulations to identify barriers to desirable types of business activities (e.g. flood hazard areas).

3. Coordinate economic development initiatives of different agencies and organizations (i.e. Ludlow Streetscapes, Ludlow Economic Corporation, Okemo Valley Chamber of Commerce, Springfield Regional Development Corporation and Southern Windsor County Regional Planning Commission).

4. Study the feasibility of establishing a small business incubator in the Village of Ludlow.

5. Develop a comprehensive Village parking plan and explore municipal financing options.

6. Establish additional annual community events, such as Christmas white light displays or Victorian Days in partnership with other economic development and community improvement organizations.

7. UTILITIES, FACILITIES AND SERVICES

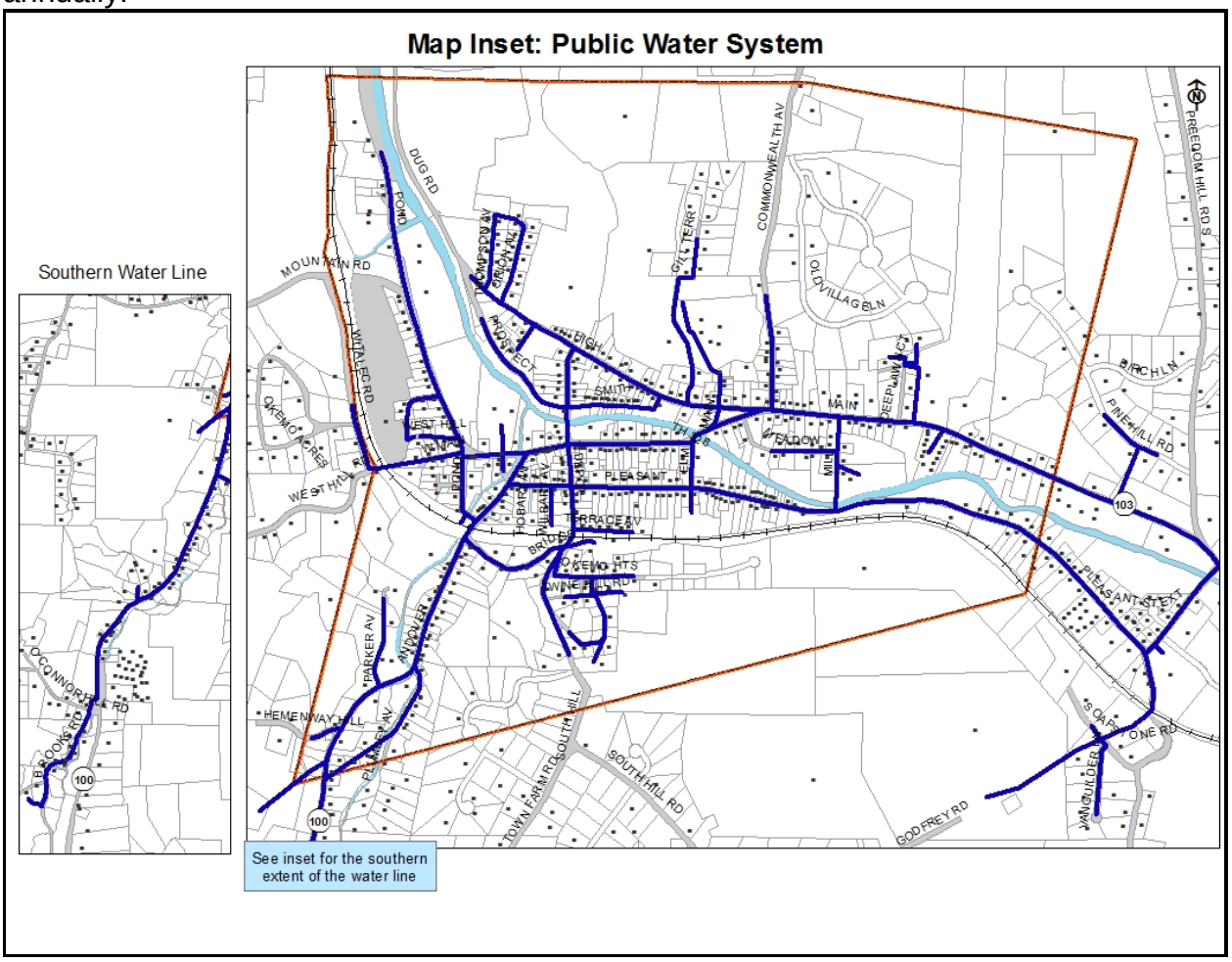
Photograph by Tom Johnson

Public utilities, facilities, and services underpin the structure upon which society operates. Delivery of services, combined with an efficient transportation system, and the provision of facilities for public use enhance the lives of Ludlow's citizens. When the municipal infrastructure is cost effective and perceived as beneficial by the population, it contributes significantly to the stability of the community.

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 water supply is chemically treated to ensure that it is clean, safe and healthy. 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.

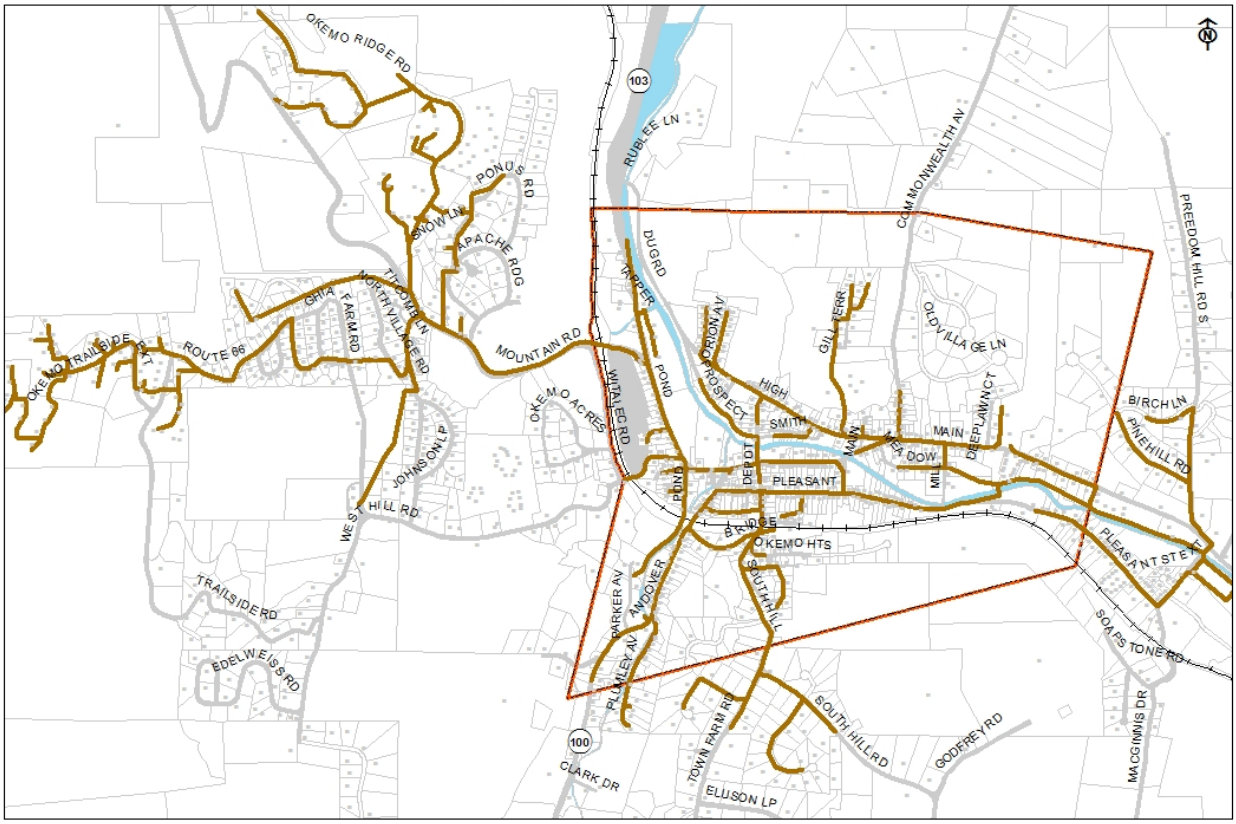
The Ludlow (Okemo) Mountain area is served by 22 private water supply systems, including condominiums, Okemo Mountain Resort, mobile home park and other

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. The existing system should provide sufficient capacity to meet anticipated growth for the foreseeable future.

Map Inset: Public Wastewater System



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

Water and Sewer Services - Goals

1. Ensure that the provision of infrastructure and municipal services will not generate a burden on community taxpayers.

2. Continue to provide safe drinking water and sanitary sewage disposal efficiently within the existing service areas.

Water and Sewer Services - Policies

1. Promote expansion of municipal services only in land use areas defined by the municipality as desirable for growth and development.

2. Promote proper installation of properly designed, appropriate onsite systems for development occurring beyond the municipal service area.

3. The quality of municipal drinking water supplies shall be protected.

4. Water conservation techniques should be used in new development, and in the rehabilitation of existing development, in order to lengthen the life of wastewater treatment facilities and avoid the depletion of groundwater resources.

5. Encourage owners of parcels with existing onsite systems within the municipal water and sewer service areas, to obtain municipal service before system failure.

6. Ensure that development within municipal service areas is connected to municipal water and sewer services.

7. Support efforts to educate owners concerning proper maintenance of onsite systems.

8. All applicable development is subject to the Ludlow Sewage Works Ordinance and Water Ordinance.

9. Encourage low impact development or other on-site stormwater retention techniques in order to reduce wastewater system capacity demands during snow melt and rain events.

10. Encourage the development and use of alternative technologies with regards to the handling of waste water (e.g.: composting toilet systems).

Water and Sewer Services - Recommendations

1. Expand sewer service to include parcels contiguous with the existing service area, when hazardous onsite problems have been identified or where soils are unsuitable for onsite systems.

2. Within the service area, supply municipal service to new development and to owners of existing failed or failing septic systems.

3. Encourage maintenance and upgrading of onsite systems to prevent well contamination, pollution or other problems associated with improperly installed or failed systems.

4. Continue regular updates of the Capital Budget and Program for municipal water and wastewater system needs.

Electrical Services

As discussed in the Energy Chapter, the Village of Ludlow Electric Light Department and Central Vermont Public Service (CVPS) supply electricity. The general service areas for both providers are defined in the Energy Chapter of this Plan. The Utilities 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's DSM efforts involve a fuel switching program that encourages customers to replace electric heating with an alternative heating source, such as propane, oil or renewable fuels, which reduces Ludlow's demand for electricity. 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. compact fluorescent (CFL) or LED lighting).

Electrical Services - Goals

1. Ensure a supply of safe, reliable electricity to meet the needs of residents, businesses, industries, and visitors at a reasonable cost.

2. Keep peak demand for electricity low and support methods to improve efficiency and energy conservation.

Electrical Services - Policies

1. Encourage electrical service suppliers to continue trying to reduce peak demand.

2. Support efficiency and demand side management strategies designed to reduce costs.

3. Continue to evaluate the placement of electric lines and facilities for health, safety, and aesthetic concerns.

Electrical Services – Recommendations

1. Locate and schedule expansion of electrical facilities and services to coincide with the need for desired development.

2. Encourage the use of existing infrastructure and services.

3. Educate building owners about energy efficiency services provided by Efficiency Vermont.

Communication Services

Telephone service is provided by Telephone Data Services (TDS). Other telecommunications services in Ludlow include cellular phone, paging, Internet access (cable, DSL or dial up) and cable television, which are provided by Comcast or TDS. A local access television channel which broadcasts meetings and hearings held by the various town and school boards and commissions is available to cable subscribers. This service has proven to be popular among many citizens who cannot attend these meetings but are nonetheless interested in local affairs. The municipality maintains a web site (*www.ludlow.vt.us*) that is broad in scope, helpful and informative. Public notices for up-coming public meetings, minutes of meetings of various boards and phone numbers of municipal departments are among the things posted here.

The maintenance of a modern and accessible telecommunications network is considered essential to the public welfare, access to educational opportunities and economic development efforts. Countless economic, social, and cultural benefits are available to communities, which possess free and open access to people and ideas in other parts of the world. Public safety agencies, such as emergency medical services, fire, and police departments, rely on wireless communication to provide essential services.

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

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.

Communication Service - Goals

1. Provide a robust, modern, high-speed communications network for Ludlow residents, institutions and businesses, while minimizing related negative economic, environmental, aesthetic and cultural impacts.

2. Secure desirable communications services that will best serve Ludlow's citizens.

Communication Service - Policies

1. Ensure communication lines, additional rights-of-way, and inadequately screened or poorly located communication lines; facilities and structures do not have adverse impacts on wildlife habitats, and scenic, recreational, and aesthetic values.

2. When feasible and in the Municipality's best interest, promote ways to attract viable computer and telecommunication industries and businesses.

3. Encourage combined usage of existing utility rights-of-way for communication facilities and devices, where possible.

4. Promote efforts to increase communication and telecommunication access to Ludlow's citizens, especially the school age population.

5. All applicable telecommunication facilities are subject to the Town of Ludlow Telecommunication Facilities Ordinance.

7. 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 should be utilized to the fullest extent possible. New telecommunication towers and facilities should not be sited or constructed when a practicable alternative exists.

8. Those building new telecommunication towers and facilities shall not prohibit the sharing of a facility by other users for reasons other than avoiding demonstrated risk to public health. The use of existing structures, such as water towers and buildings, to support telecommunications broadcast equipment is encouraged wherever appropriate.

9. Siting and design of telecommunications towers and facilities (including any support and maintenance structures, necessary access corridors, and utility lines) shall minimize impacts on natural scenic and aesthetic resources to the fullest extent possible.

Communication Services – Recommendations

1. The Town will work with adjacent communities and State and federal regulatory agencies to insure that telecommunications projects in surrounding communities do not negatively impact aesthetics, the provision of public and emergency services, and public health concerns in Ludlow.

2. Support development of a coordinated telecommunication site(s) plan for the State of Vermont.

Solid Waste Disposal Services

The Vermont Department of Environmental Conservation, Division of Waste Management, has implemented the Revised State of Vermont Solid Waste Management Plan. Under this Plan, Vermont municipalities are expected to work towards meeting the state's solid waste goals summarized in Title 10 V.S.A. Section 6604(a)(1). The priorities outlined in the plan include the following:

1. Implement reduction in the amount of waste generated;
2. Reuse and recycle waste to reduce, to the greatest extent feasible, the volume remaining for processing and disposal;
3. Process waste to reduce the volume or toxicity of the waste stream necessary for disposal and dispose of residuals.

The municipality is billed directly for solid waste management through a contract arrangement with the Southern Windsor/Windham Counties Solid Waste Management District (SW/WCSWMD) of which Ludlow is a member. In order to comply with State regulations, the SW/WCSWMD prepared a Solid Waste Implementation Plan. This Plan was submitted to the State in 2008 and has been approved. The District hired the Southern Windsor County Regional Planning Commission to manage the District. The District also hired a recycling coordinator to assist district towns with recycling efforts.

Through a contract with the District, Casella Waste Management provides solid waste transportation, disposal and recycling services. Ludlow collects solid waste and recyclables at the Ludlow transfer station at 336 VT Route 100 South for transport by Casella. Curbside, weekly collection of solid waste is provided to Village residents. Residents of Ludlow are required to purchase a vehicle sticker in order to use the transfer station. 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.

Solid Waste Disposal Services - Goals

1. Provide a municipal solid waste disposal service that is safe, efficient, and both financially and environmentally cost effective.

Solid Waste Disposal Services - Policies

1. Encourage public composting and recycling services and help to educate residents and visitors about the value of these methods.

2. Encourage the reduction in the volume of solid wastes that must be incinerated or land filled in order to reduce disposal or land acquisition costs.

3. Promote reduce, reuse and recycle efforts over disposal.

Solid Waste Disposal Services - Recommendations

1. Continue to explore alternatives to reduce the costs of municipal solid waste disposal without sacrificing environmental quality.

2. Encourage efforts to educate the public concerning the value of individual and corporate solid waste reduction.

Recreational Services and Facilities

Recreation is a vital component of Ludlow's economy and quality of life. The Parks and Recreation Department offers a wide variety of recreational programs for the community. Services are administered, through a paid Director, a Recreation Commission 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. In the private sector, skiing, snowboarding and golf are available at Okemo Mountain Resort.

Public recreational facilities include the facilities available at the elementary and high school, community center, a softball/baseball field, a championship soccer field, two multi-purpose fields, two tennis courts, a basketball court at the gymnasium, three parks, snowmobile trails on all Class 3 roads, a lake area designated for swimming, and senior activities at the High Street Senior Center. The community center has a gymnasium, weight room, fitness center, locker rooms and other facilities (see the discussion of other facilities and uses of this facility under Educational Facilities in this Chapter). Public Park and recreation areas include Main Street Park at the Town Green, Bicentennial Park beside the Municipal Building, Dorsey Park on Pond Street and Sportsman Park on Pleasant Street.

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).

A town survey indicated the following desired amenities would benefit the town: bike path, municipal pool, hiking paths, and a movie theatre.

Edward Howard Dorsey, "Pop" Dorsey.

On June 13, 1872 a very important man to the Town of Ludlow, Vermont was born. His name was Edward Howard Dorsey. Little did he know that he would be one of the most memorable men at the Black River Academy. Pop Dorsey took a job as a teacher at Black River Academy in 1895. From 1895 on, he lived in Ludlow and became known as "Pop". He got this name because he was more like a father than a teacher to the students. One of his favorite teaching methods was when he would ask a question he would look at one person on one side of the room and say someone else's name on the other side of the room. When he did this the person he called on wouldn't answer. This was his way of keeping everybody on their toes during class.

Recreational Facilities - Goals

1. Provide sufficient public recreational opportunities for all Ludlow residents regardless of age or social characteristics.

2. Provide accessibility to recreational facilities for disabled residents and visitors.

Recreational Facilities - Policies

1. Encourage the expanded use of recreational facilities on school property to provide additional recreational opportunities for the public.

2. Seek ways to reduce or eliminate liability on municipally-owned property used for recreation.

3. Encourage multi-use recreational facilities for participation by more of the population. Modest membership fees can help defray costs for multi-use facilities.

4. Provide provisions for recreational trails and paths including but not limited to walking, hiking, biking and cross country skiing.

5. Support adequate funding for recreation facilities.

Recreational Facilities - Recommendations

1. Secure funding to provide access to all public recreational facilities according to the Americans with Disabilities Act (ADA).

2. Encourage development of additional private and public recreational opportunities to benefit all residents and visitors of Ludlow.

3. Continue regular updates of the Capital Budget and Program for recreation facility needs.

Health and Safety Services

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

The police force, with five full-time and one part-time patrol officers and four communications operators, provides 24-hour daily service, including dispatch, throughout the Village and Town. The force responded to 1,488 incidents in 2009. 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 2010, the Department responded to 141 calls, and logged over 311 hours of total staff training. The Department purchased a new tanker truck, ten additional pagers and five new portable radios in 2009. Ludlow's fire protection facilities and services are considered sufficient to meet existing and estimated, foreseeable future needs.

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 2010 fiscal year, the Squad answered 592 calls. In 2009 the Squad purchased a new ambulance, acquired two power stretchers, and moved the repeater for improved communications with Rutland Regional Medical Center. The Squad is well trained and their services are generally considered to be adequate to meet current and anticipated future needs.

Besides the above health and safety services, Ludlow is designated by the State of Vermont as a public service E-911 answering site.

Health and Safety Services - Goals

1. Provide high quality municipal police, fire, and ambulance services to ensure the protection of public health and safety.

Health and Safety Services - Policies

1. Ensure that new development includes sufficient accessibility for emergency vehicles.

2. In order to protect the safety of residents and emergency services personnel, new development shall not exceed the existing or anticipated capacity to provide adequate emergency services.

3. Support measures to reduce the time needed by health and safety services for responding to calls for assistance.

4. Evaluate emergency communications facilities to ensure sufficient capacity to support police and ambulance service.

Health and Safety Services - Recommendations

1. Ensure that new development includes sufficient accessibility for emergency vehicles.

2. Provide continued training opportunities for police, fire and ambulance department staffs.

3. Maintain the Ludlow Capital Budget and Program with regular updates to address anticipated capital needs for emergency services. Continue to buy as much technology/equipment available to off-set staffing limitations.

Educational Facilities

Early History

It was eighteen years after the coming of the first settlers to Ludlow, before a schoolhouse was built. The causes of this delay were that the inhabitants were so thinly scattered over the township and many of them so poor that there was neither capital nor pupils to insure the support of the schools. As time went on, however, and the population increased, it was understood by the hardy pioneers that their children must learn to read and write to manage successfully.

In 1801, the residents of North Hill petitioned the selectman of the Town to organize a school and on April 10, 1801 the first school meeting was held. It was voted to raise sixty-six dollars to build a schoolhouse, to be twenty feet by twenty-four, one story high, with a four gabled roof.

At the next annual meeting, held April 21, 1802, it was voted to raise ten dollars to pay the expenses of the school for the year. It was also voted that each student should furnish two feet of wood for the school. If the wood was not delivered on or before the first day of school, the student was to be expelled from school.

From the beginning many small schools were built around the township.

Current Schools

Educational facilities in Ludlow are provided for grades K-12. Students in grades K-6 attend Ludlow Elementary School with an annual enrollment that ranges between 110 and 150 students (see Figure 7.1). Enrollment in the 2009-2010 school year was 117. 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.

Figure 7.1: Ludlow Elementary School Enrollment

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
187	177	164	145	145	118	117	123	117

Students in grades 7 through 12 from Ludlow, Mount Holly and Plymouth attend Black River Union High School. Attendance ranges from around 180 to 250 students annually, with an enrollment of 185 students in 2009-2010 (see Figure 7.2). The facilities include 19 classrooms. Additional space is shared with the Elementary School for gym, chorus, home economics, and industrial arts.

Figure 7.2: Black River High School Enrollment

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
318	300	261	243	232	233	208	205	185

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

Ludlow does not currently provide municipal facilities for post secondary or alternative adult education. These options are available within reasonable commuting distance in nearby communities, including Springfield, Brattleboro, and Rutland in Vermont Claremont and Lebanon in New Hampshire. Vocational training, workshops, and other educational opportunities are provided through the Springfield Technical Center. Unless, local demand increases significantly, Ludlow does not plan to provide post secondary educational facilities.

Both school boards of directors have worked on plans to update facilities within the schools. Many different options have been discussed, from building a new school to renovating existing facilities. Areas which have been addressed include cafeteria space, overuse of the gymnasium, and a need for general assembly space. During the past few years there has been discussion regarding use of the former Armory which is

contiguous to the schools. 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.

Current educational facilities are sufficient to meet future anticipated capacity needs.

Educational Facilities - Goals

1. Ensure we provide a broad and solid education in order to protect against the threat of ignorance to our society.

2. Provide adequate facilities to support the educational programs recommended by the Ludlow School District. These facilities must include sufficient space, light and a safe atmosphere to ensure the best learning environment.

3. Ensure that all residents of Ludlow have access to educational opportunities regardless of income or social characteristics.

4. Provide access to life-long learning and vocational training opportunities for all Ludlow residents.

Educational Facilities - Policies

1. Support the use of existing educational facilities to increase community access to educational opportunities.

2. Work with educators to secure additional educational opportunities for all Ludlow residents.

3. Continue to provide municipal transit services in order to access vocational training available in surrounding communities.

4. Impacts of new developments shall not exceed the existing or anticipated capacity of the local school facility.

Educational Facilities - Recommendations

1. Ensure that standards created by the Vermont Department of Education are followed in order to create a curriculum that will guide the development of teacher's lesson plans.

2. Coordinate educational facilities funding with educational program needs as determined by the School Board.

3. Seek additional ways to reduce vandalism and/or destruction of school property.

4. Capital investments for development, improvement, or maintenance of educational facilities should be carefully coordinated with the Ludlow School District to ensure that expenditures will meet the District Board's educational program needs.

Child Care & Early Education

Act 62 (2007) reaffirms Vermont's long-standing state and local support of voluntary pre-kindergarten programs for children between three and five years old. As noted in the Act, the "provision of early care and prekindergarten education through high quality private providers is one of the most crucial elements supporting the strength and stability of the system serving 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).

Child care is also an important consideration for employers and families with young children. Child day care facilities in Ludlow must meet certain State requirements for operation. 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 eight licensed providers and eight registered homes in the surrounding towns.

Child Care & Early Education - Goals

1. Continue to provide a high-quality preschool program at Ludlow Elementary School.

2. To ensure the availability of safe and affordable child care to meet the needs of Ludlow's residents and workers.

Child Care & Early Education - Policies

1. Support the development and operation of child care facilities within Ludlow.

2. Support efforts to provide State approved day care facilities in areas convenient to employers and residential land uses.

3. Support the operation of the Ludlow preschool program.

Child Care & Early Education - Recommendations

1. Seek State and Federal funding for additional child day care facilities to meet the needs of Ludlow's working parents.

2. Provide zoning incentives for child day care, adult care and emergency care facilities within Ludlow.

3. Survey child care providers and local families that need child care to determine the availability of facilities and need for additional facilities or services.

Additional Facilities

The Fletcher Foundation, town monies and private donations support Fletcher Memorial Library. The library, with more than 50,000 books, nearly 1,000 audiocassettes and internet access is open to the public six days a week. The Library is now a free WiFi hot spot for the community.

The Municipal Building on Depot Street houses all government services except the Cemetery Commission, the Recreation and Highway Departments, and the wastewater treatment facility. The building was renovated in 2008 and retrofitted for energy conservation. It is considered sufficient for anticipated facility needs.

The Black River Academy Museum on High Street is a popular site that offers a glimpse of school and town life back to the days it was attended by Calvin Coolidge.

Adult day care and/or nursing home care is also provided in Ludlow. Gill Home on Gill Terrace is a 121-bed full service nursing home. The 24 apartments at Gill Terrace Retirement Apartments are designed for independent living. In addition, the Black River Senior Center on High Street provides adult day care facilities five days per week, with bus transportation and a "Meals on Wheels" program. Local and regional population trends toward increases in residents over age 60 and children under school age signify a potential need to increase child and adult day care service in Ludlow.

Additional Facilities - Goals

1. Provide adequate additional municipal facilities in order to encourage future community growth as called for in this Plan.

Additional Facilities - Policies

1. Ensure that access to adequate adult care and/or nursing home facilities is provided for Ludlow residents who are incapable of independent care.

2. Support the development of an emergency care facility to provide more immediate access for Ludlow and surrounding communities.

3. Continue to encourage maintenance, use, and support for the Fletcher Memorial Library.

Additional Facilities - Recommendations

1. Seek grant funding for an emergency electric generator for the new community center.

2. Continue regular updates of the Capital Budget and Program for anticipated needs for municipal buildings.

8.TRANSPORTATION

Overview

This chapter provides an overview of Ludlow's existing transportation network, including state and local roads, road maintenance, parking, and pedestrian travel and transit, and evaluates its current conditions and related issues.

Roads & Highways

There are approximately 105 miles of roads in Ludlow under different jurisdictions (see Figures 8.1 and 8.2). 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. (See the Base Map which shows the local transportation network.)

Figure 8.1: Highway Classification

Highway Category	Miles
Class 1 TH	2.3
Class 2 TH	5.1
Class 3 TH	55.7
Class 4 TH	7.5
State Highways	12.0
State Forest Highway	1.3
Private	21.4
Total	105.2

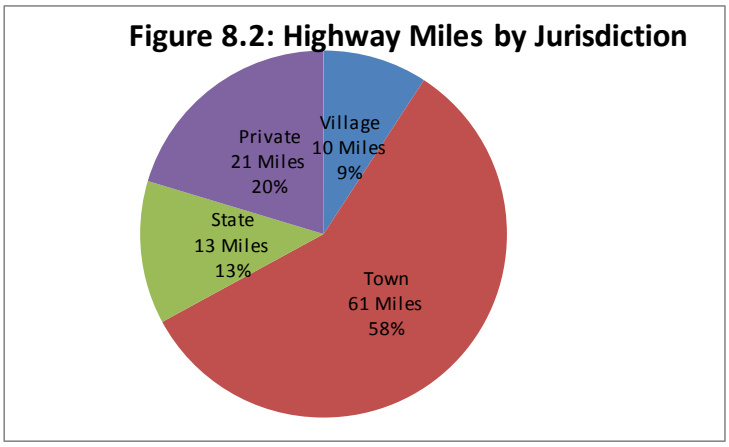
State Highways

There are approximately 13 miles of state-maintained highways in Ludlow. The arterial highways serving Ludlow are VT Routes 103 and 100, both of which follow sections of the Black River. A minor arterial, 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 town for 1.8 miles. VT Route 103 is a principal arterial that serves as a major connection between Interstate 91 in Rockingham and US Route 7 in Rutland. It is a heavily traveled road on the National Highway System for the movement of both people and freight.

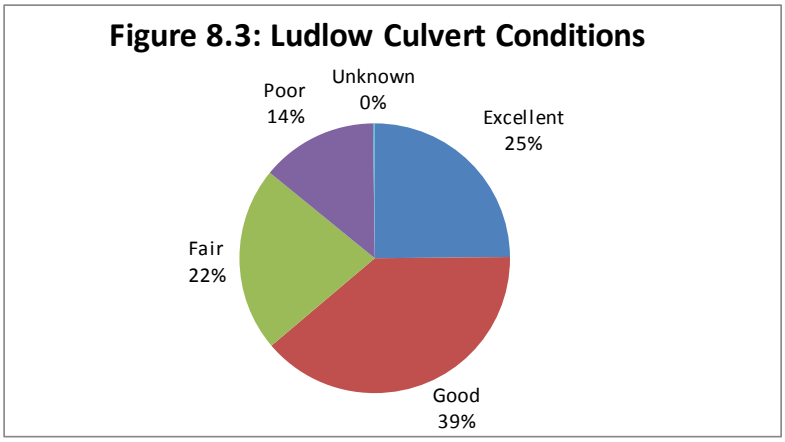
The westerly section of the Okemo Mountain Road provides access to the Okemo State Forest and is maintained as a State Forest Highway.

Municipal Roads



Ludlow maintains approximately 70 miles of local roads, 34% of which are paved. Municipally maintained roads include "town highways" under jurisdiction of both the Village of Ludlow (10 miles) and the Town of Ludlow (61 miles). These include heavily used regional collectors, quiet village streets, rural gravel roads, and Class 4 roads not maintained for year-round traffic. The road network also includes drainage ditches, 35 bridges and 511 culverts. More than 64% of the culverts are in good to excellent condition (see Figure 8.3). There are two priority municipal bridges in need of work, including the Walker Bridge (Bridge #25) on Main Street/VT 103) and Bridge #57 on Mill Street.

In Vermont, municipal roads are designated as Class 1, 2, 3 or 4 town highways, or trails (19 V.S.A. § 302). Class 1 roads include all state highways under the jurisdiction of municipalities – in Ludlow this includes the sections of VT Routes 100 and 103 within the Village. Class 2 and 3 roads are defined for the purposes of state aid and must be negotiable, under normal conditions, year-round by a standard passenger car. The state determines which town roads is Class 2, which typically provide access to neighboring towns or to major destinations, such as Okemo Mountain Resort. Class 4 roads are not generally maintained on a year-round basis. The local Select Board designates Class 3 and 4 roads.



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).

Highway Safety

The safety of the road network is a primary goal of this chapter. The following local safety concerns have been identified (see Table 5 in Appendix E showing high crash locations based on data from the Vermont Agency of Transportation):

- Intersection of VT Routes 103 and 100 North is a high crash location (see Table 5 in Appendix E);
- The roadway section of Main Street/VT Route 103 between Andover Road and Elm Street is a high crash location (see Table 5 in Appendix E);
- Intersection of VT 103, Okemo Ridge Road and Buttermilk Falls Road is the location of a fatal automobile crash in 2007. Improvements to this intersection, which involve a left-turning lane and realigning Buttermilk Falls Road, are currently in the design process.

Figure 8.4 Where Ludlow Residents Work:	
Ludlow	54%
Rutland	9%
Springfield	7%
Cavendish	3%
Hartford	2%
Rockingham	1%
Chester	1%
Plymouth	1%
West Windsor	1%
Arlington	1%
Other	20%
Total Jobs (primary & secondary)	815
Source: 2009 LEHD, U.S. Census Bureau	

Travel Patterns

Ludlow is not directly served by passenger rail, commercial airport, or any bicycle path. As is the case throughout Vermont, the private automobile is the dominant mode of transportation in Ludlow.

According to the 2009 Longitudinal Employer-Household Dynamics (LEHD) data from the U.S. Census Bureau, Ludlow residents worked 815 jobs (both primary and secondary jobs). However, this data source does not report self-

Figure 8.5 Where Ludlow Workers Live:	
Ludlow	21%
Springfield	17%
Chester	5%
Cavendish	5%
Wallingford	4%
Rutland	4%
Weathersfield	3%
Mt. Holly	2%
Rockingham	2%
Claremont, NH	2%
Other	35%
Total Jobs (primary & secondary)	2,131
Source: 2009 LEHD, U.S. Census Bureau	

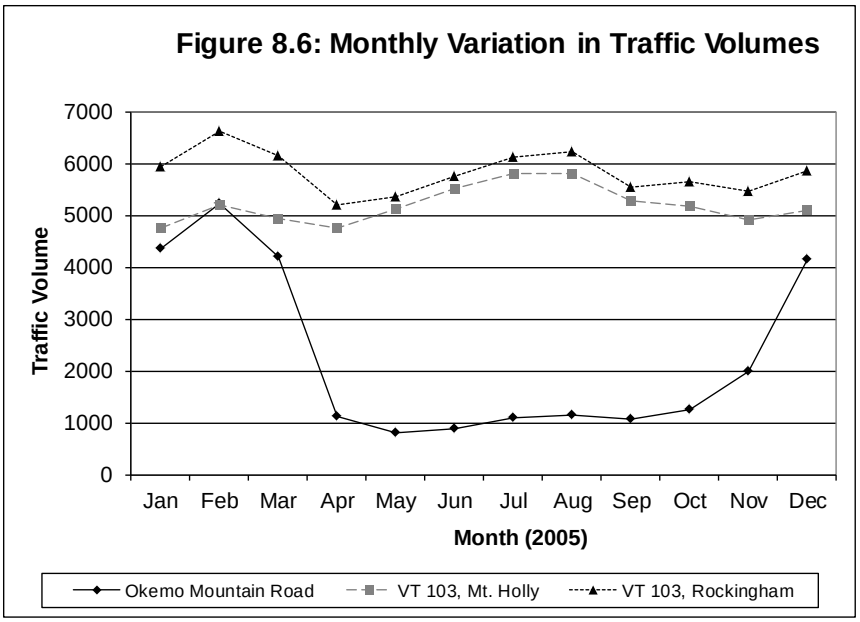
employed occupations. Figure 8.4 shows the top work destinations for Ludlow workers. Most common job locations for residents include Ludlow, Rutland and Springfield.

Also important are where people who work at jobs in Ludlow live. Common home locations for Ludlow workers include Ludlow, Springfield and other surrounding towns (see Figure 8.5). This data suggests some local workers travel a significant distance for employment.

Despite options for public transportation, most workers travel by private automobile. Given this reliance on the automobile, the location and condition of the town's roads is of primary concern when considering Ludlow's transportation network.

Traffic Volume

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 the appendix for data showing an annual growth rate in traffic volumes of 4.2% along VT Route 103 between Bowker Court and West Hill Road, and 2.8% on VT Route 100 adjacent to the Ludlow Electric building. Traffic volumes on High Street and Dug Road also increased since 2000. However, traffic has decreased on Okemo Mountain Road in the last 10 years, based on data from the Vermont Agency of Transportation.



With Vermont's and Ludlow's tourist dependent economy, high levels of seasonal peak hour traffic (Ski, Summer and Foliage seasons) are typical and can be viewed as a sign of economic success. The seasonal traffic on VT Routes 103 and 100 when coupled with the day in, day out use of these very busy routes create considerable delays at peak hours. As large truck traffic is limited on US Route 4, VT Route 103 is a major East/West artery for commercial traffic in Southern Vermont. 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. The increase in seasonal traffic has the residual effect on local roads as drivers seek alternative routes around the Village during peak hours of traffic. See

Figure 8.6 that demonstrates the increased traffic volumes on Okemo Mountain Road during the winter.

Truck traffic volumes are significant along state highways, especially VT Route 103 as it is on the National Highway System and serves as one of four major east-west connections in Vermont. Truck volume comprises up to 14% of all traffic on VT Route 103 (see Table 6 in Appendix E), which is a significantly higher proportion than the 10.7% statewide average for other principal arterial highways. VT Route 100 is also a major corridor for the shipment of goods and services, with 6.1% is truck traffic.

In 2009, the Vermont Legislature eliminated the State Truck Network, which previously encouraged trucks to travel on VT Route 103 as it would not require a permit for trucks 72 feet in length. Trucks up to 75 feet in total length may now travel all state highways without a permit. This may result in a moderate lessening of truck traffic on VT Route 103 and increases on other state highways.

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.

The municipality inventories all bridges and culverts, and makes updates regularly. A local road inventory (road surface management system) was last completed in Ludlow in the 1990s, but needs to be updated. These municipal infrastructure inventories can help to manage roads and serve as a basis for municipal capital budgeting. In 2008, the municipality adopted a Capital Budget and Program to serve as a six-year financial plan for capital investments.

Maintaining and enhancing the local road network in a safe and cost effective manner is an important community responsibility. 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. Approximately 23% of the combined Village and Town FY 2011 budget is for municipal highway-related expenses.

In addition to existing deficiencies, it is important that the municipality monitor development to ensure that the local road network is not overburdened by anticipated growth in the community. An effort to monitor traffic volumes and road conditions on an ongoing basis, and standards to identify and mitigate the impacts of new development on the road network, can avoid future problems.

Development is allowed on Class 4 roads only if the developer gets written approval from the municipality to upgrade the road to town road standards and reclassifies the road as a Class 3 town highway.

Access Management

The frequency, location and design of highway accesses – or curb cuts – have a direct bearing on the safety and efficiency of both town roads and state highways. The design of curb cuts also is important with regard to storm water management and road maintenance. Managing access can improve safety and better maintain highway capacity over time. 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, implemented through the municipal land use permitting process in coordination with the Vermont Agency of Transportation's state highway access permitting procedures.

Several techniques may be applied through Ludlow's zoning regulations, road policies and ordinances, and additional land use regulations (e.g., subdivision regulations). These include requirements for:

- Minimum sight distance at a driveway or street intersection,
- Maximum number of driveways per lot,
- Mandatory shared driveways,
- Maximum width of curb-cuts,
- Minimum or maximum on-site parking, shared-parking, and parking design,
- Minimum lot size and/or frontage standards along major highways,
- Allowed uses for zoning districts along major highways,
- Minimum area for loading and unloading, and
- Landscaping and buffers to visually define and enhance access points.

Ida Fuller, first recipient of Social Security.

Ida May Fuller was the first beneficiary of recurring monthly Social Security payments. She was born on September 6, 1874, on a farm outside of Ludlow. She attended Black River Academy where one of her classmates was Calvin Coolidge. She was a legal secretary to John Garabaldi Sargent. Miss Fuller's claim was the first Social Security check, check number 00-000-001 issued in the amount of $22.54, dated January 31, 1940. When she retired in 1939, she had paid just three years of payroll taxes. Nevertheless, she received Social Security checks until her death in 1975 at age 100. Fuller had collected $22,888.92 from Social Security Benefits, even though she had contributed only $24.75 to the system.

Ludlow development regulations (e.g., zoning, subdivision regulations) and road ordinances establish some of the above standards to manage access, but in many cases 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.

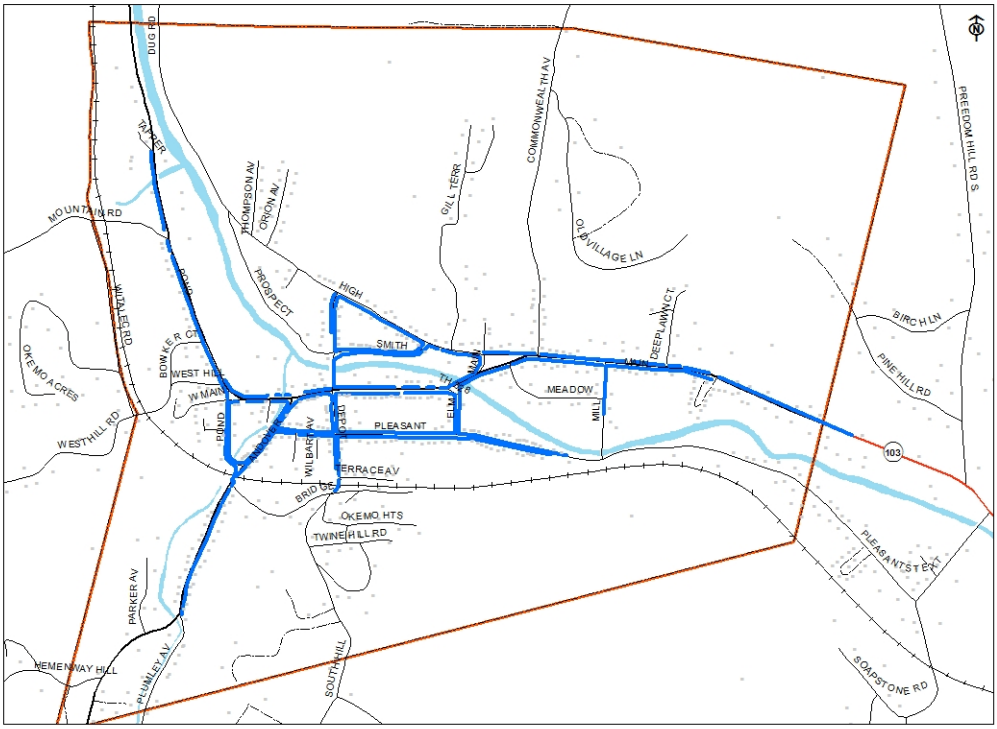
Parking

Availability of parking in Ludlow is affected by the amount of activity in Village. Public parking includes approximately 92 on-street parking spaces in the Village. In 2006, a municipal park and ride lot was developed at the Ludlow Fire Station located along VT Route 103 north of Okemo Mountain Road. A bus shelter was installed at the fire station park and ride lot in 2009. 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. The Village has leased parking spaces in the IGA lot for public use to improve parking in the Village. Off-street parking is now required under the Zoning Regulations for new development.

Pedestrian & Bicycle Circulation

The complexity of the local sidewalk system is a function of the size, distribution, and density of the residential neighborhoods and employment areas in town. Ludlow has approximately 5 miles of sidewalks, primarily within the Village (see the map inset).

Map Inset: Ludlow Sidewalk Network



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; 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.

Transit & Public Transportation

Ludlow Municipal Transit System

This municipal public transportation system created in 2002, serves the community throughout the year. Its goal is to provide a convenient easily accessible transit system to residents of Ludlow. The system provides service to schools, recreation and employment as well as shopping and medical facilities in Springfield. In addition to its scheduled service, the system provides transportation to the school's athletic teams, for field trips and a charter service.

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.

Connecticut River Transit

Connecticut River Transit (CRT) provides public transportation services in southern Windsor and Windham Counties. CRT operates a seasonal commuter service connecting Bellows Falls and Springfield to Ludlow and the Okemo Mountain Resort. CRT also provides on-demand transportation services for elders and persons with disabilities. In 2008, a new bus route was started by CRT and the Marble Valley Regional Transit District connecting Bellows Falls, Springfield, Ludlow and Rutland. Marble Valley provides service beginning in Rutland, CRT 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 *Vermonter* and *Ethan Allen Express*. The *Vermonter*, 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 the VT 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 and Ludlow.

Air Transport

The Burlington International Airport, located in South Burlington, provides regional and international airline service. The Burlington Airport has expanded both facilities and service in recent years. The airports in Albany, New York, Boston, Massachusetts (Logan), Hartford, Connecticut (Bradley) and Manchester, New Hampshire airport also provides regional and international flights. Due to service from discount airlines, the Manchester airport has become popular with Vermont travelers. 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.

Transportation – Goals

1. Provide for the safe, efficient and cost-effective movement of people, goods and services.

2. Maintain a local transportation system that will support a diverse economy and high quality of life for all residents.

3. Address the mobility needs of all residents.

Transportation - Policies

1. Proposed developments shall not cause undue congestion or safety hazards.

2. The Design Hourly Volume shall be determined by the thirtieth (30th) highest hour. This shall apply to any proposed development that is required by the Development Review Board to provide a traffic impact study.

3. Promote sound access management along VT Routes 103 and 100, including improving safety, minimizing traffic delays, avoiding the creation of unnecessary road intersections and curb cuts, and sharing commercial access roads and parking areas.

4. Ensure that all pedestrian and bicycle pathways are clearly marked and maintained for safety.

5. Encourage expansion and further coordination of train and bus services in Ludlow.

6. Promote multimodal transportation links, such as shuttle parking, and bike/pedestrian paths, linked with bus or train access.

7. Explore, promote and develop expanded use of passenger and freight rail service both within the community (to Imerys Talc Vermont, Inc. and the Dean R. Brown Jr. Industrial Park) and in nearby communities (Amtrak service to Windsor, Bellows Falls and Rutland).

8. Development roads and driveways must meet all applicable municipal standards in order to provide adequate safety and emergency vehicle access.

9. 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.

Transportation – Recommendations

1. Continue to implement the special peak seasonal traffic management program in the Village, and continue to explore other traffic management alternatives.

2. Maintain local road, bridge and culvert inventories, and use the inventories as a basis for managing the local transportation system and to inform an on-going six-year capital budget and planning process.

3. Coordinate local and state land use permitting procedures in order to encourage sound access management along VT Routes 103 and 100 in Ludlow with both the Southern Windsor County Regional Planning Commission and Vermont Agency of Transportation.

4. Explore cost-effective ways to improve safety and intersection performance at high crash locations in coordination with the Southern Windsor County Regional Planning Commission and Vermont Agency of Transportation.

5. Develop and implement a parking management plan, including effective directional signs. Continue to explore cooperative agreements between landowners and the municipalities to meet parking needs.

6. Continue to monitor traffic volumes on all four major ingress and egress travel corridors for Ludlow.

7. Inventory and identify scenic roads, and consider the designation of such roads as “Scenic Roads”.

8. Identify funding to improve the Walker Bridge on Main Street and Mill Street Bridge.

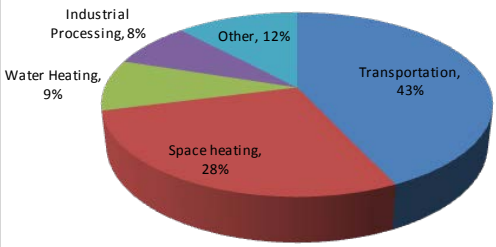
9. Seek alternative ways to develop the Calvin Coolidge Bike and Recreation Greenway.

9. ENERGY

Photograph by Tom Johnson

The purpose of this Chapter is to (1) analyze local energy resources and needs, (2) identify how to reduce municipal operational costs through energy efficiency initiatives, and (3), in coordination with the Land Use Chapter, encourage land use patterns that result in energy conservation as required by 24 V.S.A. §4382.

Figure 9.1 Vermont Energy Use



Insulating and weatherizing improvements to existing buildings as well as using energy efficient appliances and lighting can greatly reduce energy demand. In addition, expanding the use of renewable energy resources can reduce demand on non-renewables and help to improve national energy security and self-sufficiency. According to the Vermont Renewable Energy Atlas, there are currently two net-metered renewable energy systems located in Ludlow, one solar photovoltaic and one a wind turbine.

Energy Analysis

Transportation is largest portion of energy use in the state of Vermont at 43% (see Figure 9.1). Space and water heating combine to use 37% of the statewide energy.

Electricity

According to the Vermont Renewable Energy Atlas, electricity consumption in Ludlow increased significantly between 2004 and 2005 (see Figure 9.2). This trend is very similar to Windsor County consumption.

Figure 9.2 Electricity Consumption - Ludlow

Type	2004	2005	2006	2007	2008
Commercial & Industrial	18,284	26,553	27,022	29,430	28,565
Residential	12,209	17,674	17,755	19,210	19,120
Total	30,493	44,227	44,777	48,640	47,685
Windsor County					
Commercial & Industrial	205,257	220,417	227,216	230,988	225,718
Residential	211,212	222,976	219,701	227,185	225,721
Total	416,469	443,393	446,917	458,173	451,439

Source: Renewable Energy Atlas of Vermont

Residential uses consume more energy than commercial and industrial uses in Windsor County. However, commercial and industrial uses consume about 60% of the electricity in Ludlow. This is likely attributable to large commercial and industrial operations in Ludlow, including the ski resort and mining.

Figure 9.3 Vermont Projected Energy 2008-2028

Year	Without New DSM (MWh)	With New DSM (MWh)
2008	6,356	6,356
2009	6,324	6,256
2010	6,436	6,243
2011	6,552	6,235
2012	6,685	6,242
2013	6,821	6,254
2014	6,925	6,253
2015	6,941	6,181
2016	6,977	6,131
2017	7,042	6,110
2018	7,123	6,107
2019	7,205	6,105
2020	7,293	6,113
2021	7,381	6,125
2022	7,370	6,046
2023	7,440	6,059
2024	7,516	6,089
2025	7,583	6,121
2026	7,634	6,146
2027	7,681	6,171
2028	7,648	6,120
Average Annual Rate of Growth		
2008–2013	1.42%	-0.32%
2008–2018	1.15%	-0.40%
2008–2028	0.93%	-0.19%

Source: VT Comprehensive Energy Plan, Public Hearing Draft (DPS, May 2008)

Figure 9.3 shows projected energy demand based on a statewide analysis in the *Vermont Comprehensive Energy Plan* (Department of Public Service, May 2008). Without new additional Demand Side Management (DSM) programs, the demand for energy is projected to increase by 1.45% each year between 2008 and 2013. New DSM programs can mitigate the anticipated increased demand. With the uncertain relicensing future of Vermont Yankee power plant, it becomes more important to implement DSM programs and other efforts to promote energy conservation.

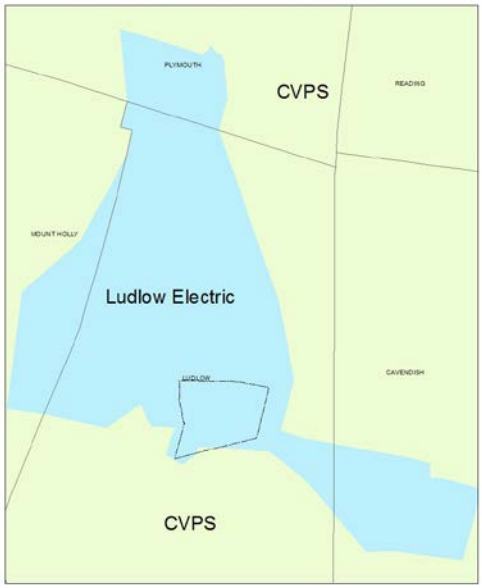
Recent improvements to both the Ludlow Municipal Offices & Community Center included a variety of energy improvements, such as installing T-8 fluorescent lighting upgrades, occupancy room sensors and insulation. The traffic signal at the intersection of Depot and Main Streets utilize LED, which not only reduces municipal electricity costs but also minimizes maintenance costs as LED lasts longer than standard bulbs. Significant savings can also be found by turning off unnecessary street lights or pursuing LED streetlight retrofits.

Electric Utility Service Providers

The Village of Ludlow Electric Light Department provides public electric service to approximately 3,125 customers in the Village and surrounding towns. (See Figure 9.4 showing the service area map.) Central Vermont Public

Service (CVPS) provides service to the residents and businesses in the northeastern and southern portions of Town. A more thorough description of utility services is provided in the Utilities and Facilities Chapter of this Plan. In addition, a few private generators use gas, propane, and diesel fuel to produce small amounts of electric energy.

Figure 9.4: Electric Utility Service Areas

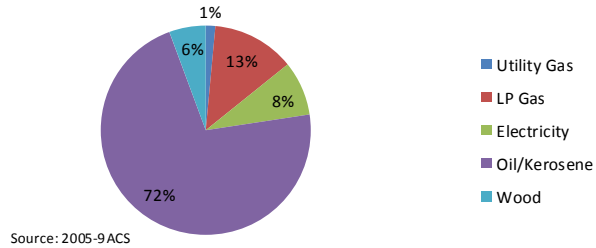


Ludlow Electric Department is a distribution utility, serving its customers out of three substation facilities. Ludlow's electrical power originates primarily from sources outside Town and is supplied through ISO New England, a complex power supply system that serves all of New England. Generation of this energy relies on a variety of sources, including hydroelectric and other types of private generating facilities. This support structure, based on a variety of sources, ensures that ISO New England will maintain sufficient capacity to meet current needs and anticipated future demand.

Heating

Heating buildings and water are two other important considerations for this energy plan. Based on the 2005-2009 American Community Survey (U.S. Census Bureau), a majority of Ludlow homes are heated with oil or kerosene (72%), with gas, wood and electricity as the next most used heating fuels (see Figure 9.5).

Figure 9.5 Ludlow Home Heating Fuels



Source: 2005-9 ACS

As discussed in the Utilities and Facilities Chapter, Ludlow Electric has a program to assist customers to switch from electric heat to other more efficient heating fuels.

Heating fuel use can be reduced through a variety of home efficiency projects, including but not limited to conducting an energy audit, insulation, sealing cracks in basements and attics, and installing renewable energy heating systems. Efficiency Vermont provides DSM services for electric utilities, including CVPS and Ludlow Electric. They are a resource to assist residents identify ways to reduce energy demand and ways to finance energy improvements to homes and businesses.

Non-renewable Energy: Fossil Fuels

Fossil fuels, derived from the remains of plants and/or animals, include crude oil and petroleum, natural gas, coal, and other hydrocarbons. These resources are considered finite and non-renewable because regeneration requires thousands to millions of years and the current consumption rate is rapid. Fossil fuels are presently used primarily for transportation and residential home heating. Ludlow's fossil fuels are imported.

Wood

According to the Vermont Renewable Energy Atlas, there are 15,115 acres of low grade wood in Ludlow for potential electric production or heating (see Figure 9.6). Through careful management practices, Ludlow's tree coverage has the potential for significant energy production. Trees that are useless for lumber or other wood products can be harvested, according to accepted management practices, and easily converted for energy consumption. Tree lots and timber industries can include the sale of firewood for economic, as well as energy, benefits. Recent development trends in rural areas can diminish and fragment existing wood lots. Woodlots that are smaller than 50 to 100 acres are generally too small to be used for commercial forestry. Minimizing further forest fragmentation would help to protect access to woody biomass for heating or electrical production.

Figure 9.6: Wood Biomass Resources

Type	Area (Acres)	Net Available Low Grade Wood (Tons)	Potential Capacity	Units
Electric Production	15,115	29,301	14,650	MWh
Thermal (Heating)	15,115	29,301	205,105	MMBH

Complete combustion of wood releases carbon dioxide (CO_2) and water back into the air. CO_2 is considered a contributor to the greenhouse effect. However, the release of CO_2 from efficiently burning wood is balanced by oxygen released by the tree during growth. Fossil fuels release carbon that was stored millions of years ago, thus increasing the current level of CO_2.

The Environmental Protection Agency (EPA) has approved stoves and wood chip gasifiers that operate at temperatures high enough to ensure complete combustion of wood. Besides cleaner combustion, these new stoves and wood chip gasifiers are more efficient and produce more heat from less wood than older conventional wood burning stoves. Masonry heaters can be a very efficient way to heat buildings burning only a few logs a day, which heat massive brick or masonry hearths that provide radiant heat throughout the rest of the day.

Figure 9.7: Solar Energy Systems

Type	No. of Sites	Capacity	Units
Existing Solar PV Sites			
Net Metered	1	2	kW
Non-Net Metered	0	0	kW
Total Existing:	**1**	**2**	kW
Potential Solar PV Sites			
Residential	2,220	3,113,751	kWh
Commercial	161	226,297	kWh
Industrial	2	2,681	kWh
Public	27	37,931	kWh
Total Potential:	**2,410**	**3,380,660**	kWh
Existing Solar Thermal (Heating) Sites			
Total	3	159	BTU

Commercial biomass energy production is better suited to areas served directly by the Green Mountain Railroad for fuel shipments

in order to reduce truck traffic. Some biomass facilities are able to provide district heating.

Solar and Wind

Solar and wind power technologies have been available for a number of years. Solar technology is also available to provide heat for both water and buildings. Though operating costs are typically low, the high installation costs may have deterred initial investments by developers, homeowners, and businesses. However, the long term savings accrued by these systems typically outweigh the initial investment. As of this writing, incentives and rebates are available to help pay for investments in these technologies. In addition, advancements in technology continue to lower the operating costs.

Figure 9.8: Potential Wind Development Area (Acres)

Scale	Class 1 (10-11 mph)	Class 2 (12-13 mph)	Class 3 (13-14 mph)	Class 4 (15-16 mph)	Class 5 16-17 mph)	Class 6 (17-18 mph)	Class 7 (19-25 mph)
Residential (30 meters)	9,407	2443	518	242	44	66	4
Small Commercial (50 meters)		760	954	168	15		
Large Commercial (70 meters)			29	706	104	20	
TOTAL	**9,407**	**3,203**	**1,501**	**1,116**	**163**	**86**	**4**

According to the Vermont Renewable Energy Atlas, there is currently one net metered solar photovoltaic (power) system and three solar thermal (heating) systems in Ludlow. There is significant potential for additional solar systems (see Figure 9.7).

The Vermont Renewable Energy Atlas shows one net metered wind turbine in Ludlow that generates 9 kW of power. There is also significant potential for residential and small commercial wind power (see Figure 9.8 and Potential Wind Energy Map). Commercial wind projects, including related access roads and transmission lines, can impact natural and aesthetic resources.

Wind Turbine Siting Policy

Residential-scale wind turbines refer to smaller structures designed and installed to generate power for individual residential structures. Municipalities may only regulate wind facilities that do not connect in any way to the public power supply. The Vermont Public Service Board regulates wind systems that are connected to the power grid. Other wind turbines are regulated by the Town of Ludlow Zoning Regulations. Residential-scale wind turbines are encouraged as long as they meet the applicable zoning standards as well as Ridgeline and Scenic Resources policies.

Community-scale wind energy systems refer to smaller structures that provide power and/or financial benefit to multiple community members. Examples of community-scale systems include a municipal wind turbine(s) that benefits the local government and taxpayers or a couple small wind turbines that provide power for a subdivision. These systems are usually net-metered and are subject to approval by the Public Service

Board. Such structures are encouraged as long as they meet Ridgeline and Scenic Resources policies and zoning standards, if applicable.

Commercial wind energy systems (wind farms) involve large, utility-scale projects with multiple turbines designed to generate electricity. Such projects are exempt from local zoning and are subject to approval by the Vermont Public Service Board in accordance with 30 V.S.A. § 248. It is Ludlow's policy that commercial wind energy systems are prohibited throughout the Town and Village. While Ludlow rejects commercial wind energy systems, the municipality recognizes the fact that they may still be allowed by the Vermont Public Service Board. Should a Section 248 application be submitted for such a project in Ludlow, the municipality requests that the Public Service Board require the developer to provide the following:

1. A wildlife habitat assessment, including assessment of impact to migratory, resident and breeding avian and bat populations;

2. A rare species assessment; and mitigation plans, if necessary;

3. A visual impact assessment, including pre- and post-construction photo simulations of the project as seen during the day and at night;

4. Alternative sites analysis;

5. Adequate financial surety, either in cash or letter of credit, to repair damage to local roads and to stabilize the entire construction site during construction of the project. The financial surety should be available to the municipality in the event that the municipality is forced to conduct work to secure the stability of the soil and vegetation on the site, including the access road, after construction is completed;

6. Sufficient decommissioning funds, kept in an escrow account associated with the property that is separate from the developer's general accounts, so that the site will be restored to natural conditions if the project is not repowered at the end of its useful life;

7. A contingency plan that outlines mitigation action, in the event of unforeseen and unacceptable negative impacts from the completed project; and,

8. Financial assistance to the municipality to pay for the hiring of qualified engineering, environmental, and legal consultants to assist the Town in reviewing the application and establishing local revenue agreements.

Figure 9.9 Hydroelectric Dams

Name	Stream	Head (Feet)	Potential Capacity (kW)
Existing Sites			
None			0
Potential Sites			
Lake Rescue	Black River	5	7
Reservoir Pond	Black River	2	10
Jewell Brook Site 1	Jewell Brook	58	15
Jewell Brook Site 2	Grant Brook	60	13
Total Potential Capacity (kW)			**45**

Hydroelectric

There are currently no hydroelectric facilities in Ludlow; however, six existing dams have the potential to produce 45 kW of power according to the Vermont Renewable Energy Atlas (see Figure 9.9). Historically, a few dams were used in Ludlow to generate the power to operate mills. Feasibility studies would help to identify the cost/benefit of the investment required to establish hydro facilities at any of these locations. Mini-hydro or run-of-the-river technologies are much smaller and have less environmental impact, but are difficult to permit as of this writing. A few municipalities are looking into such systems installed in municipal wastewater systems in order to generate power to operate the plant.

Energy – Goals

1. Continue to reduce energy consumption in Ludlow.
2. Reduce demand for fossil fuels by promoting public transportation, ride-share programs and other programs that lessens the dependence on single occupancy vehicles.
3. Promote the development of a transportation system that reduces the use of single-occupancy vehicles, and enables increased non-motorized vehicle and pedestrian traffic. This network should emphasize non-motorized links between schools, stores, work and home.
4. Promote new development to locate within or directly surrounding the Village in order to encourage walking, bicycling and public transit usage, and minimize reliance on motor vehicles for travel needs
5. Encourage land use patterns and development that use energy more efficiently.
6. Save money by reducing the overall energy consumption of municipal buildings and operations through a variety of cost-effective conservation and efficiency projects and strategies.
7. Promote the development of local renewable resources as a replacement for imported nonrenewable resources.
8. Increase public awareness of energy issues and build public support for energy efficiency and sustainable energy policies.
9. Promote workforce training for green or renewable energy related careers.

Energy - Policies

1. Conserve existing non-renewable energy resources. Support the gradual reduction in the use of fossil fuels and conversion to fuels derived from renewable energy resources.

2. Improve management and promote the use of Ludlow's woodlots for efficient energy uses.

3. Encourage owners of forested lands to follow the Accepted Management Practices (AMPs) established for silviculture.

4. Support efforts to educate consumers about the environmental and energy benefits of the complete combustion of wood.

6. Endorse the development and use of residential-scale renewable energy systems, such as solar heating, photovoltaic, wind, geothermal and mini-hydro.

7. Advocate the use of cost effective building siting and construction techniques (e.g. passive solar building orientation, etc.) in order to gain solar energy for space heating, water heating, lighting, and electricity.

8. Require an energy impact analysis for all major development proposals, assessing the quantity and source of increased energy consumption resulting from the development.

9. Prior to the approval of new commercial power generation facilities and additional or upgraded transmission or distribution lines or facilities, utilities shall demonstrate that they have first maximized demand management and energy efficiency and conservation efforts.

10. Commercial energy production facilities shall not have undue adverse impacts on significant wetlands, plant or wildlife habitat, scenic resources or inventoried historic or cultural resources.

11. Where development and construction of commercial renewable electric power generation facilities are proposed, plans must consider placement of such facilities in locations where aesthetic and wildlife impact is minimal or reasonable measures have been employed to mitigate adverse impacts.

12. Any commercial wind energy systems under review by the Public Service Board shall meet the Wind Energy Siting Policy as described in this Chapter.

Energy - Recommendations

1. Establish an energy committee in accordance with 24 V.S.A. Chapter 117 §4433 and §4464.

2. The Energy Committee, when established, will inventory and conduct energy audits on municipal facilities, and develop a strategic plan to make energy efficiency and conservation upgrades.

3. 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.

4. Examine the feasibility of expanding and improving coordination with the public transit and shuttle systems to accommodate more people in Ludlow and neighboring areas.

5. Advocate programs that will improve economic support for owners of forested land through zoning and tax regulations.

6. Investigate the cost and potential benefit of increasing or converting to the use of efficient wood burning devices for space heating and hot water in municipal or school facilities. Consider combining with other renewable energy technologies for greater conservation and reduced pollution.

7. Develop criteria for evaluating site design plans for the placement and aesthetic aspects of proposed solar and wind energy devices.

8. Promote combined use of solar and/or wind energy technologies with other renewable energy resources for conservation, reduced pollution, long range cost savings and tax savings.

9. Evaluate potential public solar or wind energy sites for energy potential and cost feasibility prior to construction

10. Adopt practical energy conservation standards in land use regulations in order to maximize the energy efficiency of development through siting, design and construction.

10. LAND USE

The way in which property owners use their land establishes a pattern of existing land use. To an extent, natural constraints, including steep slopes, watercourses, wetlands, flood hazard areas, and soil conditions determine land use patterns. With no other deterrents, development tends to occur in areas where such natural constraints are the least severe.

Much of Ludlow's historic land use pattern illustrates how nature has constrained growth. Development of the Village and the major transportation network has occurred in relatively flat, stable areas along stream corridors and in the valley. Development that has occurred in less compatible areas has required greater investments by developers to overcome natural constraints. New development in recent years has largely taken place in the rural areas of Ludlow.

Other factors that shape development patterns include constraints and conditions placed on developers through local, State, and Federal rules, regulations, and legislation. Regulatory measures help to reduce the tax burden and ensure that land use actions will not threaten the best interest of the community at large. They help ensure the health, safety, and welfare of Ludlow residents, and provide a guide for municipal growth and development.

Existing Patterns

Existing land use patterns are depicted on the Current Land Use Map (see Appendix). Relatively dense development defines the immediate Village area. Land uses are

primarily 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 has and is occurring 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 contribute to water quality problems. Development has been on small parcels initially intended for small summer camps with the trend being to expand the existing buildings for year round usage or to rebuild small existing camps as large vacation homes.

Okemo Mountain Resort, Inc. has developed land on Ludlow (Okemo) Mountain for recreation, and resort/second home uses. Okemo Mountain Resort is incrementally expanding into a four-season resort.

Okemo State Forest, 2,000 acres along Ludlow's western border, is used primarily for outdoor recreation and forestry.

Two major 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 and open land of prime and statewide 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, public and private 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 Base Map (see Appendix) 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.

Future Patterns

Ludlow's future land uses will be determined by a blend of community attitudes and desires, economic forces, natural constraints, existing development patterns, and land use regulations. Balancing these factors is the fundamental precept for the land use plan. Refer to the Future Land Use Map (see Appendix) for desired future land use patterns.

Lands with access to municipal water and sewer services or few natural restraints are likely to receive the most pressure from developers and encourage high-density development. Ludlow's attraction for recreation and tourism is likely to encourage primarily second home growth. This results in an increase in the service industries and commercial and recreational development for tourism.

Favorable conditions, including location, access to major transportation routes, and availability of public services, are likely to expand Ludlow's role as a regional center for neighboring communities.

As Ludlow responds to the development pressures discussed above, the community should consider the appropriate course of action for guiding growth. Random development, responding only to market forces, has serious implications within the community. Uncontrolled development can result in incompatible land uses, loss of value in historic, aesthetic, and natural resources, traffic and parking problems, inadequate public facilities and services, and strip development.

However, controlling development does not mean stopping growth. Ludlow should anticipate growth and determine where, and at what pace, development can be supported. Encouraging desirable and compatible growth, in areas with existing infrastructure and municipal services, maximizes potential success for both the developer and the community.

Planned Unit Development (PUD) is a means to encourage compact, pedestrian-oriented development and redevelopment, and to promote a mix of residential uses or nonresidential uses, or both. To provide for flexibility in site and lot layout, building design, placement and clustering of buildings, use of open areas, roads, pedestrian facilities, parking, and related site and design considerations that will best achieve the goals for the area.

Establishing a thoughtfully conceived plan for development and subsequent land uses will help ensure desirable future growth patterns. Careful consideration of compatibility issues, societal needs, and natural constraints will help Ludlow to avoid some of the pitfalls associated with uncontrolled development. Individual property rights must be reasonably balanced with the rights of abutting neighbors and the community at large. Property owners are guaranteed the right to use their land to the extent that such use does not infringe on the rights of others. Developing the regulations needed to avoid land use conflicts provides for an equitable balance between the property rights of the individual and the individual rights of all community members.

Future Land Use Classifications

The Future Land Use map, which is included in the Appendix, is a basic tool for resource management and planning. These land use designations provide a standard system by which units of land can be categorized. For the purposes of the discussion in the Municipal Plan, the future land use designations are intended to provide a broad, overall vision of future development and should not be used for parcel-specific comparison. The following future land use definitions accompany the groupings displayed on the map.

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. 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 area shall serve as the focus of social and economic activities in the community. Served by public water and sewer services, sidewalks and an 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.

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.

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.

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-family residential, 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 shall avoid strip development along VT Route 100.

Aquifer Protection District

This district is designated for preservation based on unique environmental characteristics, such as the aquifer recharge area. Although dispersed, very low density residential uses may occur within the conservation area; future high-intensity development is not suitable and is strongly discouraged 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.

Conservation

The conservation 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.

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 the flood hazard areas as mapped by FEMA 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.

Land Use - Goals

1. Plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside[7].

2. Promote orderly growth in a way that encourages compatibility between adjacent land uses, without creating an undue burden on Ludlow citizens to support that growth.

Land Use - Policies

1. Development shall be consistent with the future land use categories and map.

2. Encourage development to locate in areas already served by existing roads, utility lines, and services.

3. Promote the re-establishment of tree cover in the Village area.

4. Encourage a mix of compatible uses at higher development densities within the Village, consistent with the established development pattern.

5. Support the use of compact development techniques throughout Ludlow to encourage easier and less expensive municipal service, energy efficiency, and the preservation of open space.

6. Ensure those proposed uses of historic sites and structures to maintain important historic characteristics.

7. Ensure the timely provision of adequate municipal services and infrastructure to support desirable commercial and industrial growth.

8. Provide sufficient accessible public land uses to meet the needs of all Ludlow residents.

9. To the extent possible, resolve transportation conflicts associated with land uses (access, traffic circulation, parking, and pedestrian/vehicle conflicts).

[7] In accordance with 24 V.S.A. § 4302(c)(1)

10. To support the use of Okemo State Forest to promote recreation, tourism and travel related businesses.

11. Encourage commercial development that reflects traditional patterns of compact villages and urban areas and surrounded by areas of reduced residential density.

12. Promote higher density development, residential and commercial, within the village limits where the infrastructure already exists to support such development.

13. Commercial development within the Outdoor Recreation district shall be limited to those functions directly related to and in support of recreation, and shall be consistent with any master plan approved for the development.

Land Use - Recommendations

1. Develop only those land use regulations necessary to protect and preserve the health, safety, and welfare of residents and visitors, Ludlow's economic viability, important natural resources and to effectively reduce municipal costs to support development.

2. Ensure that necessary land use regulations consider and protect the rights of the individual property owner, while also protecting and ensuring the rights of other members of the community.

3. Cooperate with adjacent communities and the region to reduce land use conflicts.

4. Examine, evaluate, and revise existing municipal regulations as needed.

5. Ensure that all local regulations are supported by and compatible with the goals and objectives of the Municipal Development Plan.

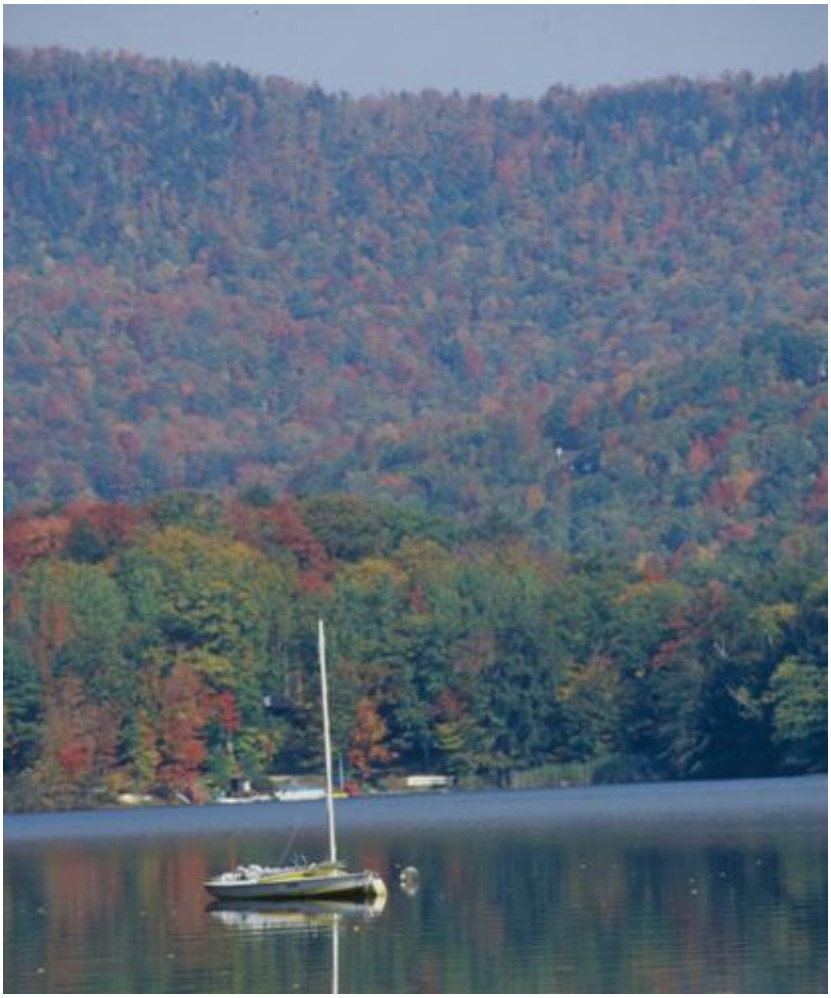
6. Establish methods for working with developers to ensure land use compatibility before construction.

7. Within the Village and Town, encourage development proposals to include provisions for landscaping and preservation of the tree canopy.

8. Establish an equitable mix of affordable residential land uses.

9. Develop zoning regulations to support the Land Use goals stated in the previous section.

11. RELATIONSHIP TO SURROUNDING TOWNS AND REGIONS



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/Ottauquechee 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. For example, Cavendish has no zoning or subdivision regulations, while Andover has subdivision and zoning 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.

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 2009 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. The changes in this 2011 update to discourage strip development as well as the long held policies to promote a traditional settlement pattern surrounded by a rural countryside improve the consistency and compatibility mentioned above.

12. SUMMARY OF CRITICAL ISSUES & IMPLEMENTATION

The *Ludlow Municipal Development Plan* provides a look at the current environment in the Town and Village, and defines a vision for the future. It is meant to provide a framework for development and growth in Ludlow. The Plan also identifies issues that must be addressed in order for the community to continue to grow without a degradation of the quality of life that is so important to residents and visitors alike. This Chapter summarizes key issues and recommended steps for implementation of this Municipal Plan.

SUMMARY OF CRITICAL ISSUES

Although a set of goals and implementation strategies have been identified within each section, there are a number of items that require additional consideration in order to maintain the community in which we live. These items are so critical to the future of Ludlow that they must be addressed, as the price of ignoring them will only serve to erode the quality of life we have come to expect in Ludlow.

1. Maintain an up-to-date capital budget and program for future growth of municipal facilities in Ludlow.

   In order to facilitate some of the programs identified in this section as well as the needs identified in the rest of the plan, it is important to consider the financial implications. It is also important to use the capital budget and program to achieve some of the goals of the community. . A capital budget and program is a multi-year plan of public capital projects proposed to be undertaken, including estimated project costs and the proposed method of financing.

2. Work towards the improvement of employment opportunities.

The need to improve housing availability in Ludlow is a result of the rising cost of housing due to the demand for second homes by people who are able to spend more money on housing than residents. This issue can be addressed in a number of ways. Procuring grants for affordable housing or forcing developers to build low income units through zoning regulations are two approaches. Another approach is to try and attract industries that will provide year round employment opportunities as well as pay higher wages. It is important to work on all approaches so that the town can continue to provide a place for all people to live and work in a healthy and comfortable environment.

3. Provide adequate facilities and services for the care of senior citizens.

   Due to the changing demographics of the population of Ludlow, the number of senior citizens has been on the increase. With this change in the population comes a change in the needs for facilities to assist and care for the elderly. It is important for Ludlow to continue to maintain the senior center while planning for the center's growth. It should be a high priority to provide a plan for continued support of programs, services and facilities for this segment of society.

4. Development of affordable housing must be a priority.

   According to the 2009 Southern Windsor County Regional Plan second homes and vacation condominiums have increased significantly between 1990 and 2000 largely due to Okemo Mountain Resort and the Lakes District in Ludlow. Despite the slowed economy, a 208 unit development, primarily of seasonal homes, was approved by the Development Review Board in 2011. As this trend continues, and the amount of undeveloped property decreases, the values of all properties will continue to increase, becoming unaffordable for many. This trend makes finding affordable housing in Ludlow much more difficult. It is up to the municipal government, along with assistance from regional and state authorities, to make every effort to see that affordable housing is available in town. Without this effort it will become very difficult for families to live in Ludlow.

5. Provide a plan to reduce or redistribute traffic flow through the Village and Town.

   Due to a number of factors, the amount of traffic in and through Ludlow has been continuously increasing in recent years. The issue is not only related to the growth of Okemo Mountain Resort but also to the increased use of VT Route 103 as a major east/west route through southern Vermont. This is an issue that affects Ludlow directly as well as communities all along that route. In order to reduce and/or resolve this issue it is important to seek regional and state assistance to study, reduce and redistribute traffic in and through Ludlow.

6. Discourage increased development and redevelopment in the Lakes district.

   The Lakes District as defined in the Municipal Development Plan is to "provide for the beneficial use of public waters by the general public, to protect shore lands of waters". In order to maintain the natural beauty, water quality and availability for everyone, it is important to limit increased development in this region. The Lakes Region and the lakes shoreline is a fragile environment that needs to be protected for current and future generations. It is therefore important

to limit increased development in this area and limit erosion/sedimentation of the lakes.

7. The Village should maintain Village Center designation from the state.

   Ludlow was designated as a Village Center in 2011 by the state Downtown Board. The village center area of Ludlow has been the focus of business within the community. A "Regional Center" as defined by the Southern Windsor Regional Plan is served by public water and sewer infrastructure; exhibits a high-density mix of commercial, civic and residential uses and public gathering spaces; and "provides regional services, shopping and employment opportunities". The Village of Ludlow is identified as just such a center. Village Center designation makes property owners eligible for certain tax credit programs, gives the Village special consideration for certain grants as well as validates the multi-faceted revitalization efforts that have been underway for a number of years.

8. Signage/Sign Ordinance

   Consider adopting a Sign Ordinance to replace and update the existing signage provisions in the Zoning Regulations.

9. The village should implement a plan to acquire properties to provide for off street parking.

   The lack of parking in downtown Ludlow has become an issue for residents, visitors and merchants alike. As the community continues to grow it is important to maintain the vitality of the Village commercial area. The limited number of parking spaces in the village center area makes it hard for residents to go about their everyday business and limits visitors' access to shopping, restaurants and other businesses in Ludlow. In order to maintain the vitality of the village center area the number of parking spaces must be increased.

While these issues are not the only ones facing Ludlow, they are the ones that were identified as the most important. Implementation of this plan is a cooperative effort requiring hard work from all involved parties. It is important that we all take an active interest and responsibility in the future of our Town and Village. The next section summarizes recommended implementation measures.

IMPLEMENTATION

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 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.

At the local level, the Town and Village may take some of the following actions to implement the goals of this Plan:

1. Update bylaws and enforcement procedures to be consistent with the *Ludlow Municipal Development Plan* and as authorized by Vermont statutes.
2. Ensure that bylaws are:
   a. Clearly written and easily understood.
   b. Consistent with any State or Federal legislation.
   c. Compatible with the Municipal Plan.
3. Prepare a six-year Capital Budget and Program to address scheduling and funding for desired municipal projects and expenses.
4. Refer to the Municipal Plan when planning additions and improvements to local infrastructure such as local roads and public utilities. Such additions or improvements should be used to plan for appropriate growth and development.
5. Utilize this Municipal Plan to guide development and public service investments under both Act 250 and Act 248 proceedings.
6. Continue to plan and work to conserve important resource lands.
7. Encourage non-regulatory conservation through a variety of available programs, such as a local conservation fund, Vermont's Use Value Appraisal (or Current Use) program, public or private conservation easements, and Forest Legacy and other programs.
8. Identify new and review existing regulatory conservation provisions to minimize the negative impacts of development on important resource lands.
9. Coordinate with the Okemo Valley Chamber of Commerce and other partners to market and promote the VT Route 100 Scenic Byway.
10. Work with the Regional Planning Commission and Windham and Windsor Housing Trust to evaluate local housing needs and target appropriate strategies to address the identified needs.
11. Consider establishing a Conservation Commission, Energy Coordinator or Energy Committee in order to better address energy or conservation efforts in Ludlow.

12. Continue to work with the Regional Planning Commission as an important resource for the municipality with local planning efforts.
13. Establish advisory committees to address Critical Issues and other recommendations in this Municipal Plan.

Appendix C lists optional tools for municipal plan implementation that may be considered by any municipality.

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).
COMMERICAL 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*)
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 (NVGD) 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 al 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 trials 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.