



The Town and Village of Ludlow, Vermont

Municipal Development Plan

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1. INTRODUCTION



History

Ludlow is located in the southwestern part of Windsor County, in southern Vermont, at the crossroads of Route 100 and 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.

The town is located on the eastern side of the Green Mountains and has, on its western border, the mountain known as Ludlow Mountain, 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 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.

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Although Ludlow started out as an agricultural community, it became a center for manufacturing in the late 1800's. The Town of 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 Mountain. 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 shrinking residential population. Reliance on the existing market forces is likely to result in persistent rises in housing costs, and a trend toward a service economy to support tourism and seasonal homes. This trend would result in the income levels of current residents continuing to shrink and the creation of a new population comprised primarily of wealthy year-round and seasonal residents. Commercial businesses and manufacturing would continue to develop to support wealthy residents and tourists.

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 the Town'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 Town.

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

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- 3) Serve as a basis for responding to Act 250 permit requests.
- 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.

General Recommendations

- Update bylaws and enforcement procedures to be consistent with the Ludlow Municipal Development Plan and authorized by the Vermont statutes.
- Ensure that bylaws are:
 - Clearly written and easily understood.
 - Consistent with any State or Federal legislation.
 - Compatible with the regional plan.
- Prepare a five-year Capital Budget and Program to address scheduling and funding for desired municipal projects and expenses.

Process

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

Regular meetings open to the public were held by the Planning Commission.

In addition, a public hearing was held pursuant to the provisions of Title 24, Chapter 117, § 4384 (e), of the Vermont Statutes Annotated. This hearing has been duly warned and copies of the proposed “plan” were available at Town Hall.

2. COMMUNITY PROFILE



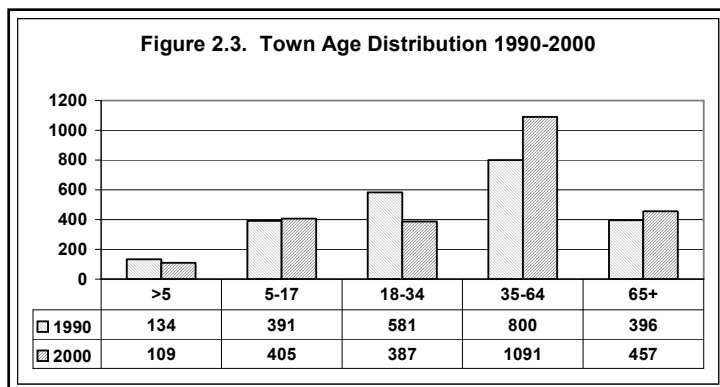
Overview

The characteristics of a local population – size, age and gender, education levels, poverty status – 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 in Ludlow¹ and presents those trends and current characteristics in a regional context.

Recent Population Trends

After two decades of decline beginning in 1970, Ludlow’s population experienced modest growth during the 1990s. Population growth was comparable to that of neighboring communities, and reflects a slightly higher percentage increase than the county as a whole. During the same ten-year period, however, the Village lost nearly 15% of its population. This indicates that the Town’s population growth outside the Village was significantly higher, reflecting a shift away from the historic population center of the community to the less densely developed countryside. The percentage of Ludlow residents living outside the Village went from 51% in 1990 to 63% in 2002.

¹ References made to “Ludlow” are intended to include both the Town and Village unless otherwise specified.



Recent population trends for the Town and Village, neighboring communities, the county, and state, are provided in Table 2.1 in the Appendix.

Source: U.S. Census.

From 1960 to 1990, Ludlow experienced net “out-migration,” meaning that more people moved away from Ludlow than moved to

Town from other places (see Figure 2.2). In the 1960s, this was offset by a net “natural increase” in the population, meaning the number of local births exceeded the number of deaths, resulting in a net increase in population. Natural increase declined in the 1970s; and a natural decrease in population occurred during the 1980s (local deaths outnumbered births) – a trend that intensified through the 1990s. The past decade, however, marked the Town’s first net in-migration in forty years and the largest ten-year jump in population since the 1930s. A result of this trend is a significant change in the composition of the local population.

Like the state and nation as a whole, Ludlow’s population is aging. According to the U.S. Census, the number of seniors (65+) grew slightly during the 1990s, while the number of 35-64 year old residents grew significantly. A corresponding decrease in the number of 18-34 year olds occurred, while the number of children remained relatively stable.

It appears as though children born during the “baby-boom let” of the late 1980s/early 1990s are moving through the local school system (see Chapter 6). 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. Changes in the age distribution of the Town’s population between 1990 and 2000 are presented in Figure 2.3. Other significant changes in the local population since 1990 include:

- A shrinking majority of native-Vermonters comprise the local population (64% in 1990 to 53% in 2000) – especially outside of the Village.
- An increase in the education levels of local residents, with the percentage of the population with high school diplomas rising from 74% in 1990 to 87% in 2000, and the percentage with college degrees rising from 14% to 26% in those same years. Both percentages are higher outside the Village.

Population Profile

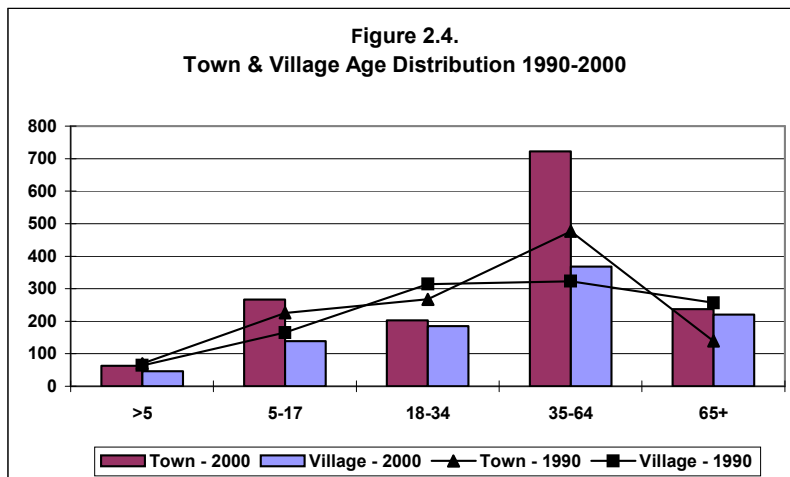
The trends described above have resulted in Ludlow’s population more closely resembling that of the county and state in recent decades. There are some distinctions, however – the Town’s population includes a higher percentage of seniors and a lower

percentage of families with children. In addition, there are clear differences between the Village’s population and that of the Town outside of the Village. A comparative analysis of Ludlow’s current population, is presented in Table 2.2 in the Appendix

As noted above, the population of the Village declined over the past decade, while the number of residents living outside the Village rose sharply. While the Town as a whole experienced a rate of population increase of 6.4%, the population residing outside the Village grew by 26.5%. This indicates a more significant rate of development than is obvious from the town-wide increase. It also suggests that the composition of the Village population has changed significantly relative to the population-outside the Village.

Figure 2.4 shows age distributions in the Village, compared with those outside the Village, for both 1990 and 2000. It is clear from the chart that much of the increase in the number of 35-64 year olds living outside the Village is attributable to in-migration, and that the composition of the Village’s population relative to the remainder of the Town’s has shifted considerably in the past decade. The only age group for which the Village and Town became more similar is the percentage of the overall population comprised of elders (65+ years of age), due to a significant increase in the number of elders living outside of the Village.

Other dissimilarities between the Village and remainder of the Town that are not readily apparent in Table 2.2 (included in the Appendix) are:



- A gap in the percentage of families and individuals living in poverty—5.4% of families and 6.4% of individuals living outside the Village lived below the poverty level in 2000, compared with 6.7% of families and 9.5% of individuals residing within the Village.
- Greater affluence of residents outside the Village— 42.6% of households outside the Village had reported incomes greater than \$50,000 in 2000, compared with only 24.7% of households in the Village.
- Differences in educational levels – 88.4% of residents outside the Village attained a high school diploma, compared with 83.7% within the Village while the percentage of Village residents with a Bachelors degree was higher (26.4%, compared to 22.8%).

Special Populations

Ludlow has a relatively small “institutionalized” population – a total of 57 people in 2000 – all of whom reside in the Gill Odd Fellows Nursing Home Facility. The percentage of Village residents reporting a disability in 2000 is relatively high – 22.2% – which may in part be due to the presence of the nursing home and associated elderly housing units.

Seasonal Population

Recent trends in Ludlow’s year-round population are dwarfed by changes in the Town’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 nearly 600,000 in 2000/01 – an increase well over 500% (see Chapter 5). 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 4).

According to data provided by Okemo to the Vermont Environmental Board, the “comfortable carrying capacity”² (CCC) of the mountain was 9,750 in 2000, and is planned to increase to 11,380 with the completion of phase one of the Jackson Gore project presently under construction. Based upon existing and proposed lodging and seasonal home development, Ludlow’s peak seasonal population is estimated to be 8,467 people (as of 2000, excluding mountain properties), excluding day-visitors residing in other communities.

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 Town over an extended period.

In light of this estimated effective population, the demands for many services exceed those typical for a town of 2,500. 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 - Goals

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

² Comfortable Carrying Capacity refers to an engineering standard by which a ski area can measure the capacity of its infrastructure to accommodate a given number of people over the span of an entire day.

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- 2) Encourage younger families to migrate into the community.
- 3) Attempt to balance the local seasonal population with the year-round population.
With considerations given to:

- Demand for services, especially transportation, emergency services, utilities and infrastructure (e.g., electricity, wastewater disposal)
- Economic opportunity in the community
- Demand for housing
- Community character and the local quality of life.

- 4) Preserve Village vitality.

Community Profile – Implementation

- Develop zoning regulations that encourage affordable housing development within the municipality to ensure compatibility with rural and village character and promote a sense of community as well as help stabilize Ludlow’s year-round residential population.
- 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: 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 Town'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 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, snow shoeing, 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.

Forest Resources

Forests cover approximately 40 to 50% of the land area in Ludlow. Publicly owned forests, that include the Okemo State Forest, comprise more than 2,000 acres of the land and account for more than 10% of the total land area in Ludlow (see table 3.1 in Appendix). Understanding forest values in Ludlow has led to an informed decision to maintain this valuable resource.

Forest Resources – Goals

- Preserve and protect Ludlow’s forest resources to ensure continuation of their environmental, aesthetic, and economic values.
- Promote measures that encourage owners of large forested tracts to avoid fragmentation or subdivision of forested areas.
- Support local, State, and federal programs and funding that will encourage landowners to retain managed forestlands.
- Promote the reestablishment of tree cover in the Village area.
- Promote the long-term productivity and renewal of forest resources through use of the Accepted Management Practices.
- Encourage compatible uses of forestlands for recreation, tourism and economic benefit where such uses will not impair forest quality or wildlife and/or forest habitat.

Agricultural Resources

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.

Agricultural Resource - Goals

- Conserve former agricultural lands for their current and potential value as an aesthetic which contributes to economic markets in tourism and recreation.

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- Encourage developers to reduce the loss of agricultural soils by clustering techniques, minimal paving, offsite mitigation, etc.

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 – Goals

- 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 significant degradation to the environmental, aesthetic, or economic values of surrounding areas.
- Promote the economic benefits of wise mineral resource management including sand, gravel and other minerals available in the Ludlow area.
- Ensure that uncontrolled active extraction of mineral resources shall not lead to premature resource depletion, inadequate time for environmental restoration and recovery, or obnoxious effects such as noise, dust, or visual degradation of the site and surrounding neighborhood.
- 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.

Water Resources: Surface and Groundwater

Ludlow's profusion of streams, lakes, ponds and wetlands are interspersed with other landscape elements to provide pleasing visual contrasts throughout Town. Headwaters for the Black River and for the north branch of the Williams River, two major tributaries in the Connecticut River watershed, originate in Ludlow. Two large lakes, Lake Rescue and Lake Pauline are in the northern part of town, at the head of the Black River. A local Lake Association was formed in August of 1954 to address lake related issues. In addition, many ponds and wetlands dot the landscape providing visual interest, recreational opportunities, and habitat for wildlife

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

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and Terrible Mountains, 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.

The Ludlow Wastewater Treatment Plant processes effluent from the village and town sewer system. It must be designed, developed and maintained in a way that does not cause damage to the river down stream from the plant discharge. As the town and village grow, the plant capacity must be increased to provide adequate protection to the natural environment and all users of the river.

Water Resources – Goals

- 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.
- Protect shorelines and stream banks from surface runoff that could lead to excessive erosion, sedimentation, and/or other pollution of surface waters.
- Protect the aquifer district from high-density development that can lead to detrimental affects on the water supply.
- Ensure that the Ludlow Wastewater Treatment Plant is adequate to service the community and that all state regulations are met regarding discharge. (See Table 3.2 – Appendix)
- Develop appropriate measures to protect or improve water quality in Ludlow’s lakes, ponds, rivers, streams, and wetlands. Measures should include requirements for adequate vegetative buffers and standards for development to control density, soil erosion, sedimentation, and pollution.
- Promote development of adequate regulations to ensure proper septic system and wastewater handling design and operation.
- Encourage means to adequately protect sources of drinking water for individual homes and the town and village as a whole.
- Encourage the use of proper techniques for the construction and maintenance of public and private roads, buildings, paved areas, and other types of development.
- Work with private landowners on Lakes Pauline and Rescue to secure additional access and/or recreational facilities for public use.
- Work cooperatively with the Connecticut River Joint Commissions, the Black River Watershed Association, the Lake Association and others involved in water quality issues.

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- 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.

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.

Rare plants and animals have been documented in the Ludlow area. The Natural Resource Map of Ludlow includes at least two generally defined natural heritage sites. Efforts to protect these rare and endangered species prevent publication of their specific location.

Maintaining Wildlife Resources should be done by the encouragement of protection measures and preservation of sufficient healthy habitats to ensure the continuation of Ludlow's wildlife resources.

Wildlife Resources – Goals

- Control development in environmentally sensitive areas.
- 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.
- Establish preservation measures for areas identified as critical habitat for the survival of wildlife species.
- Support private organizations, landowners and others who are involved in efforts to ensure the continuation or enhancement of Ludlow's wildlife population.
- Encourage the economic community that involves or relies on fish and wildlife populations to contribute to sustaining Ludlow's wildlife resources.
- Develop a mitigation policy and provide development guidelines for mitigating any negative effects on deeryards, bear corridors or other important habitat areas.
- Encourage landowners to avoid subdivision or fragmentation of land that would result in significant loss or degradation of fish and wildlife habitat areas.

Natural Resource - Implementation

- 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.
- Incorporate State, Federal and local educational measures, funding or incentives to encourage land owners to protect and preserve natural resources
- Work with local, regional, State and Federal agencies to promote appropriate use, preservation, and protection of important resources.
- Develop an inventory of natural, environmentally sensitive and scenic resources to be used in protecting and preserving these features.

4. HOUSING

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.

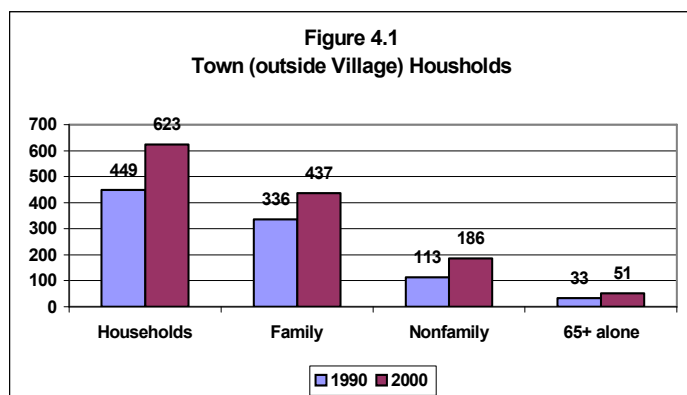
Because a decent place to live is one of life’s basic necessities, a main goal of local planning is to ensure safe and affordable housing for all current and future Ludlow residents. A diverse housing stock also supports a diverse community – providing homes for families and individuals in various stages 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 1990 and 2000, Ludlow’s population increased by 6.4% (about 15 people a year). The number of households, however, increased at more than double that rate.

According to the U.S. Census, there were 1,060 households in Ludlow in 2000, 41% of which resided in the Village (down from 52% in 1990). During the 1990s, 125 new households were established in Ludlow, representing a 13.4% increase in total households. During the same period, the number of village households decreased by

10% (49 households), nearly all of which were “family” households. Given the declining number of village households, the increase in households outside the village increased dramatically – by 174 households, or 38.8%. Household trends for the Town and Village are presented in Table 4.1 in the Appendix, and are illustrated in Figures 4.1 and 4.2.



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 of Ludlow’s average household size decreased from 2.41 in 1990 to 2.26 in 2000, while the Village’s average household size decreased from 2.21 in 1990 to 2.06 in 2000. The drop in the number of family households, and modest increase in non-family households, likely explains the smaller household size in the Village.

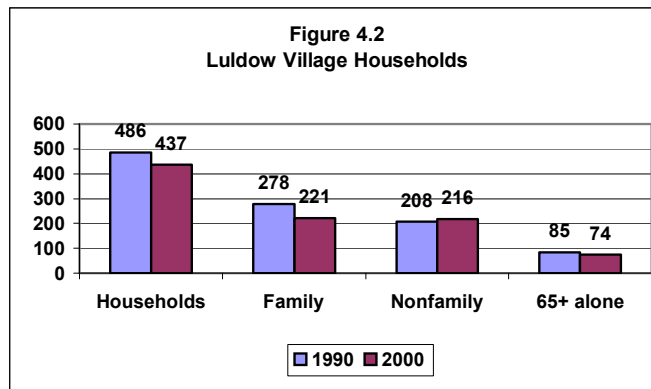


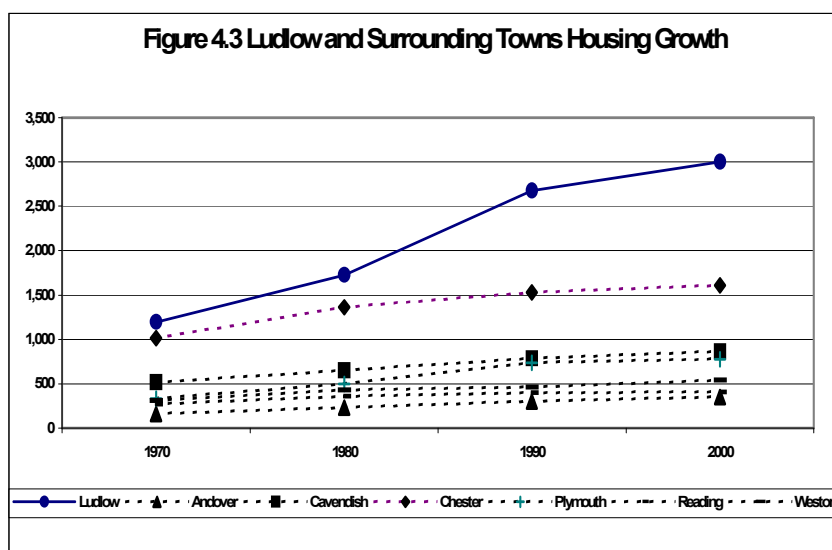
Table 4.2 (in the Appendix), compares household trends in Ludlow with those of neighboring communities. Despite the generally more rural character of adjacent towns, Ludlow’s household characteristics are not much different than those of the surrounding region, county or state. Some minor differences 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 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 2000 are illustrated in Figure 4.3.

Housing development in Ludlow slowed during the 1990s, although the number of units still increased at



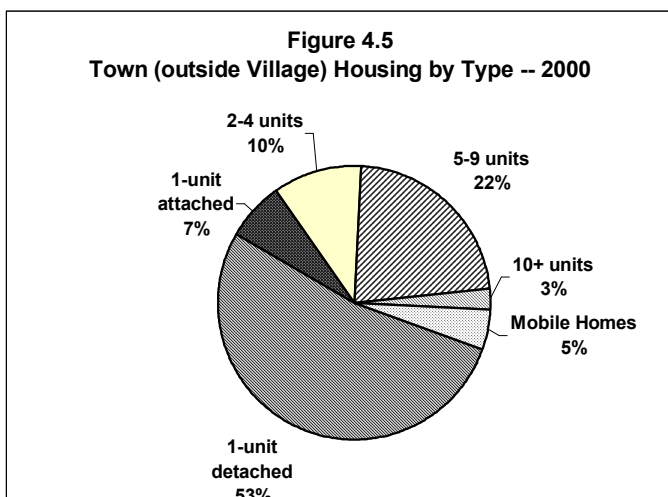
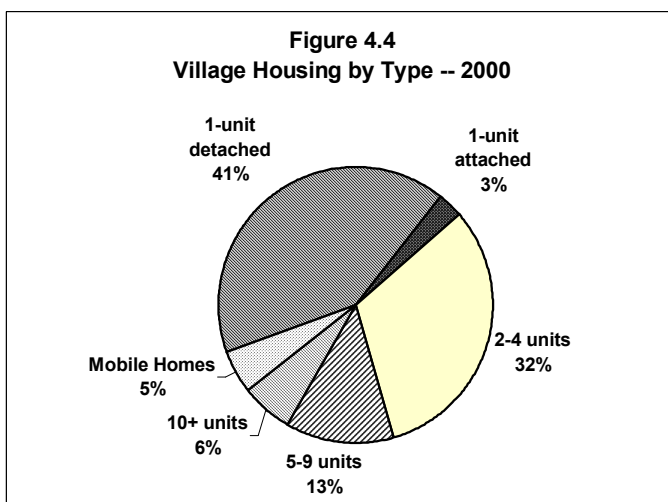
twice the rate of growth in the County and State as a whole. The Town experienced a 12.1% increase during the decade, a drop in the average annual increase from 95 units per year in the 1980s, to 32.4 new units per year in the 1990s. Ludlow Village, however, saw a 7.8% decrease in the number of housing units during the 1990s (from 793 in 1990 to 731). With the decline in the number of Village units, the rate of increase in total housing units outside the Village between 1990 and 2000 was 20.5% (384 new units). See table 4.6 in the Appendix for an idea of the relative growth and type of housing being added to the inventory over the last three (3) years.

Housing Characteristics

Although a majority of Ludlow’s housing units consists of single-family (1-unit detached) homes, there was a significant increase in multi-family units between 1990 and 2000. According to the Census, housing units in buildings containing between 5 and 9 dwellings increased from 154 in 1990 to 603 in 2000 – an increase of 292%. In the Village, the number of housing units decreased by 7.8% including a decrease in multi-family dwellings. A breakdown of housing units, by type, in the Village and the portion of the Town outside the Village is presented in Figures 4.4 and 4.5.

Other noteworthy characteristics of Ludlow’s housing stock, and recent changes, include the following:

- Seventy-two percent of all occupied units (excluding vacation homes) are owner occupied, with renter occupied units comprising the remaining 28%. During the 1990s owner-occupied units increased by 23.4% (144 units) while renter-occupied units decreased by 5.9% (a loss of 19 units).
- The number of mobile homes declined slightly in both the Village and in the Town.
- Vacancy rates decreased for both owner and renter-occupied units, reflecting a tightening housing market. The vacancy rate for owner-occupied units in 2000 was 2.2%; the rate for rental units was 8.5%. Vacancy



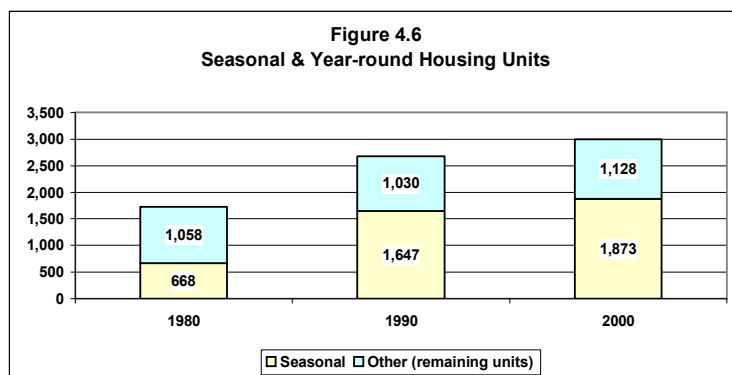
rates are slightly higher in the Village.

- Somewhat surprisingly, vacancy rates in Ludlow are higher than the county (1.6% owner occupied, 5.1% renter occupied) and state as a whole (1.4% owner occupied, 4.2% renter occupied).
- Nearly 61% 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.). This may partly explain the decline in the number of older homes in the Village during the 1990s – in 1990 549 housing units were identified as being built before 1939, down to only 444 in 2000.
- Of the housing units located outside of the Village, only 25% were built before 1939, while 43.7% were built after 1980 (compared with 14.8% of Village units). This is further indication of the ongoing shift in population and development activity away from the Village.

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. While the number of year-round dwellings increased by a total of only 6.6% during the 20-year period, the number of seasonal dwellings increased a total of 180% over the same period. Of the 1,205 seasonal dwellings built between 1980 and 2000, 979 (81.2%) were constructed prior to 1990. Housing units, by occupancy, are shown in Figure 4.6. Second homes accounted for 62.4% of all housing units in Ludlow according to the 2000 census.

Current indications suggest that the demand for seasonal homes will continue to be strong. The Jackson Gore master plan calls for the construction of 325 additional dwellings associated with the expansion of the ski area and development of a new golf course and related recreation amenities. While second home development is often welcomed because of the positive financial implications, it can serve to put pressure on the local housing market, as local residents –working at local wage scales – must compete with more affluent vacation-home buyers for housing.



In addition to the seasonal housing used by the owners, the town has between 6,200 and 6,500 Rental Beds (data provided by The Okemo Valley Chamber of Commerce). This number includes Hotels, Motels, Bed & Breakfasts and Inns as well as seasonal homes that are regularly rented by their owners through rental agencies. This number does not include beds that are rented privately or lent by their owners to other people. This number can account for up to 13,000 additional people in Ludlow when all beds are occupied.

Other Housing

Subsidized Housing - There are 49 publicly subsidized 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 Rockingham Area Community Land Trust (RACLT) manages the Black River units, as well as one of three local mobile home parks. 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.

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 (Table 4.3 in the Appendix). Monthly lot rents average \$215. Monthly lot rents of two of the parks are less than the state (\$229) and the county (\$234) 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 RACLT and managed for perpetual affordability.

Employee Housing - Okemo Mountain, Inc. has been developing employee housing for seasonal workers. There are currently three locations used for this purpose, there may be additional requirements in the future.

Housing Affordability

Housing in Ludlow is somewhat more expensive than housing elsewhere in the state; however the town's 1999 reported median household income was lower than that of both the county and the state (see Table 4.4 in the Appendix). The reported median value of owner-occupied housing in Ludlow Village (\$110,800 as of 2000) was comparable with that of the county and state. Reported monthly mortgage and owner costs for local homeowners were slightly lower than county and state medians, as were local monthly rental rates.

Between 1990 and 2000, the Ludlow median household income increased by 43.8%, keeping pace with the increase in median gross rents (43.3%). The median monthly mortgage rate increased by 54.8% suggesting that local incomes were lagging behind the rising cost of home ownership. This may be skewed by the higher cost of vacation homes – especially newer homes located on or adjacent to Okemo Mountain. According to property transfer tax statistics from the Vermont Department of Taxes, the median price of a vacation home on less than 6 acres sold in 2000 was \$204,500, while the median price of a year-round occupied residence on less than six acres sold that same year was \$107,000³.

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 2000, 31.1% of Ludlow's homeowners and 35.3% of renters were paying in excess of 30% of their incomes on housing.

An affordability analysis based on federal and state 2000 income, wage, and housing cost data – which generously assumes two wage earners per household – is presented in Table 4.5 (in the Appendix). This data suggest that while local housing is relatively affordable for people at or above the median income level – given that the average price of a house in Ludlow in 2000 was \$120,500 – homeownership is not a viable option for households with low to very low incomes and single wage earner households.

The gap between incomes and rents is much smaller. Even those households earning a single average wage, or 50% of the median income, should find affordable rental housing. This explains the relatively high vacancy rate for rental housing in the Town. It should be noted however, that as rental properties are sold, the higher mortgage rates assumed by new owners might result in dramatic increases in rental rates.

³ It is noteworthy that the median price of a R1 (year round on less than six acres) home had risen to \$150,725 in 2002; while the median price of a V1 (vacation home on less than six acres) had dropped to \$182,500.

Housing – Goals

- Encourage Town settlement patterns to reduce associated impacts on community character, natural resources and the costs of providing services to a dispersed population.
- Encourage a continuation of Village vitality.
- Nurture the relationship of the historic Town center to emerging centers (e.g., Okemo).
- Ensure that zoning regulations pertaining to residential development are consistent with state housing laws and requirements, particularly with regard to accessory apartment and group homes.
- Increase the proportion of housing units available and affordable to year-round residents.
- Establish a balanced mix of housing opportunities by unit type and cost to accommodate the needs of residents and visitors.
- Make provisions that ensure access to housing opportunities for elderly, low income, and disadvantaged persons.

Housing – Implementation

- Develop regulations that encourage housing developers to provide affordable housing.
- Requirements may be imposed that a certain percentage of affordable housing units be built or a fee be assessed upon a developer of a proposed sub-division or planned unit development. This may be offset by various developmental incentives.
- Identify, inventory, and map Ludlow's existing housing stock, for the purpose of preserving those units, by conditions such as: maintenance only, in need of repair/rehabilitation or hazardous, in need of demolition.
- Determine feasibility of developing revolving loan program for affordable housing.
- Continue to support local and regional affordable housing programs.

5. LOCAL ECONOMY



Overview

Ludlow⁴ has undergone significant economic restructuring over the past two decades, making a transition from a dominantly manufacturing “mill-town” to a service-oriented tourist destination.

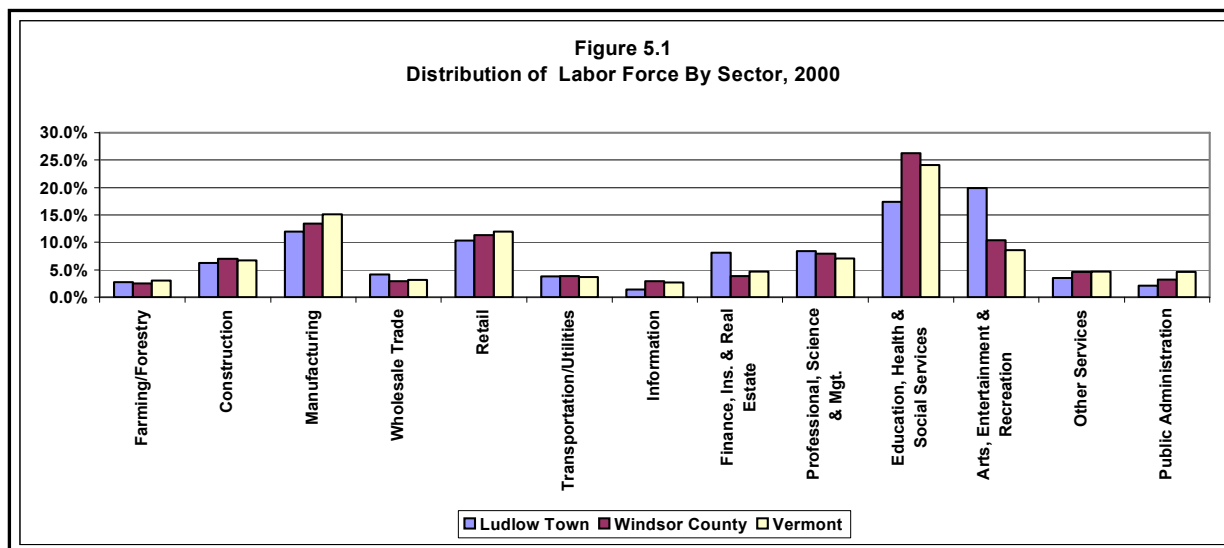
Economic Trends

Labor Force

For the purposes of this document, we assumed that Ludlow’s labor force is made up of town residents 16 years of age and above, excluding full-time students, retirees, and others who choose not to work for wages or salary. Of Ludlow’s 2,014 residents aged 16 and over, 1,300 (64.5% of the total) are in the labor force, up from a labor force of 1,214 in 1990 (66.3% of the population). The change from 1990 indicates that the number of residents that are not presently in the labor force (e.g., retired) has increased more rapidly than those that are presently working.

⁴ 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.

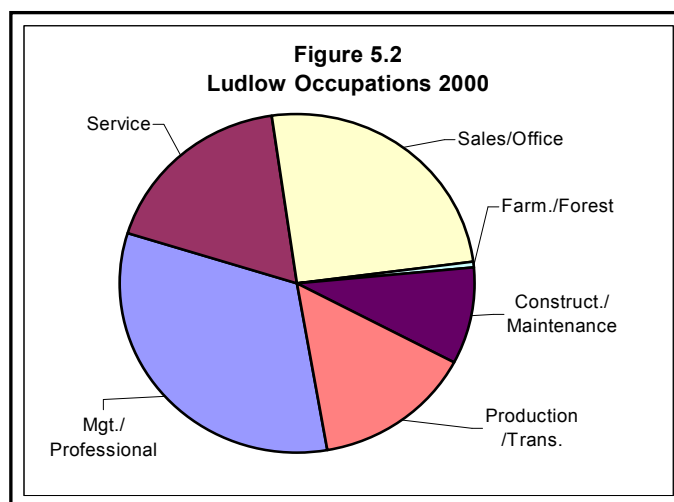
A breakdown of the industrial sectors in which the local labor force as it is employed is presented in Figure 5.1. The largest numbers of people work in the arts, entertainment, and recreation (19.9%) – indicative of the local reliance on the tourism industry. Despite the large proportion of local residents engaged in tourism related enterprises, the local labor force is employed in a relatively diverse cross section of industries. Other industrial sectors that are important to town residents include education, health, and social services (which employs 17.4% of the local labor force), manufacturing (12%)



and retail (10.3%).

While it is clear that Ludlow has undergone a significant shift in the distribution of industries in which the local labor force is employed over the past 30 years, changes in the way employment is reported in the Census has made comparing historical trends difficult and making direct correlation nearly impossible.

In addition to tracking the industrial sector in which individuals are employed, the 2000 Census also reports the type of occupation in which individuals are engaged. Figure 5.2 presents such a breakdown. The greatest percentage of Ludlow’s employed labor force, were working in the management, professional, and related occupations (32.4%). This is a smaller percentage involved in what are traditionally considered “white-collar” occupations when compared to the county’s (36.8%) and state’s (36.3%) labor force. Conversely, a higher percentage of the Town’s labor force is employed in such “blue-collar” occupations as sales and office occupations (25.1%) and



services (18.3%) than in the county and state.

According to the Vermont Department of Employment and Training, Ludlow's average unemployment rate in 2002 was 4.5%, compared with a rate of 3.0% for the county as a whole and 3.7% 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 unemployment may be partly due to the high seasonal unemployment Ludlow experiences, at the conclusion of the ski season – the estimated unemployment rate in April 2003 was 5.6%, up from 3.0% in January.

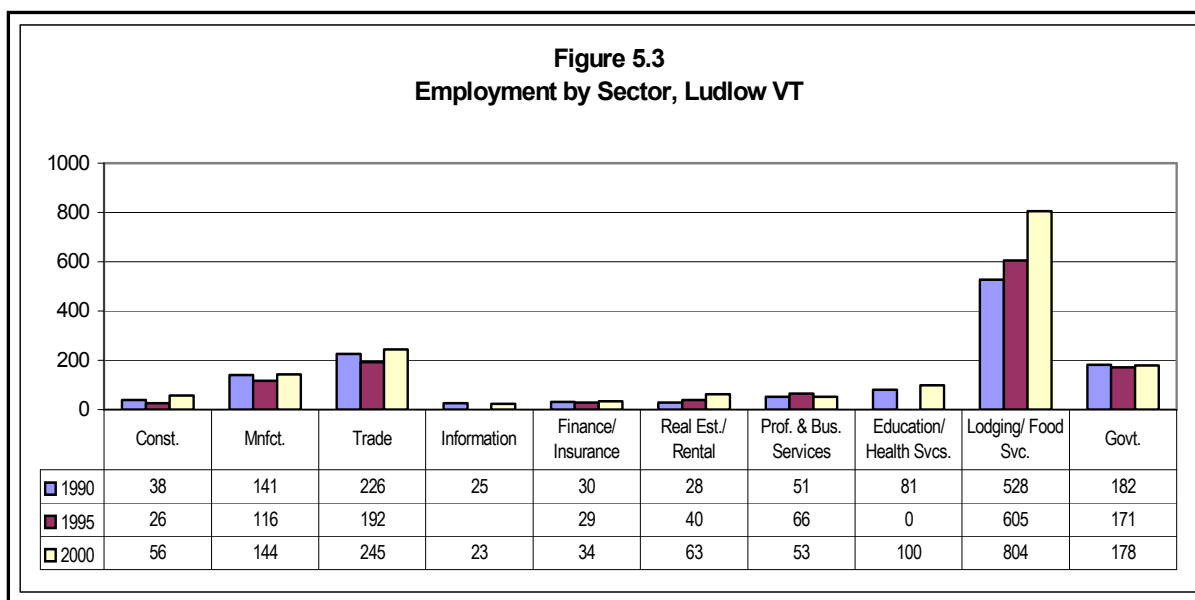
Journey to work data, compiled by the U.S. Census, identifies where local residents are employed. 2000 Census data indicated that 52.3% of the local labor force worked in Ludlow. An additional 10.7% commuted to Cavendish, 7.0% traveled to Springfield, and 2.3% worked in Rutland City. Smaller, yet still significant numbers, commuted to Chester, Mt. Holly, Plymouth, Rockingham, Rutland Town, and Woodstock. Thirteen people were commuting to towns in New Hampshire. More recent census information indicates that the mean travel time for Ludlow residents was 17.6 minutes in 2000 – a very slight increase from 1990 when the mean travel time for Ludlow commuters was 17.5 minutes. Thus, it is likely that a majority of local residents remain employed within the town.

Covered Employment

While the resident labor force is comprised of all workers *living* in Ludlow, regardless of their place of work, covered employment⁵ includes all jobs located within the town regardless of the employees' place of residence.

Figure 5.3 shows changes in covered employment, by industry, between 1990 and 2000, as reported by the Vermont Department of Employment and Training (VDET). VDET does not report employment figures in all industries for all years if that data would reveal information about a single employer. It is important to note that the "Information" sector includes publishing and telecommunications, and "Trade, Transportation, and Utilities" is comprised solely of wholesale and retail trade in Ludlow.

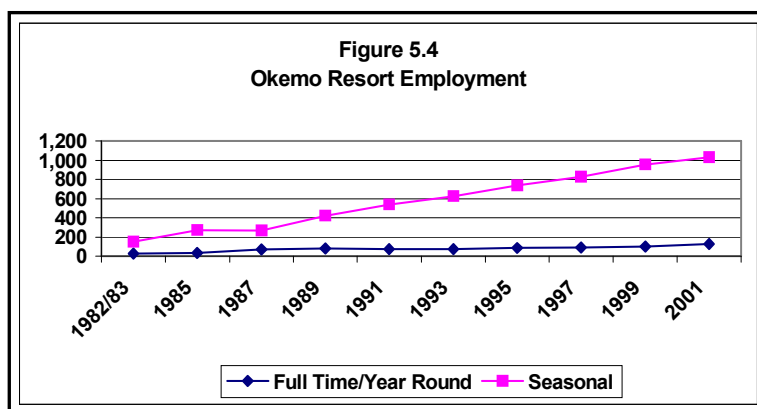
⁵Covered employment includes only jobs covered by unemployment insurance and typically excludes self-employed people. Due to the shift in reporting employment data from the Standardized Industrial Classification (SIC) Code to the North American Industrial Classification System (NAICS), and VDET confidentiality policies, some sectors are under-reported in Figures 6.3 and 6.5 (e.g., Construction).

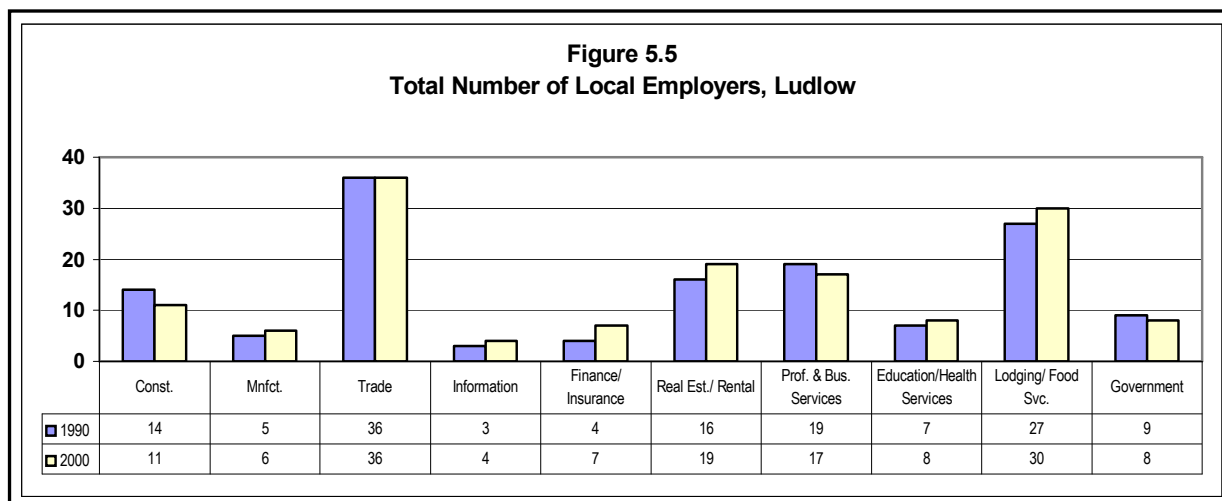


Employment trends clearly illustrate that not only are jobs in the lodging and food service industries most prevalent in Ludlow, that sector has experienced the greatest increase over the past decade (52.3%), accounting for over 73% of the 377 new jobs created during the 1990s. Other sectors that experienced rapid job growth included Real Estate and Rental Leasing (35 new jobs; 125% increase) and Education and Health Services (19 new jobs; 23.5% increase). Manufacturing, Trade and Professional & Business Services each experienced slight job growth.

The sharp increase in jobs in the Lodging/Food Services sector was largely attributable to the growth of Okemo Ski Resort. Since Okemos current owners acquired the ski area in 1982/83, the number of full-time, year-round jobs increased by 412% – from 25 jobs to 128 jobs in 2001. The number of seasonal jobs, many of which are part-time, increased by 513% – from 150 positions in 1982 to 1,030 in 2001. Job growth at Okemo is presented in Figure 5.4.

It is important to understand several characteristics of Okemos employment base. Seasonal jobs almost entirely consist of winter positions associated with the operation of the ski area (there were 30 seasonal summer jobs in 2001, compared with 1,000 seasonal winter jobs). Of the seasonal jobs, approximately 65% (666 jobs) are part-time positions.





Information contained in a report entitled *Growth and Fiscal Impact Analysis for Jackson Gore Phase I and Master Plan*, prepared by the SE Group of Hanover, New Hampshire, estimated that the seasonal and part-time positions equate to approximately 360 “full-time equivalent positions.” While this equation is useful for evaluating the economic impacts of resort growth, the reliance on part-time and seasonal employment has implications regarding the local housing supply, wage rates and the character and vitality of the community.

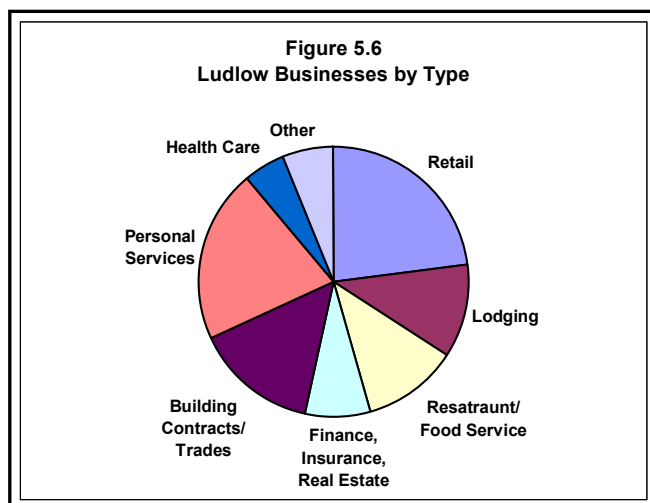
According to the SE Group report, 72% of all employees in 2001 were local residents who did not locate to the region specifically for employment opportunities at Okemo. An additional 18% reside in seasonal housing (many of which are family owned) while employed on weekends, holidays and college breaks. Over 5% have moved to the area for employment opportunities at Okemo, while the remaining 5% are comprised of non-U.S. citizens recruited to work at the mountain for the ski season (this latter category, which represents a relatively new and growing class of worker, are typically housed in residences provided by Okemo).

Local Employers

The total number of employers (reporting to appropriate authorities), as compared to employees, increased just slightly in Ludlow from 163 in 1990 (154 of which were private businesses) to 171 in 2000 (168 of which were in the private sector).

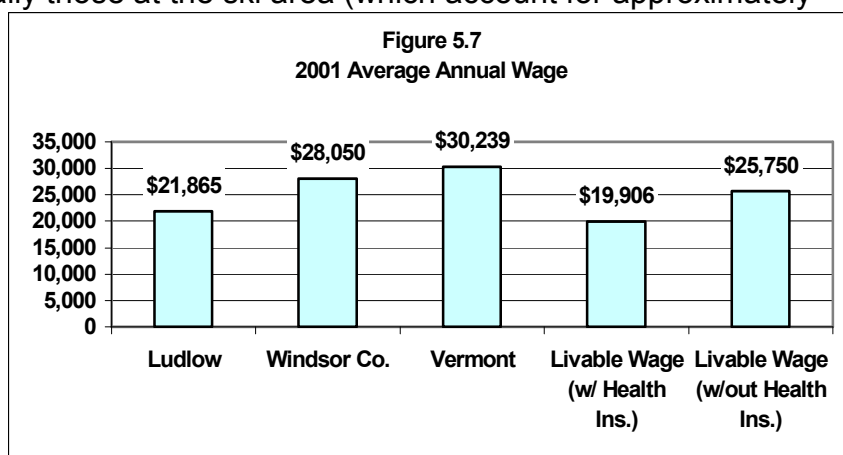
As illustrated in Figure 5.5 (which shows the total number of local employers in Ludlow for 1990 and 2000) there are a large number of employers in wholesale and retail trade. Although lodging and food service businesses account for 49% of the employment in 2000, that sector only comprises 18% of the total employers.

As noted, employer data only pertains to businesses with covered employees, and reporting policies at VDET under-reports some sectors to comply with confidentiality policies. In 2000, VDET indicated that there were 168 private reporting units (employers). According to information provided by the Okemo Valley Chamber of Commerce, there were an estimated 185 private businesses operating in town in 2002. A breakdown of those businesses, by category, is provided in Figure 5.6.



Average Wages

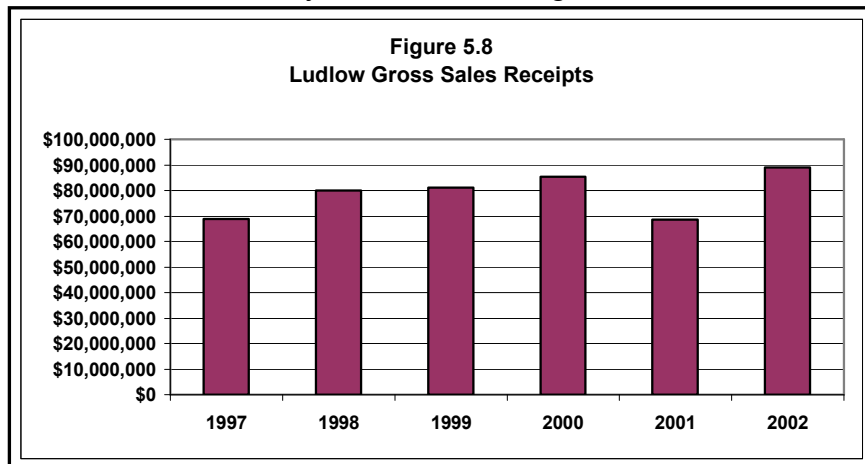
Despite the relatively high rate of job growth in the community, average local wages⁶ lag behind wages in the county and state. In 2001, the average annual wage for covered workers employed in Ludlow was \$21,865 while the average in Windsor County was \$28,050 and the state was \$30,329. Thus, the average wage in Ludlow is 72% of the state average. Average annual wages for the town, county, and state in 2001 are compared in Figure 5.7. This is almost certainly due to the seasonal and part-time nature of many jobs, especially those at the ski area (which account for approximately half of the total local employment). As stated above, many Okemo employees are residents of Ludlow and surrounding communities. They are either working seasonally, are only employed on a part time basis or are holding multiple-part-time jobs.



Per capita income of Town residents grew by 102%, from \$12,208 to \$24,708, while the per capita income of Village residents grew by 84%, from \$10,789 to \$19,824. The rate of income growth in the county and state was 45% and 52%, respectively (see Table 2.2 in the Appendix).

⁶ 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.

Family and household incomes in the Village also outpaced increases in the county and state, although town-wide family incomes grew at a comparable rate. Household incomes increased by 70% in the Village and 43% in the Town, compared with 41% and 40% in the county and state, respectively. It should be noted, however, that Village family incomes still lag behind the Town, county and state as a whole.



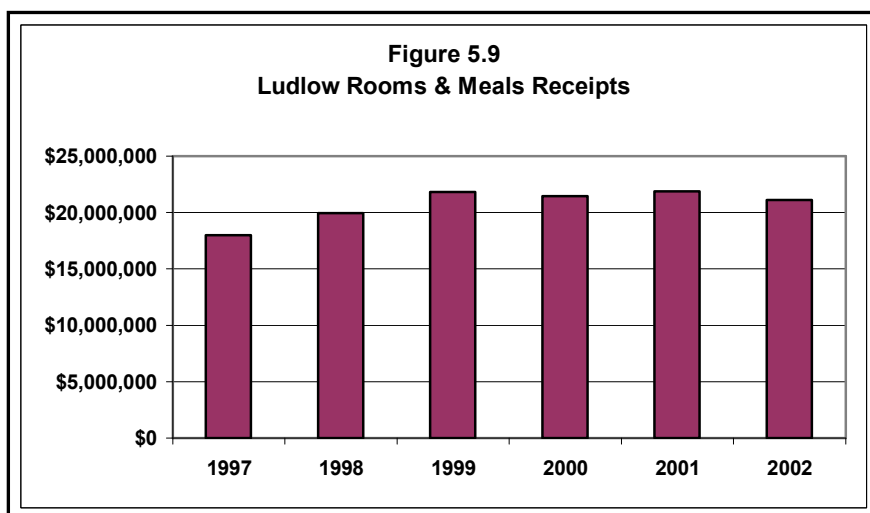
There is widespread concern in Vermont regarding the ability of full-time workers to earn an income sufficient to meet a family's basic needs. This is commonly referred to as a "livable wage." The Vermont Joint Fiscal Office has identified that an annual livable wage for a family of four with two working parents in 2000 ranged from \$11.34/hour per earner (\$47,163) to \$16.12/hour per earner (\$67,065), depending upon access to employer-assisted health insurance. The range of a livable hourly wage for a single parent with one child ranged from \$15.28 to \$21.48 (31,782 - \$44,678), while that for a single person was \$9.57 to \$12.38 (\$19,906 - \$25,750). Based upon the Joint Fiscal Office's study, many local wage earners may be earning less than a livable wage, especially if workers lack adequate health insurance coverage. Focusing economic development activities on the creation of well-paying jobs is especially critical in Ludlow to ensure that local residents can meet their basic needs.

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Sales Receipts

Gross retail sales, restaurant receipts, and commercial accommodation rentals generated by Ludlow businesses are another useful means of measuring economic activity. Figure 5.8 shows total sales receipts reported by local businesses for each fiscal year between 1997 and 2002. Gross receipts include gross retail sales, including those that are not subject to the Vermont sales tax (e.g., groceries, medicine).

Gross retail sales receipts, adjusted for inflation, increased a total of 29.23% between 1997 and 2002 (despite year-to-year fluctuations). In comparison, gross retail sales within the county increased by less than 1% during the same period. In 1997 retail sales in Ludlow accounted for 8.8% of total retail sales in the county. In 2002, Ludlow's share of the county total was 11.5%.



In addition to retail sales, the Vermont Department of Taxes also reports total lodging and restaurant sales that are subject to the state’s rooms and meals tax. Total annual rooms and meals receipts for 1997 through 2002 are presented in Figure 5.9. Rooms and meals

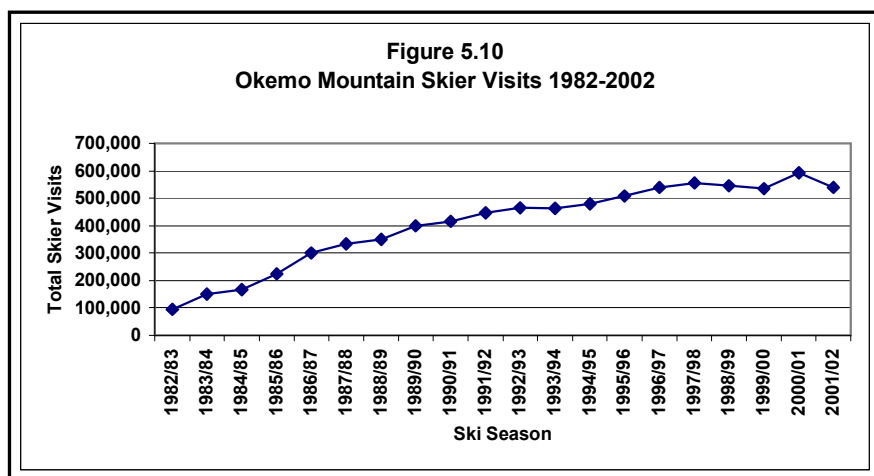
receipts experienced slight annual fluctuations but have remained relatively stable, with the net increase since 1997 of 17.1% (adjusted for inflation). Most of that increase, however, occurred prior to 1999, after which receipts have remained fairly stable.

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 by 468% – from 95,000 to 540,000 – between 1982, when the current owners acquired the mountain and the 2001/2002-ski season. While the annual rate of increase – presented in Figure 5.10 – has generally slowed in recent years, the number of annual skiers nearly reached 600,000 in 2000/2001. Recent expansion activities and the increase in the bed base associated with the Jackson Gore development are projected to increase the average annual number of skiers by over 30,000 in the coming years.

The Jackson Gore master plan involves the development of a new resort area served by a new access road off Route 103 west of Ludlow Village. On-mountain improvements include additional lifts, trails and more gladded skiing, as well as a lighted half-pipe and a snowboard park.

Combined, the first phase of the proposed master plan will increase Okemos comfortable carrying capacity from 9,750 to 11,380. The projected economic and fiscal impacts of the proposed



master plan of the first phase (which is scheduled for completion in 2004) were reported in the SE Group report.

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. The new golf course has started to show an additional increase in the summer as well. The reliance on tourism, however, coupled with the regional decline in manufacturing that has occurred since the 1970s, has contributed to a local economy characterized by:

- Seasonally high unemployment
- Slow job growth
- Relatively low average annual wages

To date, no comprehensive economic development strategy or program has been developed specifically for the town of Ludlow. Several local and regional initiatives have addressed various aspects of economic development in a regional context, and several organizations are presently pursuing economic development initiatives within the region. 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 Development Corporation**, a previously inactive organization that is now 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 operating the Chester and Ludlow Chambers of Commerce.

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.
- **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)**.

Economic Outlook

The Springfield Regional Development Corporation, the Southern Windsor County Regional Planning Commission, and the Springfield Regional Chamber of Commerce recently completed the “**Long-Term Strategic Economic and Community Development Plan**” for the Southern Windsor Region. Drawing heavily on past work completed in various parts of the region, the plan puts forth a recommended economic development vision for the county’s southern tier.

The plan provides a useful overview of the region’s economic development climate and cites the unique regional factors that affect the economy. It also presents the results of a regional situation-performance analysis that identified the reasons behind the region’s poor economic performance over the past 20 years as well as the opportunities and challenges afforded by the regional economy’s current structure and composition. The plan, however, pays very little attention to the recreation and tourist-based economy presently occurring in Ludlow. This is largely due to a greater focus on industries that pay above-average (e.g., livable) wages.

While the regional economic and community development plan is an important initiative, successful economic and community development programs should be tailored to meet the unique needs and opportunities present in the Ludlow community.

Local Economy – Goals

- Enhance the vitality of the Village (possibly including downtown designation), especially to maintain its function as a commercial and cultural center in the face of competition from commercial enterprises located outside the Village.
- Fostering greater diversification of the economic base, including small-scale light industrial/manufacturing businesses, especially through building-out the Ludlow Industrial Park.
- 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.
- 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 – Implementation

- Target infrastructure development, and allocation of capacity, to support economic development.
- Evaluate current land use regulations to identify barriers to desirable types of business activities (e.g., home businesses in rural areas).

6. UTILITIES, FACILITIES AND SERVICES

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.

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

The Ludlow Water Department provides the delivery service for municipal water. The source of the water supply is the protected aquifer, discussed in the Natural Resources Chapter, along the southern and eastern sides of Ludlow and Terrible Mountains. The primary service area is the incorporated Village. Ludlow's planning and regulatory documents allow for controlled incremental expansion of this service area to meet development needs. At this time, October 2003, the public water supply is sufficient. The Water Department is in the process of adding additional supply. A new well, scheduled to come on line soon, will be able to deliver an additional 400 gallons per minute to the present supply. Average daily water use is approximately 350,000 gallons. There are approximately 640 residential users and approximately 100 commercial users on the system. The system is funded by user fees and customers are billed bi-annually. 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. Fluoride is added to the supply. The supply and the delivery system are in compliance with the Clean Water Act.

The Village of Ludlow Sewer Department delivers municipal sewer service. The sewage treatment plant is to the east of the Village just off Route 103. Expansion of the facility is currently underway to increase the capacity to 1,050,000 gallons per day. This should provide sufficient capacity to meet anticipated growth for the foreseeable future. There are approximately 1800 residential sewer users and approximately 100 commercial users. Hook-on and user fees fund the sewer system. Customers are billed bi-annually.

Water and Sewer Services - Goals

- Ensure that the provision of infrastructure and municipal services will not generate an undue burden on community taxpayers.

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- Continue to provide safe drinking water and sanitary sewage disposal efficiently within the existing service areas.
- Promote expansion of municipal service in land use areas defined by the municipality as desirable for growth and development.
- Promote proper installation of properly designed, appropriate onsite systems for development occurring beyond the municipal service area.
- Encourage owners of parcels with existing onsite systems within the municipal water and sewer service areas, to obtain municipal service before system failure.
- Ensure that development within municipal service areas is constructed for municipal service.
- Support efforts to educate owners concerning proper maintenance of onsite systems.
- 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 - Implementation

- Expand existing municipal water and sewer service areas to include those areas where future land use growth and development are desirable and anticipated.
- 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.
- Within the service area, supply municipal service to new development and to owners of existing failed or failing septic systems.
- Encourage maintenance and upgrading of onsite systems to prevent well contamination, pollution or other problems associated with improperly installed or failed systems.
- Establish a method for allocating sewage disposal capacity and a means to prioritize allocations.

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. Existing service capacity is considered sufficient to meet current and future demand.

Monthly winter energy peaks are evaluated to establish peak demand estimates. Generally, New England Power Pool (NEPOOL) raises costs to utility companies in response to increases in local peak demand. Ludlow Electric Light has developed Demand Side Management

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programs (DSMs), which are designed to maintain or lower peak demand and help avoid escalating consumer costs. The Utilities and Facilities Map of Ludlow illustrates electrical transmission lines.

Electrical Services - Goals

- Ensure a supply of safe, sufficient, electricity to meet the needs of residents, businesses, industries, and visitors at a reasonable cost.
- Keep peak demand for electricity low and support methods to improve efficiency and energy conservation.
- Encourage electrical service suppliers to continue trying to reduce peak demand.
- Support efficiency and demand management strategies designed to reduce costs.
- Support efforts to educate users concerning the conservation of electric energy. Ensure that emergency electricity will be available in case of a major power outage.
- Continue to evaluate the placement of electric lines and facilities for health, safety, and aesthetic concerns.

Electrical Services – Implementation

- Locate and schedule expansion of utilities facilities and services to coincide with the need for desired development.
- Encourage the use of existing infrastructure and services.

Communication Services

Telephone service is provided through Ludlow Telephone Company 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 Adelphia. 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 upcoming 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. 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.

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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.

One subject of particular concern is the siting and construction of telecommunications towers. These structures can alter mountaintops and ridgelines in ways, which negatively impact scenic resources vital to a Town's and surrounding communities' economic future and cultural richness. There are aesthetic concerns, particularly as the number of undeveloped mountains and ridgelines decreases. In addition, there are unanswered questions about the health effects of the electromagnetic fields generated by telecommunications towers. In order to provide the public with the benefits of an integrated and modern telecommunications network, while minimizing the economic and cultural costs of its development. The policies which, correspond with telecommunication facilities, can be found in the Implementation chapter of this Plan.

Communication Service - Goals

- 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.
- Secure desirable communications services that will best serve Ludlow's citizens.
- When feasible and in the Municipality's best interest, promote ways to attract viable computer and telecommunication industries and businesses.
- To the extent possible, develop criteria for evaluating the health, safety, and aesthetic aspects for placement of proposed communications devices and facilities.
- Encourage combined usage of existing utility rights-of-way for communication facilities and devices, where possible.
- Promote efforts to increase communication and telecommunication access to Ludlow's citizens, especially the school age population.

Communication Services – Implementation

- New telecommunications 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 telecommunications towers and facilities should not be sited or constructed when a practicable alternative exists. Those wishing to construct new facilities should utilize existing space whenever possible, and those owning or operating existing facilities should facilitate the sharing of that space to the fullest extent possible.

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- 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.
- Public exposure to Radio Frequency Radiation (RFR) and Electro-Magnetic Radiation (EMR) shall not exceed applicable Federal Communications Commission (FCC) standards for human exposure to RFR or EMR. Assessment of possible health effects shall be based on the cumulative effects of all telecommunications facilities and equipment at any given location.
- 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.
- 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.
- Support development of a coordinated telecommunication site(s) plan for the State of Vermont.

Solid Waste Disposal Services

The municipality is billed directly for solid waste management through a contract arrangement with the NH/VT Solid Waste District of which Ludlow is a member. This arrangement allows Ludlow to collect solid waste and recyclables at the Ludlow transfer station on Route 100 South for transport to the incinerator facility in Claremont, New Hampshire. 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. Fifty percent is hauled by the large commercial haulers and delivered directly to the incinerator, while smaller commercial haulers can register and purchase vehicle stickers and pay a fee at 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.

Solid Waste Disposal Services - Goals

- Provide a municipal solid waste disposal service that is safe, efficient, and both financially and environmentally cost effective.
- Encourage public composting and recycling services and help to educate residents and visitors about the value of these methods.
- Encourage the reduction in the volume of solid wastes that must be incinerated or land filled reduces disposal and land acquisition costs.

Solid Waste Disposal Services - Implementation

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

Recreational Facilities - Goals

- Provide sufficient public recreational opportunities for all Ludlow residents regardless of age or social characteristics.
- Where feasible, encourage the expanded use of recreational facilities on school property to provide additional recreational opportunities for the public.
- Seek ways to reduce or eliminate liability on municipally owned property used for recreation.
- Encourage multi-use recreational facilities for participation by more of the population. Modest membership fees can help defray costs for multi-use facilities.
- Provide provisions for recreational trails and paths including but not limited to walking, hiking, biking and cross country skiing.
- Support adequate funding for recreation facilities.
- Ensure that sufficient public facilities are made available to meet the recreational needs of lower income residents.
- Provide accessibility to recreational facilities for disabled residents and visitors.

Recreational Facilities - Implementation

- Secure funding to provide access to all public recreational facilities according to the Americans with Disabilities Act (ADA).
- Encourage development of additional private and public recreational opportunities to benefit all residents and visitors of Ludlow.

Health and Safety Services

Ludlow's residents, property owners, and visitors are provided with police, fire, and ambulance service. An 18-member police force with five full time patrol officers provides 24-hour daily service throughout the Village and Town. Current police services are considered adequate to meet demand.

Volunteers of the Ludlow Fire Department provide fire protection. The Department also answers mutual aid calls from neighboring towns including Cavendish, Chester, Mt. Holly, Plymouth, and Springfield. The Department has a current force of 50 volunteers. In the 2002/2003 fiscal years, the Department responded to 96 calls. 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 to the area south of Route 100A in neighboring Plymouth. In the 2002-2003 fiscal year, the 25 Squad members answered 470 calls. The Ludlow Squad is well trained with 7 Emergency Care Attendants, 25 Emergency Medical Technicians, 2 Physician's Assistants and 1 Paramedic.

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

Health and Safety Services - Goals

- Provide high quality municipal police, fire, and ambulance services to ensure the protection of public health and safety.
- Support measures to reduce the time needed by health and safety services for responding to calls for assistance.
- Evaluate emergency communications facilities to ensure sufficient capacity to support police and ambulance service.

Health and Safety Services - Implementation

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

Educational Facilities

Early History

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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 150 and 200 students. Enrollment at the beginning of the 2003-2004 school year was 168. 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.

Students in grades 7 through 12 from Ludlow, Mount Holly and Plymouth attend Black River Union High School. Attendance ranges from around 230 to 270 students annually, with a December 2003 enrollment of 263 students. The facilities include 19 classrooms. Additional space is shared with the Elementary School for gym, chorus, home economics, and industrial arts.

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 are working on plans to address the lack of adequate support facilities within the school. Many different options have been discussed, from building a new school to renovating existing facilities. Current conditions include the lack of appropriate cafeteria space, overuse of the gymnasium, and a need for general assembly space. The gymnasium is a primary concern. Classes for the high school and elementary school are currently held at the same time. The gymnasium also serves as a makeshift cafeteria, with lunches overlapping scheduled classes. Further facility needs include additional classroom space for kindergarten and expanding technology programs, and expanded athletic facilities.

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

Educational Facilities - Goals

- Ensure we provide a broad and solid education in order to protect against the threat of ignorance to our society.
- 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.
- Ensure that all residents of Ludlow have access to educational opportunities regardless of income or social characteristics.
- Coordinate educational facilities funding with educational program needs as determined by the School Board.
- Support the use of existing educational facilities to increase community access to educational opportunities.
- Work with educators to secure additional educational opportunities for all Ludlow residents.
- Seek additional ways to reduce vandalism and/or destruction of school property.

Educational Facilities - Implementation

- 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.

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 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 has been retrofitted for energy conservation and 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.

Child day care facilities in Ludlow must meet certain State requirements for operation. Currently, three State approved child day care facilities operate in Ludlow in addition to small day care services that do not require State approval. Adult day care and/or nursing home care

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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

- Ensure that access to adequate adult care and/or nursing home facilities is provided for Ludlow residents who are incapable of independent care.
- Secure a sufficient number of State approved child day care facilities to meet the needs of Ludlow’s working parents.
- Support efforts to provide State approved day care facilities in areas convenient to employers and residential land uses.
- Support the development of an emergency care facility to provide more immediate access for Ludlow and surrounding communities.
- Continue to encourage maintenance, use, and support for the Fletcher Memorial Library.

Additional Facilities - Implementation

- Seek State and Federal funding for additional child day care facilities to meet the needs of Ludlow’s working parents.
- Provide zoning incentives for child day care, adult care and emergency care facilities within Ludlow.

7. 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 relating.

Roads & Highways

State Highways

There are approximately 12.5 miles of state highways in Ludlow. The principal arterial highways serving Ludlow are Vermont Routes 103 and 100, both of which follow sections of the Black River. Vermont Route 100 -- which runs the length of the state and serves most tourist destinations along the main range of the Green Mountains -- accesses Ludlow from both the north and south connecting it to towns to the north and south including Plymouth, Killington, Weston and Londonderry. It converges with the east-west running Route 103 in the center of town for 1.8 miles. Those traveling on Interstate 91, which travels up the eastern side of the state, can reach Ludlow via Routes 103, 11, 106 and 131. Route 103 also provides access to the western portion of the state and the town of Rutland, intersecting with Routes 140 and 155 along that path.

Municipal Roads

Ludlow maintains approximately 65 miles of local roads, 14 miles of which are paved. These include heavily used regional collectors, quiet village streets, rural gravel roads, and roads not maintained for year-round traffic. The road network includes 35 bridges. There are also approximately 19 miles of privately maintained roads in Ludlow.

In Vermont, municipal roads are designated as Class 1, 2, 3, 4, or trail. Class 1 roads include all state highways under the jurisdiction of municipalities – typically state routes through village centers. 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. Class 4 roads are not generally maintained on a year-round basis. The local Select Board designates class 3 and 4 roads.

Travel Patterns

The town is not directly served by passenger rail, commercial airport, or any regional bicycle and pedestrian network other than public roadways. As is the case throughout Vermont, the private automobile is the dominant mode of transportation in Ludlow.

As mentioned in Chapter 5, the U.S. 1990 Census indicated that nearly 60% of the labor force worked in the town of Ludlow. According to the 2000 Census, however, 78.3% of

Ludlow's labor force commuted to work in a single occupancy vehicle (i.e., they drove alone). Only 7.6% walked to work, while 9.7% carpooled. Those who worked at home totaled 4% and not enough used any form of public transportation to be tallied.

Of those working outside of town at that time, 8.7% were commuting to Cavendish, 6.4% were traveling to Springfield, and 5.9% were going to the city of Rutland for work. Smaller, yet still significant numbers were commuting to Chester, Plymouth, Rockingham, Rutland Town, and Windsor. Twenty-seven people were commuting to towns in New Hampshire.

Also according to the 1990 U.S. Census, Ludlow received more than 400 inbound commuters from other southern Windsor County towns, or 17.3% of the 2,613 commuters who traveled to work in another regional town. This data does not distinguish seasonal fluctuations, though it can be assumed that a majority of these commuters are traveling to work in the ski or service industry in the winter months.

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

According to data compiled by the Vermont Agency of Transportation, traffic volume has increased along most stretches of State Highways 100 and 103 over the past two decades. While traffic along most stretches of the state highways increased somewhat between 1986 and 1988 and increased steadily until 1992, most stretches experienced significant decreases between 1994 and 1998.

The traffic on Routes 100 and 103 has increased to the point that there is congestion along these arteries. This has the residual effect of causing congestion in other parts of the town and village. Although the traffic is the worst on weekends and holiday weeks, it has started to become an issue a numerous other times in the winter as well as the entire year. (See traffic volume data in the Appendix table 7.3)

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. An evaluation method known as Sufficiency Rating is used by the State of Vermont to evaluate roads in terms of their need for repair or other improvement. The Road Sufficiency Rating System is based on uniform criteria developed at a national level. The sufficiency ratings are useful in assessing the overall condition of the regional roadway system but should be combined with local criteria and considerations when making planning considerations

Maintaining and enhancing the local road network in a safe and cost effective manner is an important community responsibility. The town 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. In 2003, the town budgeted \$564,511 for the highway department, of which approximately 79% is to be funded through town property taxes and 21% through state highway aid and miscellaneous fees and interest.

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.

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. 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 area for loading and unloading, and
- Landscaping and buffers to visually define and enhance access points.

Local development regulations (e.g., zoning, subdivision regulations) and road ordinances are effective tools to manage access. 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 Town. During peak traffic volume times 10 of the total spots are eliminated to provide for the additional lane at the intersection of Main and Depot streets. There is no municipal lot in Ludlow at this time, but the town has been investigating potential sites. This often makes parking in the Village difficult. Under the town’s current zoning regulations, off-street parking is now required 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 18 miles of sidewalks.

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.

Two of the six proposed, but as yet unscheduled AOT transportation projects are construction of recreation paths, one in Ludlow Village from Fletcher Fields to the High School, and one in Ludlow along the Black River.

Transit & Public Transportation

Ludlow Municipal Transit System

This 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.

Local Transit

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 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.

Intra-Regional Bus Service

The nearest long-distance bus service is provided by **Vermont Transit**, which stops in Bellows Falls and Brattleboro. Vermont Transit provides bus service to major cities primarily north and south of Ludlow along the I-91 and I-89 corridors.

Rail Service

The closest passenger rail service is provided by Amtrak's "*Vermont*", which stops in the towns of Bellows Falls, Claremont, N.H., and Ascutney. 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 user of the freight service is Luzenac America, Inc. in 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 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 Knapp Airport in Berlin also provides regional commuter and commercial service to the area.

Transportation – Goals

- Continue to explore locally acceptable alternative through-traffic routes to alleviate seasonal congestion.
- Develop a standard policy for municipal acquisition of new roadways. Adopt standards for construction of all roadways that serve more than two primary structures in separate ownership.
- Inventory and identify scenic roads, and encourage the designation of such roads as "Scenic Roads".
- Identify unsafe or congested municipal roads, bridges, and intersections and prioritize needs. Encourage the study, engineering, and construction of municipal transportation infrastructure, including bicycle and pedestrian pathway pursuing appropriate funding sources.
- Improve safety, minimize traffic delays and improve access along VT Routes, 103 and 100, the Town and Village encourage developers to share parking areas and to avoid creating unnecessary road intersections and curb cuts
- Develop a local traffic and parking impact fee policy and program to assist with the equitable sharing of transportation planning and improvement costs.
- Develop plans for the establishment and extension of existing pedestrian and year-round multi-purpose pathways.
- Ensure that all pedestrian and bicycle pathways are clearly marked and maintained for safety.

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- Identify public transit needs for children, seniors, and persons with disabilities and, in cooperation with SEVCA Transportation and Okemo Mountain, Inc.; encourage development of local and regional public transit systems.
- Encourage expansion of train and bus service in Ludlow.
- Promote multi modal transportation links, such as shuttle parking, and bike/pedestrian paths, linked with bus or train access.
- Encourage the development of municipal parking for the village commercial area.
- Identify funding sources, and seek funding to construct the Calvin Coolidge Bike and Recreation Greenway, supporting linkages with bicycle and pedestrian pathways and lanes in surrounding communities.
- Explore, promote and develop expanded use of passenger and freight rail service both, within the community (to Luzenac America and the Dean Brown Jr. Industrial Park) and in nearby communities (Amtrak service to Windsor, Bellows Falls and Rutland).

Transportation – Implementation

- Continue to implement the special peak seasonal traffic management program in the Village, and continue to explore other traffic management alternatives.
- Develop and implement a parking management plan, including effective directional signs.
- Develop creative solutions to the parking problems in business areas. Continue to explore cooperative agreements between landowners and the municipalities to meet parking needs.
- Implement and seek funding for an ongoing traffic count program on all four ingress and egress travel corridors.
- Develop and maintain ongoing origin and destination studies to determine current and future seasonal traffic trends.
- Continue to monitor State and Federal funding efforts for studying the transportation network including such alternatives as railroad track upgrades for the Green Mountain Railroad, signalization improvements, and locally: acceptable traffic routing options.

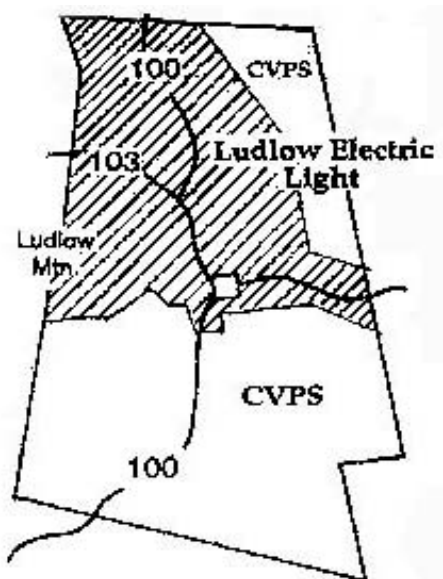
8. ENERGY

Energy producing resources include fossil fuels, water, wood, coal, geothermal sources, the sun, and the wind. The consumption of energy heats food and water; warms and illuminates homes, businesses, and industries; and activates powered equipment.

Without a supply of energy, common devices, such as stoves, electric lights, power tools, chainsaws, refrigerators, radios, televisions, motorboats, computers, medical equipment, automobiles, etc., could no longer operate. Wood stoves, candles, and furnaces would be useless. Without energy from the sun, life itself would soon cease. Non-renewable or finite energy resources should therefore be used wisely. In addition, ways to manage and expand the uses of renewable energy resources should be encouraged.

Table 8.1 (see Appendix) provides estimates of statewide energy demand and expenditure by type of fuel in 1990. Comparable local data is not available. For the purposes of this Plan, it is therefore assumed that the allocated percentages are within a similar range in Ludlow. As indicated in Table 8.1 (see Appendix), electricity and fossil fuel oil, are the greatest sources used for energy consumption.

The Village of Ludlow Electric Light Department provides public electric service within the Village and in portions of Town. (See 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.



Ludlow's electrical power originates primarily from sources outside Town and is supplied through the New England Power Pool (NEPOOL), 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 NEPOOL will maintain sufficient capacity to meet anticipated current need and future demand.

Energy – Goals

- Continue to reduce energy consumption in Ludlow.

- Increase conservation and management of Ludlow’s local and imported energy resources that will enable the Municipality to provide energy to residents and visitors at the lowest economic and environmental costs.
- Promote efforts to create more efficient and less polluting production of energy and use that will benefit both the community and the individual users.

Non-renewable Energy: Fossil Fuels

Fossil fuels, derived from the remains of plants and/or animals, include crude oil and petroleum, natural gas, peat, 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. Five service stations currently provide gasoline and motor oil for motorized vehicles. These are located within the Village boundaries. Four distributors supply Ludlow with home heating oil and another four distributor’s supply propane gas.

Fossil Fuels – Goals

- 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.
- Develop public/private partnerships that will assist developers, business owners, private groups, and others to reduce commuting in vehicles with a single occupant.
- Support efforts to develop alternative fuels, and vehicles, which use renewable resources.
- Promote measures to encourage operators of vehicles powered by fossil fuels to reduce fuel consumption.

Fossil Fuels – Implementation

- Examine the feasibility of expanding the public transit and shuttle systems to accommodate more people in Ludlow and neighboring areas.
- Encourage location of residential development within walking distance of amenities such as shopping, municipal offices, medical facilities, recreational activities, restaurants, etc.

Wood

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.

Complete combustion of wood releases carbon dioxide (CO₂) and water back into the air. CO₂ is considered a contributor to the greenhouse effect. However, the release of CO₂ 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 CO₂.

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.

Wood Energy – Goals

- Improve management and promote the use of Ludlow's woodlots for efficient energy uses.
- Encourage owners of forested lands to follow the Accepted Management Practices (AMPs) established for silviculture.
- Support efforts to educate consumers about the environmental and energy benefits of complete combustion of wood.
- 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 government facilities. Consider combining with other renewable energy technologies for greater conservation and reduced pollution.

Wood Energy – Implementation

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

Solar and Wind

Solar and wind power technologies have been available for a number of years. 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. In addition, advancements in technology continue to lower the operating costs.

Solar and Wind Energy – Goals

- Encourage development and use of solar and wind energy that is consistent with aesthetic concerns, energy conservation, and economic feasibility.
- Advocate the use of cost effective siting and construction techniques to gain solar energy for space heating, water heating, lighting, and electricity.
- Ensure that public sites suggested for solar or wind energy devices are studied for energy potential and cost feasibility prior to construction.

Solar and Wind Energy – Implementation

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

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

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 Route 103.

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

High concentrations of residential/seasonal use occur around Lakes Rescue and Pauline. 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.

Okemo Mountain Resort, Inc. has developed land on Ludlow Mountain for recreation, and resort/second home uses.

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 Route 103 transportation corridor: a talc mining operation on Town Highway 29, and an industrial park on Town Highway 26.

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

Recreational land uses include skiing, golf and other recreational activity uses developed by Okemo Mountain Resort, Inc., access sites to the Black River, and Lakes Rescue and Pauline for swimming, fishing, boating, and canoeing, hunting, public and private hiking, bicycle, and snowmobile trails, Okemo State Forest, Dorsey Park, West Hill Recreation Area, Fox Run Golf Course, and fishing access to Cook Pond.

The Community Facilities 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, 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 anticipated 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 in the service industries and commercial and recreational development to service tourism.

Depending on market factors, developers willing to cover costs required to overcome natural constraints will pay to develop less suitable land. Favorable conditions, including location, access to major transportation routes, and growth in 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 service, 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, provision of circulation facilities, including pedestrian facilities and 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.

Residential

The residential designation provides an area for residential and other compatible uses at densities appropriate for the physical characteristics of the land and the availability of community facilities and services.

Residential-Commercial

The mixed-use designation denotes areas, which will combine a variety of land uses, including residential, commercial, and light industrial uses. At the core of the mixed-use area is the traditional village setting. On average, mixed-use areas will encompass varying densities of development, but may also include higher density development. Multi-family housing may be found in these areas dependent upon adequate water supply and sewage disposal.

Mountain Recreation

This designation consists of areas designated for large-scale outdoor recreation, including, but not limited to alpine skiing. 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.

Jackson Gore Recreation

The purpose of this district is to provide for a resort growth center that encourages innovation of design and layout and more efficient use of land through the clustering of units and buildings. Through the clustering of units and buildings, open lands become available for recreational uses including alpine skiing and golf. The Jackson Gore Recreational District shall provide 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 shall include Public Use Lands consisting of 51.16 acres of open undeveloped land.

Lakes

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.

Aquifer

This area 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 should be strongly discouraged in this area.

Village

For the purposes of the Future Land Use map the jurisdictional boundary of the Village functions as an overlay within which higher densities of development are encouraged, regardless of which future land use designation exists within the village.

Preservation District

This district was created to maintain the special character and architectural integrity of this area of the town. It is designed to allow appropriate home-based business enterprises and community services without altering the characteristics of this area.

Industrial

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

State Forest

This consists of areas, which are predominantly coniferous and broadleaf forests. These areas include the Okemo State Forest, timber industry holdings, and/or other forested areas where access is limited due to difficult terrain and other environmental factors. Logging and other forestry practices should predominate in these areas, although low density residential uses and appropriate outdoor recreational uses could be interspersed with forest uses.

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.

Land Use - Goals

- Plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside⁷.
- 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.
- Encourage development to locate in areas already served by existing roads, utility lines, and services.
- Encourage a mix of compatible uses at higher development densities within the Village, consistent with the established development pattern.
- 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.
- Ensure those proposed uses of historic sites and structures to maintain important historic characteristics of the resource.
- Ensure the timely provision of adequate municipal services and infrastructure to support desirable commercial and industrial growth.
- Provide sufficient accessible public land uses to meet the needs of all Ludlow residents.
- To the extent possible, resolve transportation conflicts associated with land uses (access, traffic circulation, parking, and pedestrian/vehicle conflicts).
- To support the use of Okemo State Forest to promote recreation, tourism and travel related businesses.
- Encourage commercial development that reflects traditional patterns of compact villages and urban areas and surrounded by areas of reduced residential density.
- Promote higher density development, residential and commercial, within the village limits where the infrastructure already exists to support such development.
- Commercial development within the Mountain Recreation district should be limited to those functions directly related to and in support of recreation.

⁷ From Vermont Forum on Sprawl

Land Use - Implementation

- 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.
- Ensure that necessary land use regulations consider and protect the rights of the individual property owner to the maximum extent possible, while also protecting and ensuring the rights of other members of the community.
- Cooperate with adjacent communities and the region to reduce land use conflicts.
- Examine, evaluate, and revise existing municipal regulations as needed.
- Ensure that all local regulations are supported by and compatible with the goals and objectives of the Municipal Development Plan.
- Establish methods for working with developers to ensure land use compatibility before construction.
- Within the Village, encourage development proposals to include provisions for landscaping and preservation of the tree canopy. Establish an equitable mix of affordable residential land uses.
- Develop zoning regulations to support the Land Use goals stated in the previous section.

10. 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:

- The Rutland County/Windsor County boundary
- Districts 1, 2, and 3 of the Environmental Commissions
- Vermont Agency of Transportation Districts 2, 3, and 4
- Vermont State Police Districts C, D, and E

- The Rutland Regional Commission, Southern Windsor County Regional Planning
- Commission, Two Rivers/Ottawaquechee Regional Commission, and Windham Regional Commission

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

Ludlow's Neighbors

The towns of Mount Holly, Plymouth, Reading, Cavendish, Chester, Andover and Weston surround Ludlow. The major resort communities of Killington, Londonderry, and Winhall are also within short traveling distances, as is the State's fourth 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 extremely restrictive health and zoning regulations.

Development in Ludlow and surrounding communities occurs primarily along the major transportation corridors of Route 103 and Route 100. Development has also been influenced not only by Okemo Mountain Ski 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 Ski Resort and its surrounding development, is viewed as the primary generator of traffic on 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 of Ludlow should:

- 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.
- 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.

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- Develop regional solutions to problems that transcend town, regional, and jurisdictional boundaries.
- Participate in State and regional efforts to study the Route 4, Route 100 and Route 103 travel corridors.
- Participate in discussions with surrounding District Environmental Commissions, regional planning commissions, and other municipalities, seeking equity in traffic impact mitigation along the Route 103 and Route 100 corridors.

Regional Plan

The Regional Plan provides broad guidelines for planning, coordination, and review of the natural and economic features of southern Windsor County. The Regional Plan and Regional Transportation Plan are companion documents 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 and the Southern Windsor County Regional Transportation Plan.

The 1994 Regional Transportation Plan identifies Ludlow's downtown as exhibiting many characteristics of a Regional Center. A "Regional Center" is generally defined as an area that provides governmental services and institutions, shopping and employment opportunities, and access to major transportation corridors or surrounding communities. Although the long-term implications of this designation are difficult to identify, it underscores the importance of instituting regulations that preserve Ludlow's character, while accommodating compatible growth.

11. CRITICAL ISSUES

The Town of Ludlow Municipal Development Plan provides a look at the current environment in the town and defines a vision for the future. It is meant to provide a framework for development and growth in the town. The plan also identifies issues that must be addressed in order for the town to continue to grow without a degradation of the quality of life that is so important to residents and visitors alike.

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.

- The village should immediately 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 town continues to grow it is important to maintain the vitality of the downtown commercial area. The limited number of parking spaces in the downtown area makes it hard for residents to go about their everyday business and limits visitor's access to shopping, restaurants and other businesses in Ludlow. In order to maintain the vitality of the downtown area the number of parking spaces must be increased.

- We recommend that application be made for a downtown designation from the state.

The downtown area of Ludlow has been the focus of business within the town. A "Town Center" as defined by the Southern Windsor Regional Plan "provides localized services, such as shopping and employment" for the local residents. The Village of Ludlow is identified as just such a center. In order to maintain and potentially increase the opportunity for local residents, as well as those visiting or considering moving to Ludlow, a downtown designation would help identify and increase those factors that will serve the entire community.

- Development of affordable housing must be a priority.

According to the Southern Windsor Regional Plan "near Okemo Mountain Resort in Ludlow the development of second homes and vacation condominiums has occurred at a rapid pace". As this trend continues, and the amount of undeveloped property decreases, the values of all properties will continue to increase. 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 local families to continue to live in Ludlow.

- 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 but also to the increased use of 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.

- Discourage increased development 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.

- Investigate construction of a new school.

The public school facility in Ludlow is no longer functionally adequate. In addition, a number of communal spaces are shared with Black River High School. As the overall town population continues to increase (although the village population is down the overall town population has increased) it is necessary to provide an adequate safe environment for educating the children of Ludlow. A new school facility with additional space should be considered in order to provide adequate space and facilities to educate our children.

- Provide adequate facilities 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 and facilities for this segment of society.

- Develop a capital plan and a budget 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. Developing a capital budget and plan to achieve the goals of the community is an important step towards accomplishing those goals. A capital plan will identify the needs and the priorities of the town and the best means of achieving those goals.

- Start a dialogue about the merger of the town and the village.

The issues that affect the Village of Ludlow have a similar affect on the town. In many cases the goals and means of achieving those goals are the same for both. The financial consequences that result when resolving issues have an effect on the town and the village. It is therefore worth considering a merger between both entities. Sharing resources, facilities and services could provide a positive improvement for both the town and village.

- Work towards the improvement of employment opportunities in the town.

The need to improve housing availability in the Town of 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 is an approach. 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.

While these issues are not the only ones facing the Town of 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 in the future of our town.

12. SUMMARY

All planning should provide for the appropriate development of lands and resources in existing towns, villages, and hamlets. These mutually dependent communities should protect residential, agricultural, and other resources by cooperating to draft and enact regulatory mechanisms that minimize, prevent, or eliminate undesirable development patterns. One answer to this challenge lies in establishing cooperative and coordinated planning efforts at Federal, State, and regional levels

I. Appendix

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Implementation Schedule

Description		Time Frame	Agency
Community Profile			
	Develop zoning regulations that encourage affordable housing development within the municipality to ensure compatibility with rural and village character and promote a sense of community as well as help stabilize Ludlow’s year-round residential population.	Immediate	Planning Commission
	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.	Immediate	Planning Commission
Natural Resource			
	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.	Immediate	Planning Commission
	Incorporate State, Federal and local educational measures, funding or incentives to encourage land owners to protect and preserve natural resources	Long-term	Planning Commission
	Work with local, regional, State and Federal agencies to promote appropriate use, preservation, and protection of important resources.	Long-term	Planning Commission
	Develop an inventory of natural, environmentally sensitive and scenic resources to be used in protecting and preserving these features.	Short-term	Planning Commission
Housing			
	Develop regulations that encourage housing developers to provide affordable housing.	Immediate	Planning Commission, Select Board, Village Trustees
	Requirements may be imposed that a certain percentage of affordable housing units be built or a fee be assessed upon a developer of a proposed sub-division or planned unit development. This may be offset by various developmental incentives.	Immediate	Planning Commission, Select Board, Village Trustees
	Identify, inventory, and map Ludlow’s existing housing stock by conditions such as: maintenance only, in need of repair/rehabilitation or hazardous, in need of demolition for the purpose of preserving those units.	Short-term	Listers
	Determine feasibility of developing revolving loan program for affordable housing.	Short-term	Select Board
	Continue to support local and regional affordable housing programs.	Short-term	Select Board
Local Economy			
	Target infrastructure development, and allocation of capacity, to support economic development.	Short-term	LDC, Chamber of Commerce

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Description		Time Frame	Agency
Local Economy			
	Evaluate current land use regulations to identify barriers to desirable types of business activities (e.g., home businesses in rural areas).	Immediate	Planning Commission
Water and Sewer Services			
	Expand existing municipal water and sewer service areas to include those areas where future land use growth and development are desirable and anticipated.	Immediate	Village Trustees
	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.	Immediate	Village Trustees
	Within the service area, supply municipal service to new development and to owners of existing failed or failing septic systems.	Immediate	Village Trustees
	Encourage maintenance and upgrading of onsite systems to prevent well contamination, pollution or other problems associated with improperly installed or failed systems.	Immediate	Village Trustees
	Establish a method for allocating sewage disposal capacity and a means to prioritize allocations.	Immediate	Village Trustees
Electrical Services			
	Locate and schedule expansion of utilities facilities and services to coincide with the need for desired development.	Immediate	Ludlow Electric Department
	Encourage the use of existing infrastructure and services.	Immediate	Ludlow Electric Department
Communication Service			
	New telecommunications towers and facilities should be sited and constructed only as required to meet the Region's changing needs.	Short-term	Select Board
	Existing telecommunications tower and facility space should be utilized to the fullest extent possible.	Short-term	Select Board
	New telecommunications towers and facilities should not be sited or constructed when a practicable alternative exists. Those wishing to construct new facilities should utilize existing space whenever possible, and those owning or operating existing facilities should facilitate the sharing of that space to the fullest extent possible.	Short-term	Select Board
	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.	Short-term	Select Board
	Public exposure to Radio Frequency Radiation (RFR) and Electro-Magnetic Radiation (EMR) shall not exceed applicable Federal Communications Commission (FCC) standards for human exposure to RFR or EMR. Assessment of possible health effects shall be based on the cumulative effects of all telecommunications facilities and equipment at any given location.	Short-term	Select Board

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Description		Time Frame	Agency
Local Economy			
	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.	Short-term	Select Board
	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.	Short-term	Select Board
	Support development of a coordinated telecommunication site(s) plan for the State of Vermont.	Short-term	Select Board
Solid Waste Disposal Services			
	Continue to explore alternatives to reduce the costs of municipal solid waste disposal, without sacrificing environmental quality.	Immediate	Select Board
	Encourage efforts to educate the public concerning the value of individual and corporate solid waste reduction.	Immediate	Select Board
Recreational Facilities			
	Secure funding to provide access to all public recreational facilities according to the Americans with Disabilities Act (ADA).	Short-term	Recreation Commission
	Encourage development of additional private and public recreational opportunities to benefit all residents and visitors of Ludlow.	Short-term	Recreation Commission
Health and Safety Services			
	Ensure that new development includes sufficient accessibility for emergency vehicles.	Immediate	Development Review Board
Educational Facilities			
	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.	Immediate	Ludlow School Board, U-39 Board
Additional Facilities			
	Seek State and Federal funding for additional child day care facilities to meet the needs of Ludlow's working parents.	Short-term	Select Board
	Provide zoning incentives for child day care, adult care and emergency care facilities within Ludlow.	Immediate	Planning Commission
Transportation			
	Continue to implement the special peak seasonal traffic management program in the Village, and continue to explore other traffic management alternatives.	Immediate	Village Trustees

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Description		Time Frame	Agency
Transportation			
	Develop creative solutions to the parking problems in business areas. Continue to explore cooperative agreements between landowners and the municipalities to meet parking needs.	Short-term	Village Trustees
	Implement and seek funding for an ongoing traffic count program on all four ingress and egress travel corridors.	Immediate	Select Board, Village Trustees
	Develop and maintain ongoing origin and destination studies to determine current and future seasonal traffic trends.	Immediate	Select Board, Village Trustees
	Continue to monitor State and Federal funding efforts for studying the transportation network including such alternatives as railroad track upgrades for the Green Mountain Railroad, signalization improvements, and locally: acceptable traffic routing options.	Long-term	Planning Commission
Fossil Fuels			
	Examine the feasibility of expanding the public transit and shuttle systems to accommodate more people in Ludlow and neighboring areas.	Short-term	Planning Commission
	Encourage location of residential development within walking distance of amenities such as shopping, municipal offices, medical facilities, recreational activities, restaurants, etc.	Short-term	Planning Commission
Wood Energy			
	Advocate programs that will improve economic support for owners of forested land through zoning and tax regulations.	Short-term	Planning Commission
Solar and Wind Energy			
	Develop criteria for evaluating site design plans for the placement and aesthetic aspects of proposed solar and wind energy devices.	Short-term	State Legislature
	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.	Short-term	State Legislature
Land Use			
	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.	Immediate	Planning Commission
	Ensure that necessary land use regulations consider and protect the rights of the individual property owner to the maximum extent possible, while also protecting and ensuring the rights of other members of the community.	Immediate	Planning Commission
	Cooperate with adjacent communities and the region to reduce land use conflicts.	Immediate	Planning Commission

Town and Village of Ludlow, VT – Municipal Plan

Description		Time Frame	Agency
Land Use			
	Ensure that all local regulations are supported by and compatible with the goals and objectives of the Municipal Development Plan.	Immediate	Planning Commission
	Establish methods for working with developers to ensure land use compatibility before construction.	Immediate	Planning Commission
	Within the Village, encourage development proposals to include provisions for landscaping and preservation of the tree canopy. Establish an equitable mix of affordable residential land uses.	Immediate	Planning Commission
	Develop zoning regulations to support the Land Use goals stated in the previous section.	Immediate	Planning Commission
Critical Issues			
	The village should immediately implement a plan to acquire properties to provide for off street parking	Immediate	Village Trustees
	We recommend that application be made for a downtown designation from the state	Immediate	Village Trustees
	Development of affordable housing must be a priority	Immediate	Select Board, Village Trustees, Planning Commission
	Provide a plan to reduce or redistribute traffic flow through the village and town	Immediate	Select Board, Village Trustees, Planning Commission
	Discourage increased development in the Lakes district	Immediate	Planning Commission
	Investigate construction of a new school	Immediate	Ludlow School Board, U-39 Board
	Provide adequate facilities for the care of senior citizens	Immediate	Select Board, Village Trustees, Planning Commission
	Develop a capital plan and a budget for future growth of municipal facilities in Ludlow	Immediate	Planning Commission
	Start a dialogue about the merger of the town and the village	Immediate	Select Board, Village Trustees, Planning Commission
	Work towards the improvement of employment opportunities in the town	Immediate	LDC, Chamber of Commerce

Tables

Table 2.1 Ludlow & Surrounding Communities Population Trends: 1980-2000							
	Population			Change (#)		Change (%)	
	1980	1990	2000	1980-90	1990-00	1980-90	1990-00
Andover	350	373	496	23	123	6.7%	33%
Cavendish	1,355	1,323	1,470	(-32)	147	(-2.4%)	11.1%
Chester	2,791	2,832	3,044	41	212	1.5%	7.5%
Mt. Holly	938	1,093	1,241	155	148	16.5%	13.5%
Plymouth	405	440	555	35	115	8.6%	26.1%
Ludlow	2,414	2,302	2,449	(-112)	147	(-4.6%)	6.4%
Ludlow Village		1,123	958		(-165)		(-14.7%)
Reading	647	614	707	(-33)	93	(-5.1%)	15.1%
Weston	627	488	630	(-139)	142	(-22.2%)	29.1%
Windsor Co.	51,030	54,055	57,418	3,025	3,363	5.9%	5.9%
Vermont	511,456	562,758	608,827	51,302	46,069	10.0%	8.2%

Ludlow Population Trends

Population Changes 2000 to 2002 (Estimated)							
	7/1/2002	7/1/2001	7/1/2000	4/1/2000 Estimate Base	Census 2000	Absolute Change: 7/1/2000 - 7/1/2002	Percent Change: 7/1/2000 - 7/1/2002
.Ludlow Village	947	951	957	958	958	-10	-1.04%
.Ludlow Town	2555	2507	2462	2449	2449	93	3.78%

Population Changes 2000 to 2002 (Estimated)

Town and Village of Ludlow, VT – Municipal Plan

Table 2.2 Ludlow 2000 Population Profile				
	Ludlow Town*	Ludlow Village	Windsor County	Vermont
Population	2,449	958	57,418	608,827
% Male	49%	45.5%	48.7	49.0%
% Female	51%	54.5%	51.3	51.0%
% Minority	0.6%	0.9%	0.9%	2.1%
% Born in Vermont	53%	57.8%	36.6%	54.3%
% Foreign Born	2.8%	2.6%	3.0%	3.8%
% Veteran (civilian pop 18 years and older)	14.6%	17.4%	15.4%	13.6%
% with a Disability (civilian non-institutionalized pop)	16.9%	22.2%	16.9%	16.1%
Median Age	43.2	42.3	41.3	37.7
% Children (< 18 years old)	21%	19.3%	23.3%	24.2%
% Elderly (> 65 years old)	18.7%	23%	15.8%	12.7%
% High School Graduates (pop 25 years and older)	86.6%	83.7%	88.1%	86.4%
% College Graduates (pop 25 years and older)	24.2%	26.4%	30.2%	29.4%
Per Capita Income	\$24,708	\$19,824	\$22,369	\$20,625
% Below Poverty Level	7.6%	9.5%	7.7%	9.4%
% Children Below Poverty Level	8.6%	9.1%	7.5%	10.7%
% Elderly Below Poverty Level	8.4%	7.9%	7.6%	8.5%
Families	658	221	15,724	157,736
% Families w/ Children	24.3%	20.8%	29.2%	31.8%
Average Family Size	2.80	2.79	2.86	2.96
Median Family Income	\$44,375	\$40,703	\$49,002	\$48,625
% Below Poverty Level	5.9%	6.7%	5.2%	6.3%
Population Living in Group Quarters	57	57	694	20,760

*Data for Ludlow Town if for entire Town, including the Village, unless otherwise noted.
Source: U.S. Census data.

Ludlow 2000 Population Profile

Table 3.1 – Windsor County Land Allocation							
Town	Total Acres	Forest	Non-Productive* Forest	Agricultural	Non-Productive* Agricultural	Total Enrolled Acres	% of Total Acres
Andover	18,432	2,881.3	45.75	326.23	0	3,253.28	17.7%
Baltimore	3,008	997.8	4	146.7	0	1,148.50	38.2%
Cavendish	25,344	5,945.04	147.66	609.72	.1	6,702.52	26.4%
Chester	35,776	11,196.8	142.09	1,133.91	4.4	12,477.20	34.9%
Ludlow	22,912	2,416.44	11.76	212.13	0	2,640.33	11.5%
Reading	26,560	7,450.61	131.1	628.41	0	8,210.12	30.9%
Springfield	31,552	6,878.96	151.6	1,796.4	2	8,828.96	28.0%
Weathersfield	28,032	4,368.16	95.35	1,479.53	0	5,943.04	21.2%
West Windsor	12,544	1,257.29	54.9	358.47	0	1,670.66	13.3%
Windsor	15,808	1,665.42	58.7	623.54	0	2,347.66	14.9%

Windsor County Land Allocation in Acres

Table 3.2 – Listed Waters					
Water body ID	Segment Name/ Description	Pollutant	Use(s) Impaired	Problem(s)	303d list/Status
VT10-11	Black River below Springfield WWTF	Nutrient enrichment	AES, 2CR	Phosphorus enrichment; excessive algal production	Impaired - Town working on upgrading WWTF; addressing phosphate issue
VT10-11	Black River; from mouth to 2.5 miles upstream (Springfield)	Pathogens	CR	Urban runoff; combined sewer overflows	Impaired - Developed area and hydros; sewer separation in process (final phase); Springfield conducted "BMP" contract in 2000 (first phase complete .01)
VT10-14	Black River below Ludlow WWTF for approx .5 miles	Nutrient enrichment	ALS	Nutrient enrichment from WWTF	Impaired - Problem due to discharge from WWTF - CSO correction in 92-93; DEC monitoring (99) showed improvement; Town applying for expanded discharge w/removal

Listed Waters - Impaired (Do not meet VT Water Quality Standards)

Use(s) Impaired:

AES – aesthetics
 AWS - agricultural water supply
 FC - fish consumption
 IWS - industrial water supply

ALS - aquatic life support
 CR - contact recreation
 DWS - drinking water supply
 2CR - secondary contact

Table 4.1 Ludlow Housing Trends, 1990-2000									
	Year		Change		Ludlow Village	Year		Change	
	1990	2000	Number	Percent		1990	2000	Number	Percent
Ludlow Town									
Households	935	1,060	125	13.4%	Households	486	437	-49	-10.1%
Avg. Size	2.41	2.26	-0.15	-6.2%	Avg. Size	2.21	2.06	-0.15	-6.8%
Family	614	658	44	7.2%	Family	278	221	-57	-20.5%
Non-family	321	402	81	25.2%	Non-family	208	216	8	3.8%
65+ alone	118	125	7	5.9%	65+ alone	85	74	-11	-12.9%

Source: U.S. Census

Ludlow Housing Trends

Table 4.2 Comparative Household Characteristics						
	Avg. Household Size	Number of Households	%Households w/ Children <18 yrs.	%Single Head of Household w/ Children <18	% Elderly (65+) Living Alone	% Non-family
Andover	2.31	215	23.7%	7.0%	7.4%	31.6%
Cavendish	2.37	617	28.0%	5.7%	10.9%	31.8%
Chester	2.35	1,296	31.0%	9.1%	12.2%	33.5%
Ludlow	2.26	1,060	26.2%	7.1%	11.8%	37.9%
Ludlow Village	2.06	437	22.9%	6.4%	16.9%	49.4%
Mt. Holly	2.51	494	36.0%	6.9%	9.1%	30.8%
Plymouth	2.21	251	25.1%	5.6%	10.0%	32.7%
Reading	2.47	286	32.6%	7.3%	9.1%	28.7%
Weston	2.16	283	21.6%	4.6%	11.7%	38.5%
Windsor Co.	2.35	24,162	30.9%	8.0%	11.1%	34.9%
Vermont	2.44	240,634	33.6%	8.5%	9.5%	34.4%

Source: U.S. Census

Comparative Housing Characteristics

Table 4.3 Ludlow Mobile Home Parks					
Park	Established	Total Lots	Leased Lots	Available	Rent
Black River Mobile Court	1967	14	14	0	\$260
Stryhas Trailer Park	1972	10	10	0	\$200
Tuckerville	1983	23	22	1	\$185

Source: 2001 Registry of Mobile Home Parks, VT Dept. of Housing & Community Affairs.

Ludlow Mobile Home Parks

Table 4.4 Housing Cost Comparisons						
	Ludlow Town				Windsor Co.	Vermont
	1990	2000	Increase	Percent	2000	2000
Median HH Income	\$25,707	\$36,969	\$11,262	43.8%	\$40,688	\$40,856
Median Value	\$104,200	\$120,200	\$16,000	15.4%	\$108,500	\$111,500
Median Mortgage	\$650	\$1,006	\$356	54.8%	\$1,010	\$1,021
units >30% HH Income	82	149	67	81.7%	1945	24,493
% of units>30% HH inc	13.3%	19.6%			11.30%	23.10%
Median Gross Rent	\$363	\$520	157	43.3%	539	\$553
units >30% HH Income	121	103	-18	-14.9%	2225	25,208
% of units>30% HH inc	37.8%	34.2%			32.40%	35.60%

Source: U.S. Census.

Windsor County Housing Cost Comparisons

Table 4.5 Ludlow Housing Affordability Analysis

Household Income Estimates	Annual Income	Monthly Gross Income	Monthly Housing Costs	Monthly Payment	Mortgage Amount	Price w/ 5% Down	Ownership Gap	Rent Gap
		[/12]	[x.30]	[x.80]	[@6.65%]	[/.95]	[@\$120,200]	[@\$520]
2000 US Census								
Median	\$44,375	\$3,698	\$1,109	\$888	\$133,459	\$140,483	\$20,283	\$589
Low (80%)	\$35,500	\$2,958	\$888	\$710	\$106,767	\$112,386	(\$7,814)	\$368
Very Low (50%)	\$22,186	\$1,849	\$555	\$444	\$66,725	\$70,237	(\$49,963)	\$35
HUD County								
Median	\$49,002	\$4,084	\$1,225	\$980	\$147,374	\$155,131	\$34,931	\$705
Low (80%)	\$39,202	\$3,267	\$980	\$784	\$117,901	\$124,106	\$3,906	\$460
Very Low (50%)	\$24,501	\$2,042	\$613	\$490	\$73,687	\$77,565	(\$42,635)	\$93
MAGI (x2)								
Median	\$83,870	\$6,989	\$2,097	\$1,677	\$252,241	\$265,516	\$145,316	\$1,577
Low (80%)	\$67,096	\$5,591	\$1,677	\$1,342	\$201,792	\$212,413	\$92,213	\$1,157
Very Low (50%)	\$41,935	\$3,495	\$1,048	\$839	\$126,120	\$132,758	\$12,558	\$528
Avg. Wage (x2)								
Average	\$43,730	\$3,644	\$1,093	\$875	\$131,519	\$138,441	\$18,241	\$573
Low (80%)	\$34,984	\$2,915	\$875	\$700	\$105,215	\$110,753	(\$9,447)	\$355
Very Low (50%)	\$21,865	\$1,822	\$547	\$437	\$65,759	\$69,220	(\$50,980)	\$27

Notes:

- 1) Housing is defined as "affordable" when households with incomes at or below median income pay no more than 30% of their gross income on household expenses.
- 2) U.S. Census income is the 1999 median household income for Ludlow as reported in the 2000 U.S. Census.
- 3) HUD County income is estimated median family income for Windsor County in 2000 [US Dept. of Housing and Urban Development].
- 4) Median adjusted gross income (MAGI) as reported by the state for Ludlow in 2000; doubled to estimate household from 2 wage earners [VT Tax Dept.]
- 5) Average annual wage (Ave Wage) reported by the state for Ludlow in 2000; doubled to estimate household income from 2 wage earners [VDET].
- 6) Mortgage amount assumes financing for 30 years at a fixed rate of 7%
- 7) The median reported value of an owner-occupied unit in Ludlow was \$120,200 as reported in the 2000 U.S. Census; the median sale price of an R1 property in Ludlow in 2000 was \$107,000, and an R2 property \$235,250 [VT Tax Dept., Transfer Tax Data].
- 8) The median gross rent of an occupied rental unit in Ludlow was \$520 as reported from the 2000 US Census.

Ludlow Housing Affordability Analysis

Table 4.6 Housing Inventory		
Year	Residential	Vacation
2001	708	886
2002	732	891
2003	721	936
<p>Notes: Residential includes type R1 and R2. R1 is a residence on less than 6 acres of land and R2 is a residence on more than 6 acres of land Vacation includes type V1 and V2. V1 is a vacation home on less than 6 acres of land and V2 is a vacation home on more than 6 acres of land Sources: Ludlow Lister's Office</p>		

Ludlow Housing Inventory

Table 7.1 Mileage Summary of State & Local Roads		
Classification	Function	Mileage
State Highway	Principal Arterial	12.5
Class 1	Rural Arterial	2.29
Class 2	Rural Collector	5.05
Class 3	Local Access	55.76
Class 4	Access/Recreation	3.48
	TOTAL	79.08

Mileage Summary of State and Local Roads

Town and Village of Ludlow, VT – Municipal Plan

Table 7.3 - Vermont Agency of Transportation – Average Annual Daily Traffic (AADT)												
From	To	1986	1988	1990	1992	1994	1996	1998	2000	2002		
VT 100												
0.00	ANDOVER TL	1.74	ANDOVER RD/TURKEY POLLARD RD	990	1110	1640	1200	1180	1100	1100	1300	1300
1.74	ANDOVER RD/TURKEY POLLARD RD	4.45	HEMINGWAY HILL	1870	2070	2180	2280	2120	1800	2300	2400	2500
4.45	HEMINGWAY HILL	4.87	BRIDGE ST	3440	2780	2930	2140	2350	2000	2600	2700	2800
4.87	BRIDGE ST	5.04	VT 103 S (JOINS VT 103 FOR 1.8 MI)	3020	2850	3000	2200	2420	3200	4100	4300	4500
5.04	VT 103 N	5.81	EAST LAKE RD	2380	3350	3410	3540	2980	2600	3500	3400	3600
5.81	EAST LAKE RD	8.47	PLYMOUTH TL	2070	2950	3000	3110	2720	2400	2400	2500	3200
VT 103												
0.00	CAVENDISH TL	0.31	E HILL RD	6540	6250	7320	3490	7100	7900	5800	7600	8200
0.31	E HILL RD	1.68	MILL ST	6700	6400	7495	7090	6890	7700	8500	7800	8300
1.68	MILL RD	1.82	HIGH ST	10700	11480	11665	7940	7720	7900	8400	8200	8700
1.82	HIGH ST	2.22	ANDOVER RD	9580	10120	10280	10380	8660	9100	9600	9300	9900
2.22	ANDOVER RD	2.35	W HILL ST	8920	9890	10050	10145	8350	8600	9100	8900	9200
2.35	W HILL ST	2.62	OKEMO MTN RD	7420	11020	8560	8645	8905	9600	10200	8900	9500
2.62	OKEMO MTN RD	3.07	DUGWAY RD	6690	10370	10535	10635	10960	7900	8400	7800	8300
3.07	DUGWAY RD	4.06	VT 100	6690	7390	7510	7550	6710	7900	8100	8000	8500
4.06	VT 100	5.78	MT HOLLY TL	4100	4580	4655	4700	4840	5000	5300	5200	5400

Vermont Agency of Transportation – Average Annual Daily Traffic (AADT)

Table 8.1 – Energy Demand		
Fuel Type	% of demand	% of expenditure
Oil	65%	50%
Electric	18%	41%
Wood	8%	3%
Natural Gas	6%	3%
Propane Gas	4%	4%
Coal	<1%	<1%
Solar/Wind	<1%	<1%
Total	100%	100%

**Totals may not sum to 100% due to rounding*
 Source: Vermont Comprehensive Energy Plan

Vermont Energy Demand and Expenditure 1990 by, fuel type

Maps