

# **Strafford Town Plan**

**Adopted by the Strafford Select Board  
(with revisions)**

**8/10/2011**

Prepared by the Strafford Planning Commission

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Steve Campbell, Chair  
Scott Knoerlein  
Martha Walke  
Guy Denechaud  
Donald Graham  
Stuart Crocker  
Dan Ruml  
Cameron Speth

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Community Affairs

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# I. Demographics

Population, when considered in terms of past, present and future statistics, represents an important factor in the overall development patterns of a town. Rapid population increases can create a demand for new and expanded municipal services, and can strain the financial ability of a town to provide public services economically, which is important to our Citizens and taxpayers.

## A. Population Patterns

Shown below are population statistics for the Town of Strafford taken from the U.S. Census Bureau. According to the U.S. Census, Strafford's year 2000 population numbered 1,049, compared to a population of 902 in 1990, resulting in a 1990s growth rate of 16%. Strafford's growth rate of 16% was higher than the 8% rate of growth achieved by the State of Vermont and the Two Rivers–Ottawaquechee Region.

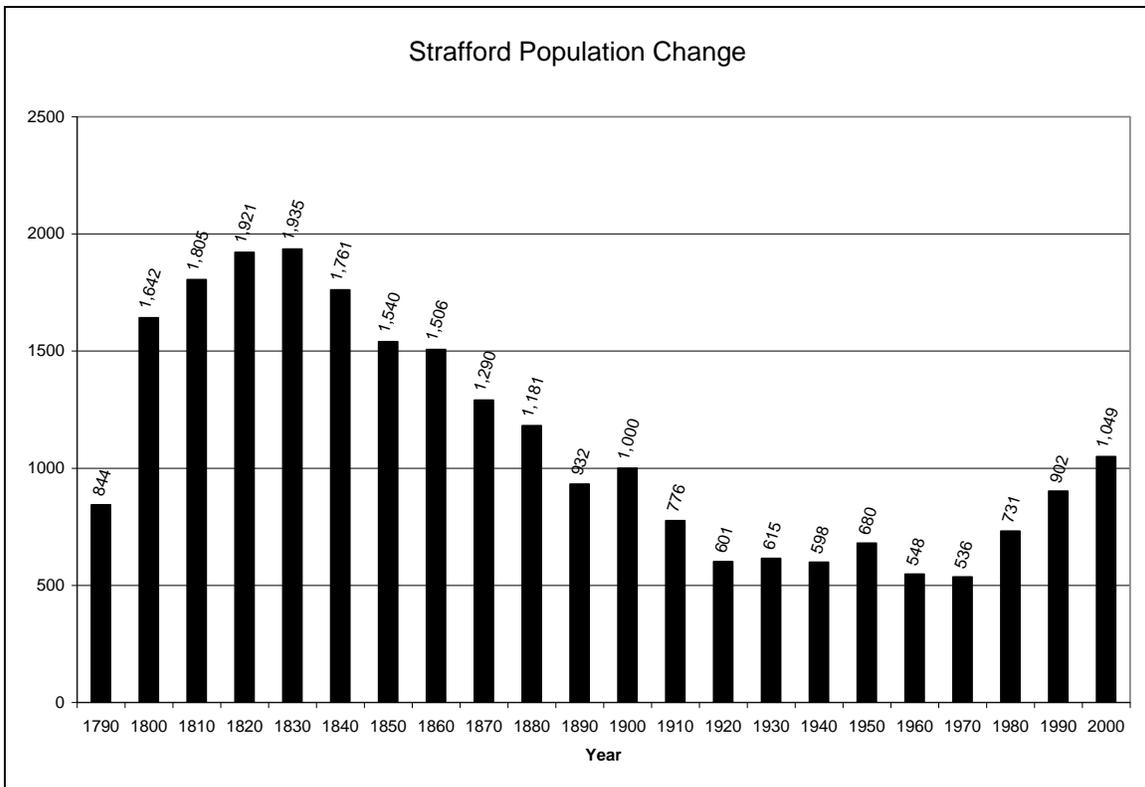


Figure 1- Source: US Census 2000

Between 2000 and 2005 Strafford's population continued to rise, however as Census estimates indicate in figure 2, that trend is beginning to reverse itself. The Census Bureau develops county and state population estimates primarily by measuring changes in vital statistics, in and out migration, and group quarters population. The county

numbers basically are distributed among the towns and villages according to measures of housing unit change, which are calculated primarily using building permit data, mobile home shipments, and the age of housing units.

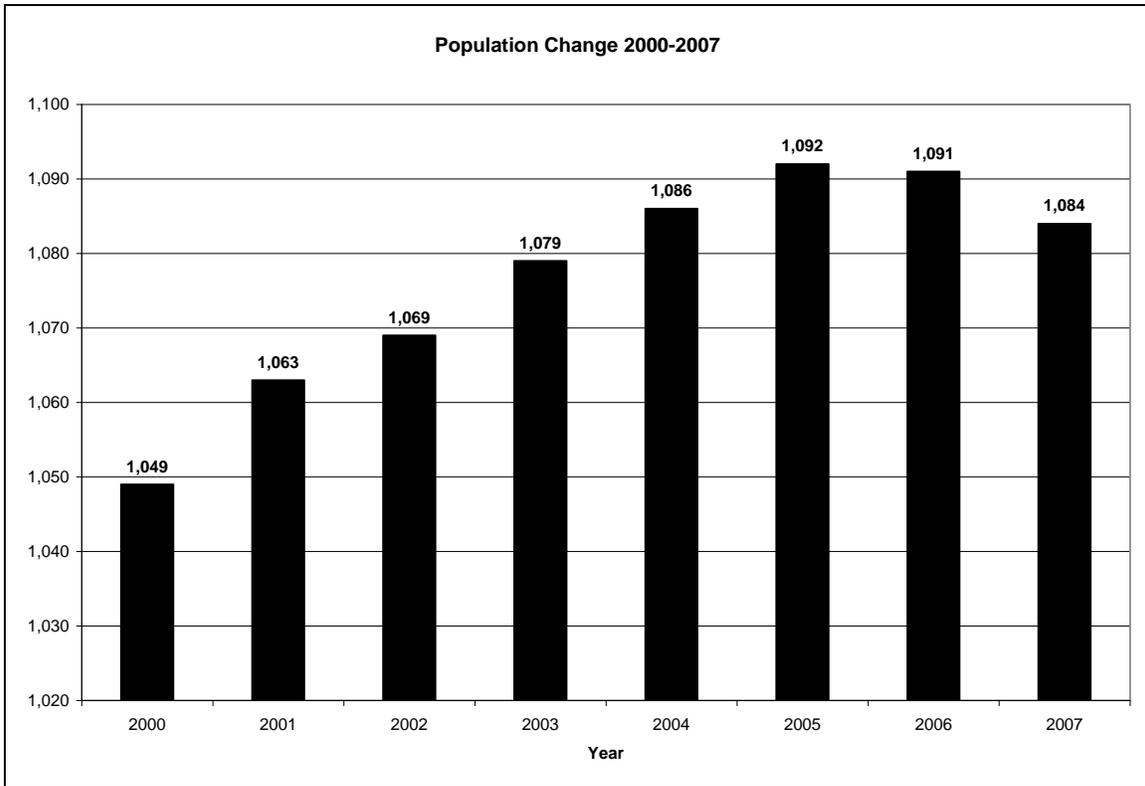


Figure 2 - Source: US Census

## B. Age of Population

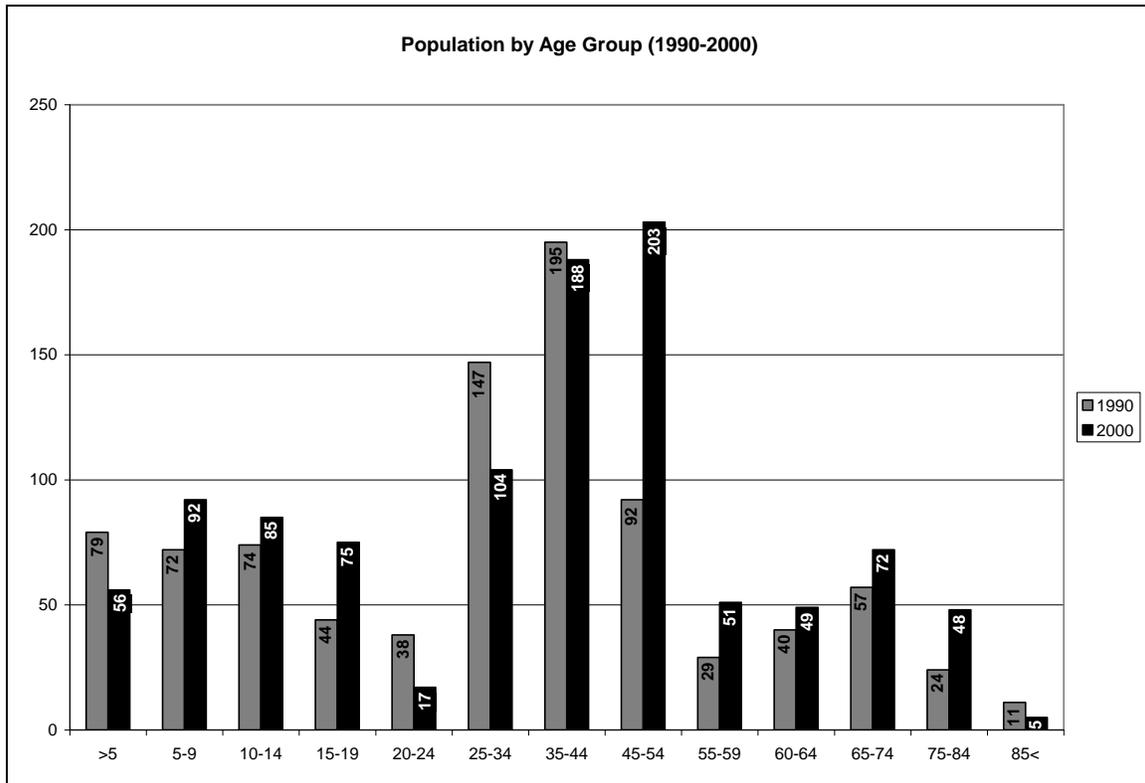


Figure 3 -Source: U.S. Census 1990 & 2000

Analysis of US Census data from 1990 & 2000 present an interesting picture of Strafford. As indicated in figure 3, between 1990 and 2000 the most dramatic population increases have occurred primarily in the 45-54-year-old range, which to some extent reflects the ongoing effect of the baby boomer generation. Overall for Vermont, the number of residents 25-44 years of age dropped 5% as baby boomers continued to move into their late 40s to 50s, and Strafford follows this trend as well.

However, it is worth noting that the census data also implies an influx of new residents, not just a population that is aging in place. In 1990, there were 147 residents aged 25-34. Assuming that these residents remained in Strafford during the following decade, there were 188 residents aged 35-44, suggesting an increase of total population of 27%. This is most likely due to continued immigration of residents.

In general, the age of Strafford's population is similar to that of Vermont as a whole, with much of the population over the age of 35. Also common with many other towns is the continued departure of young adults. From 1990-2000 in the 20-24 age group, Strafford lost 55% of its population. In the 25-34 age sector, there was a nearly 29% loss in population.

The loss of young adults (generally between the ages of 25-35) has been a concern throughout Vermont during the past decade. The out-migration of young adults raises concerns on both economic and social levels. Without a talented and well-educated pool of young workers, there are worries that the state will find it increasingly difficult to attract and retain well-paid jobs, which in turn can have serious repercussions for the state's capacity to raise tax revenues and pay for essential services.

According to the Department of Economic Development's (DED) 2007 Report "Growing Vermont's Next Generation Workforce," Vermont ranks at the bottom nationally for the percentage of its citizens between the ages of 25 and 29, and at the top in the percentage aged 50-54. While it is common, and perhaps desirable, for young adults to venture beyond their home state after college, the biggest concern is that many are not returning. During interviews for the 2007DED report, young adults explained that their primary reason for leaving Vermont was to find better paying jobs. Likewise, the biggest hurdle for young adults wanting to return to Vermont was the availability of well paying jobs and affordable housing.

Since 2000, school enrollment data has indicated a fluctuation in the population of school age children in Strafford. In 1999, K-8 enrollment was at 153 students. By 2005, that number had dropped nearly 24% to 111. Since 2006, however, enrollment has risen almost 10% to 122 (2009).

In another trend that mirrors statewide trends, Strafford also has an aging population. In 2000, 15% of Strafford residents were over 65 years of age, which was slightly higher than Rutland County (14%) and several percentage points higher than Vermont (12.7%). An aging population will need services that are not readily available in a town like Strafford. The need for elderly housing will increase.

### C. Economy and Wages

<b>2007 Family Income Data, Strafford and Surrounding Area</b>				
<b>Town</b>	<b>Returns Filed</b>	<b>Adjusted Gross Income</b>	<b>Average Gross Income</b>	<b>Median Adjusted Income Per Family</b>
Chelsea	622	25,442,576	\$40,904	\$46,728
Sharon	376	28,095,390	\$74,722	\$60,257
<b>Strafford</b>	<b>310</b>	<b>28,769,235</b>	<b>\$92,804</b>	<b>\$65,211</b>
Thetford	755	68,494,208	\$90,721	\$71,128
Tunbridge	330	24,305,695	\$73,654	\$52,872
Vershire	179	9,820,317	\$54,862	\$43,118
<b>O. County</b>	<b>7,566</b>	<b>489,239,432</b>	<b>\$64,663</b>	<b>\$52,158</b>

Figure 4 - Source: VT Department of Taxes

According to the Vermont Department of Taxes “Family Income Estimate by Town,” the median adjusted income per family (does not include single filers) was \$65,211. Strafford's median adjusted income per family is in the top third when compared to its neighbors and \$13,000 more annually than the Orange County median. The US Census Bureau sets the national poverty level on an annual basis. In 2007, the poverty level for a family of four was \$20,065 in income. During that year, more than thirty percent (30%) of all filers (including single filers) in Strafford reported an income below that threshold.

According to the Vermont Department of Taxes, Strafford's median adjusted gross income per family in 2000 was \$53,916. Since 2000, this figure has risen an additional 20% to \$65,211. Strafford's 2007 median family income was higher than the Orange County median family income of \$52,158. The percentage of growth since 2000 of Strafford's median family income was slightly less than that of Orange County during the same time period (25%) and only slightly higher than the 19% increase of the State.

Economic planning and development can assist in the creation of stable jobs as well as help produce a broader tax base. Poorly planned or executed economic development results in over development, strained public services, and regional shifts in employment, businesses, and related services. Because of Strafford's proximity to the Upper Valley, most of the development in jobs and income or sales has occurred outside of town. Key areas include Hartford, Lebanon and Hanover. Primary services, such as health care and banking are provided from these areas.

The 1990 and 2000 U.S. Census Reports included statistics on employment for Strafford. As is the case with nearly all small towns, Strafford is not a self-sufficient employment center. The advance of the technological age and other conveniences has brought Strafford's once independent community into the economy of the region, state, and nation. Strafford is a bedroom community as a majority of its residents work outside of Town.

The 2000 Census provides information on the origin and destination patterns of residents and workers. For 2000, almost 80% of workers in Strafford worked outside of town. The mean travel time, as reported by the Census was 28 minutes.

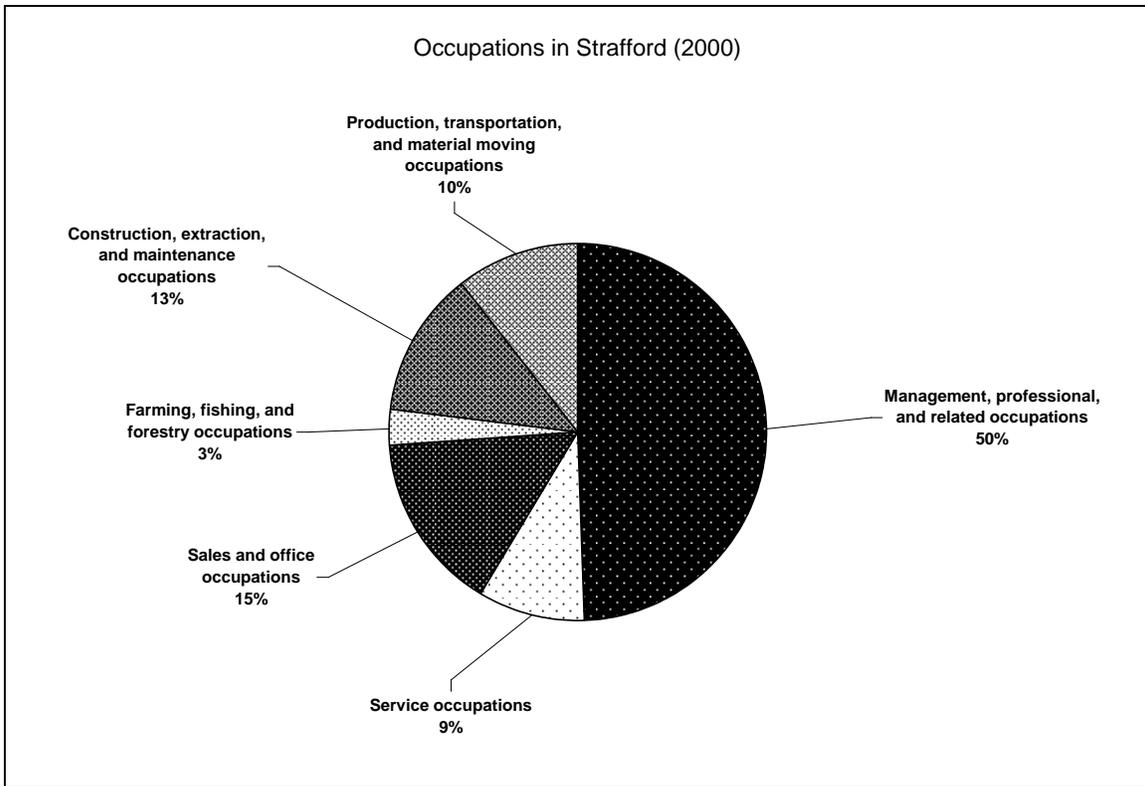


Figure 5 -Source: US Census 2000

The pie chart above indicates that almost 75% of the population of Strafford is employed across management, sales and service occupations. Given that there are a limited number of employers located in Strafford, this further supports the idea that Strafford is a bedroom community and most residents commute to work out of town.

## II. Housing

### A. General Housing Data

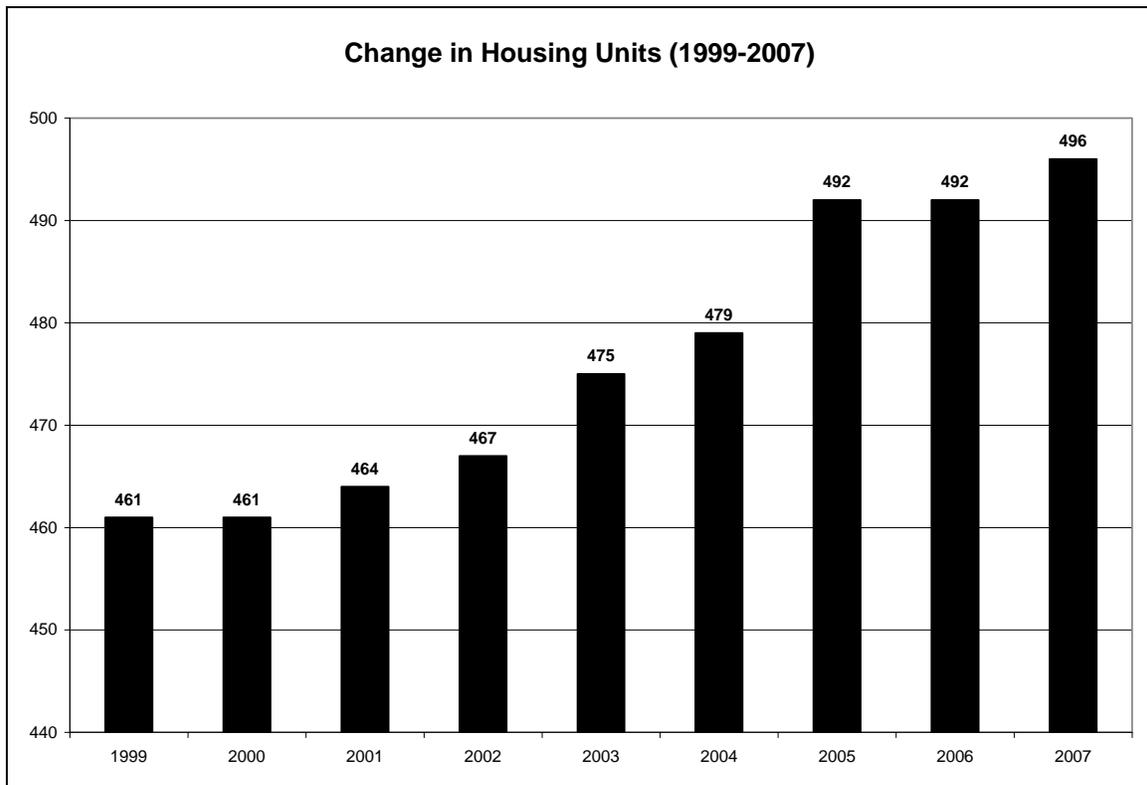


Figure 6 -Source: Strafford Grand List (Form 411) 1999-2007

Analysis of data from Strafford's Grand List information indicates that there has been a 7% growth in the number of housing units between 2000 and 2007. A housing unit, as defined by the U.S. Census, includes houses, apartments, mobile homes, and rooms for occupancy. However, the Grand List data does not clearly delineate apartment units or rooms for occupancy, so they are not included in the chart above.

According to US Census data collected in 2000, over half of the homes in Strafford were owner occupied, a trend which likely has continued.

<b>Price of Residential Homes* in Strafford and Surrounding Area (2000 and 2008)</b>							
		<b>2000 Number Sold</b>	<b>2000 Average</b>	<b>2000 Median</b>	<b>2008 Number Sold</b>	<b>2008 Average</b>	<b>2008 Median</b>
<b>Chelsea</b>	<6 Acres	7	\$90,500	\$84,000	4	\$97,131	\$110,000
	>6 Acres	4	\$113,500	\$115,000	2	\$624,950	\$0
<b>Sharon</b>	<6 Acres	1	\$115,000	\$115,000	7	\$182,071	\$185,000
	>6 Acres	0	\$0	\$0	7	\$296,785	\$288,000
<b>Strafford</b>	<b>&lt;6 Acres</b>	<b>8</b>	<b>\$182,625</b>	<b>\$155,000</b>	<b>6</b>	<b>\$179,250</b>	<b>\$156,500</b>
	<b>&gt;6 Acres</b>	<b>5</b>	<b>\$119,320</b>	<b>\$126,100</b>	<b>4</b>	<b>\$350,250</b>	<b>\$350,500</b>
<b>Thetford</b>	<6 Acres	36	\$152,363	\$134,000	20	\$224,992	\$191,250
	>6 Acres	8	\$253,750	\$210,000	16	\$454,075	\$376,950
<b>Tunbridge</b>	<6 Acres	4	\$66,625	\$68,250	4	\$192,500	\$192,500
	>6 Acres	5	\$207,000	\$150,000	10	\$320,550	\$306,500
<b>Vershire</b>	<6 Acres	6	\$81,733	\$87,000	2	\$151,500	\$0
	>6 Acres	5	\$142,600	\$93,000	2	\$252,500	\$0

Figure 7 -Source: VT Department of Taxes

During the past decade housing prices have dramatically increased statewide. This is illustrated in figure 7 which compares the price of residential homes in 2000 with 2008. Interestingly, the average sale price for a primary residence on six acres of land or less in Strafford decreased slightly between 2000 and 2008. But for homes with over 6 acres of land values increased dramatically (193%). When compared to neighboring towns in the chart above, Strafford appears to have a somewhat more stable level of home pricing than neighboring towns.

## **B. Rental Housing**

Only 13% of Strafford's housing stock in 2000 was rentals. The tight housing market and lack of unoccupied apartments continues to drive up rental costs. In 2000 the US Agency of Housing and Urban Development (HUD) calculated the fair market rent for a modest two bedroom apartment in Strafford at \$571 per month. In 2009, that cost had risen 39% to \$795. In order for a renter in Strafford to be able to afford rent at this rate, he/she would have to make at least \$31,800 annually. Given that tax return data indicates that 40% of Strafford's population makes less than \$30,000, it is likely that many find renting in Strafford unaffordable.

### **C. Affordable Housing**

Affordable housing is defined as that which a household making the County median income could afford if no more than 30% of its income were spent on housing costs. For homeowners, housing costs include payments for principal and interest on mortgage, taxes, etc. For renters, housing costs include rent and utilities. While no direct study has been made for residents, the Town has far more households with low to moderate income than it has housing at low to moderate prices.

Property values in Strafford have increased since 1999. This, coupled with the mortgage crisis of 2008, has made it much more difficult for someone making an average wage to afford a home in Strafford. This trend is consistent with that of the State of Vermont. In its annual publication "Between a Rock and A Hard Place: Housing and wages in Vermont," the Vermont Housing Council notes that the median purchase price of a primary home in Vermont in 2007 reached \$201,000, a 101% increase since 1996. A Vermont household would need an annual income of \$65,000 as well as \$14,000 in cash (for closing costs and a 5% down payment) to purchase a home at that price.

The cost of housing has been driven up in great part due to the tight housing market. In 2000 Strafford's vacancy rate was only 1% which is consistent with the rest of the State and, according to "Between a Rock and A Hard Place," nearly the lowest in the nation.

Strafford, like many communities, has experienced a trend toward smaller home occupancy size. This trend is unlikely to be reversed. The trend results in an increase demand for housing. The elderly, single households and other special populations are oftentimes in need of special types of housing including that which is affordable and readily accessible.

### **D. Elderly Housing**

Section B of Chapter 2 discussed Strafford's trend toward an aging population. The Baby Boomers (people born between 1946 and 1964) are beginning to retire, and the oldest ones will be 84 in 2030. This shift in demographics will put added pressure on an already tight housing market. Expanding health care costs may leave seniors with even less money to spend on housing.

Senior housing demand is typically focused on a relatively small geographic area reflecting a preference for remaining within or close (10 to 15 miles) to the community where they spent their adult/working lives and where they have established family, community, and religious ties. Unlike more urban communities whose housing inventories include both rental and ownership units and some subsidized units, these

smaller communities generally have little or no rental housing. Seniors living in the community almost always own their homes. When the time comes to downsize, these seniors are forced to make a choice of either maintaining a property that is beyond their means, or moving to another community where alternative forms of housing are available.

As the elderly become less comfortable with the tasks involved in managing their own home, they often turn to some sort of elderly housing. If health is an issue and some form of constant care is required, seniors will need to enter a nursing home or a residential care facility. As is indicated in Figure 8, there are very few options in Strafford or the surrounding area for this type of care. Elderly Strafford residents in need of full-time care are forced to move away from their community. This is, of course, not just a local issue. There is a shortage of elderly housing throughout the State of Vermont.

Within Vermont there are two types of elderly care facilities which are subject to State regulation, nursing homes and residential care facilities. Nursing homes provide nursing care and related services for people who need nursing, medical, rehabilitation, or other special services. They are licensed by the state and may be certified to participate in the Medicaid and/or Medicare programs. Certain nursing homes may also meet specific standards for subacute care or dementia care. Residential care homes are state licensed group living arrangements designed to meet the needs of people who can not live independently and usually do not require the type of care provided in a nursing home. When needed, help is provided with daily activities such as eating, walking, toileting, bathing, and dressing. Residential care homes may provide nursing home level of care to residents under certain conditions. Daily rates at residential care homes are usually less than rates at nursing homes.

<b>Nursing and Residential Care Facilities , 2003</b>			
<b>Total beds by provider type, by town.</b>			
	<b>Nursing Care Level II</b>	<b>Residential Care Level III</b>	<b>Residential Care Level IV</b>
<b>Chelsea</b>	0	21	0
<b>Norwich</b>	0	0	0
<b>Randolph</b>	20	18	0
<b>Sharon</b>	0	0	0
<b>Strafford</b>	0	0	0
<b>Thetford</b>	0	0	0
<b>Tunbridge</b>	0	0	0
<b>Vershire</b>	0	7	2

Figure 8 -Source: Vermont Department of Disabilities, Aging and Independent Living

The Vermont Department of Disabilities, Aging and Independent Living classifies residential care homes in two groups, depending upon the level of care they provide. Level III homes provide nursing overview, but not full-time nursing care. Level IV homes do not provide nursing overview or nursing care. Nursing homes, which have full time nursing care, are considered Level II. At present, there are no options for elder care located in Strafford.

In the Vermont Housing Finance Agency's issue paper "Housing and the Needs of Vermont's Aging Population," it is acknowledged that more seniors today want to "age in place," which means choosing to remain at home or in a supportive living community as they grow older without having to move each time their needs increase. Considering the lack of availability of nursing homes in Strafford and Vermont as a whole, this may be the optimal way to address elderly housing in the future. Having the right housing includes the ability to stay active and engaged in community life, which is a great benefit not only to the individual, but to the community as a whole. Considering the high costs of housing in Strafford, however, aging in place in Strafford may not be an option that can be considered by older residents.

Several municipalities have benefited from planned retirement communities which provide for older persons. Innovative land use policies and controls to direct special needs are encouraged. Such land usages are best located in close proximity to existing village/hamlet centers where basic services are available.

### **Strafford Senior Housing Project**

In 2008, the Town of Strafford hired a consultant to conduct an analysis of the market demand for senior subsidized housing in the village of South Strafford. The market study focused on the development of five to eight (5-8) senior housing units to be located on an already identified site. The resulting conclusion of the study was that there is a need for independent senior housing in the Strafford and the surrounding communities based on a number of factors including: the current and projected senior population, percentages of seniors who are income eligible, extensive wait-lists at existing facilities, and a critical housing shortage in the Upper Valley region. The study determined that the need can not be met by the existing housing market or by the region's housing inventory particularly for the fifty-eight percent (58%) of senior households who would qualify for housing assistance.

## Childcare

<b>Child Care Facilities, 2003</b>				
<b>Total seats by provider type by town</b>				
	<b>Registered In-Home</b>	<b>Licensed In-Home</b>	<b>Center</b>	<b>Kindergarten- Nursery School</b>
<b>Chelsea</b>	12	0	75	0
<b>Norwich</b>		0	100	20
<b>Randolph</b>	54	0	177	0
<b>Sharon</b>	0	0	40	0
<b>Strafford</b>	<b>6</b>	<b>0</b>	<b>13</b>	<b>0</b>
<b>Thetford</b>	6	0	48	16
<b>Tunbridge</b>	0	0	0	0
<b>Vershire</b>	6	0	0	0

Figure 9- Source TRORC 2003 Childcare Inventory

As of late 2007, Strafford has two in-home childcare providers in town and two licensed childcare centers (including one after school program) that are registered with the State of Vermont. Several other registered homes and licensed centers are located in neighboring towns. According to the 2000 U.S. Census, there were 148 children under the age of 10 in Strafford. In 2000, according to the Census, 36 children were enrolled in some kind of preprimary school. Other child care services are provided within familial relationships.

## E. Goals, Policies and Recommendations

### Goals

1. To ensure that Strafford senior citizens have access to decent, affordable in town housing.
2. To insure that Strafford residents have access to decent, affordable housing and that the rate of construction does not exceed the Town's ability to provide services.
3. To encourage the creation of affordable childcare facilities that meet the established needs of residents in Strafford.

## **Policies**

1. Support efforts to provide a location for development of affordable housing for low and moderate-income senior citizens in or near one of Strafford's villages.
2. Conversion of larger homes to two and multiple family units to meet the needs of the community's elderly is appropriate where the historic character of a building or neighborhood is not unnecessarily destroyed or diminished.
3. To provide affordable housing to low and moderate income families and for senior citizens.
4. The Town of Strafford supports the private development of additional facilities to meet the childcare needs of its residents and may assist with seeking funding to develop these facilities.
5. Support private sector efforts to seek funding to assist with the development of childcare infrastructure. Ensure that no barriers to increasing childcare capacity are created by future changes in zoning regulations.

## **Recommendations**

1. A local affordable housing trust should acquire property suitable for re-sale to qualifying low and moderate senior citizens from Strafford.
2. An affordable housing committee has been actively seeking a location for an 8-10 unit senior housing complex.
3. A local affordable housing trust should be organized to acquire properties suitable for re-sale to qualifying low and moderate income families.

### III. Education

#### A. Introduction

Strafford has one school, The Newton School, located in South Strafford Village which offers education for grades K-8. The Strafford School District does not maintain a high school nor is it part of a union high school district. High school students must, therefore, attend school outside the town. The school district pays full tuition for high school students to attend Thetford Academy--Strafford's 'designated' high school--or a technical (vocational) center with an associated high school.

Parents may petition the school board to have their child attend another approved school if Thetford Academy or available technical centers do not meet their child's needs. The board may, at its discretion, approve such petitions and authorize payment of tuition. For approved public high schools in Vermont or a neighboring state, the board may authorize no more than the amount charged by Thetford Academy for nonresident students and for private schools no more than the average amount charged by Vermont union high schools. As performance testing has become the means of evaluating a school's effectiveness, The Newton School should continue assisting children to succeed.

The total staff at The Newton School consists of 25 employees, 9 of which are full-time teachers.

#### B. Student Enrollment

Enrollments of students in The Newton School are reported annually to the Vermont Department of Education. Based upon annual student resident counts from the Department, average daily membership (ADM) at the school in recent years has been as follows:

Newton School Enrollment	
School Year	# Students
2004-2005	112
2005-2006	110
2006-2007	113
2007-2008	109
2008-2009	120

Figure 10 -Source: VT Dept. of Education

## **C. School Facilities**

Newton School, after the completion of the 1987 renovations, consists of eight classrooms, an arts room, a lunchroom and an office plus five smaller rooms for the nurse and various special services. Most recently, the 1,000 square-foot bus garage was converted into a library. The private Creative Preschool classroom and the gymnasium are located in the Rosa B. Tyson Gym across Rte. 132.

In the immediate vicinity of the school and the gym, there are a variety of recreation areas. Both paved and grassy open spaces surround the school and include a climbing structure, swings, a slide, a basketball hoop, tether balls and other playground equipment. A playing field is located on the hill behind the school, while a larger playing field with both a baseball diamond and soccer goals is adjacent to the gym, as is a tennis court. These are maintained by the Strafford Recreation Board and made available to the school for physical education activities. Most recently a "field of dreams" was created in an area that was previously unsuitable for play. Barrett Hall, across Rte. 132 as it proceeds up the Sharon Hill, and also separately owned and administered, is available for school assemblies, concerts and plays. The school district, in return, makes a contribution toward the upkeep of the building.

## **D. Higher Education**

Strafford has very limited opportunities for residents to acquire education beyond high school. These options include Central Vermont Adult Basic Education program, and Cabin Fever University. Because of the size and location of the town of Strafford, it is unlikely that additional adult education opportunities will be available locally. There are options available in the Upper Valley, however, all of which are within a 30-40 minute commute range. These options include Vermont Technical College in Randolph, Community College of Vermont in Hartford, Lebanon College in Lebanon and Dartmouth College in Hanover, NH.

## **E. Goals, Policies and Recommendations**

### **Goals**

1. To provide free and appropriate public education to all children who live in Strafford, as is their right under state and Federal law. The mission of Newton School, the only school owned by the Town of Strafford and operated by its school district, is as follows: "The fundamental aim of The Newton School is to provide educational opportunities which promote academic excellence, social responsibility and love of learning; develop unique talents and personal interests; reinforce positive self-image and an appreciation of the world around us; and establish effective, functional and responsible citizens of a global community of learners."
2. To preserve and improve The Newton School as a community center and a point of educational excellence.

## **Objective**

1. To realize the maximum benefit of Town and school district resources in the provision of a full and rich education for its students.

## **Recommendations:**

1. A plan addressing the long-term needs and options for providing high school education for Strafford students should be analyzed and formulated.
2. Encourage measures which will bring greater energy efficiency to The Newton School, including reductions in traffic during the times when students are being dropped off or picked up.

## **IV. Utilities & Facilities**

### **A. Solid Waste**

#### **Waste Disposal**

The Greater Upper Valley Solid Waste District (GUV) currently provides recycling opportunities, a competitive trash disposal option and the potential security of up to fifty years of disposal capacity in a proposed lined landfill, designed and permitted by GUV in North Hartland. Through GUV, Strafford residents have access to household hazardous waste and other waste collections locally, in other District towns and at the Hartford Community Center for Recycling. These include construction and demolition disposal, metal recycling, used electronics and a still wider range of other recycling options at special recycling events.

As future decisions are made particularly regarding the development of the proposed landfill, the complexity and expense in the solid waste arena should ease. Strafford supports GUV through a per capita and a waste generation fee paid to the hauler which place more of the financial burden on those individuals who produce the most trash.

#### **Recycling**

The Recycling Program, sponsored by the Strafford Lions Club and the Town of Strafford, had been administered for the past two decades by the Central Vermont Solid Waste Management District (CVSWMD), also through a per capita and a per ton trash surcharge. In March, 2010, Strafford residents voted to withdraw from CVSWMD, which because of financial shortfalls was eliminating its recycling programs. Strafford, through membership in GUV, contracted with the Northeast Resource Recovery Association, which provides hauling and marketing of recyclables. Profits from the sale of the recyclables offsets the hauling charges.

Strafford's Recycling Program has been one of the most successful around, regularly leading all CVSWMD towns in terms of the percentage of its residents who participate and in the per capita volume of items recycled. This has also been the case with participation in GUV's special recycling collection events. In 2009, Strafford's rate of recycling was well above the State of Vermont's goal of recycling 40% of the community's waste stream. Strafford's Recycling Program is staffed entirely by volunteers, who participate on a rotating or as-needed basis.

#### **Objectives**

1. Plans for reconfiguring and redesigning the recycling facility are underway and when implemented, should improve efficiency and safety.

2. A long-term, cost-effective, environmentally sound solid waste solution, beginning with the construction of the GUV's proposed landfill in Hartland, is in sight.

## **B. Cemeteries**

Strafford has three organizations which are responsible for various cemeteries throughout the town. Eight Old Town Cemeteries are under the supervision of the Cemetery Commissioners. The Strafford Cemetery Association manages the Strafford Cemetery in the upper village. The South Strafford Cemetery Association has dissolved and the Evergreen Cemetery in South Strafford is the responsibility of the Town. The greatest challenge facing Strafford's cemetery organizations is an increasingly critical shortage of space, which might be best addressed if the commissions agreed to explore solutions cooperatively.

## **C. Public Lands and Recreation**

### **Recreational Fields**

**Varney Ball Field** - The Town of Strafford owns this ball field on Rte. 132 east of South Strafford, by way of a gift from the Paine family in 1975

**Robert Murray Recreation Field** – Located in South Strafford Village, this field was acquired and developed under the auspices of Bureau of Outdoor Recreation funds. The project includes the tennis courts and playground areas adjacent to the field.

Both fields are used for various recreational activities such as baseball, tennis, soccer, basketball, ice hockey in winter, picnicking, etc.

**Field of Dreams Soccer Field** - this field is located above The Newton School and is used primarily for school related athletic recreation...

### **Other Recreational Opportunities**

The Newton School, occupying three acres in South Strafford, has extensive play activities. In Strafford Village, the Town House Hill and Common provide open space for community activities. Old City Falls and its ravine, a unique natural and historical area, is also owned by the Town. Purchased and developed with Bureau of Outdoor Recreation funds, this recreation area includes a picnic shelter and fireplace and a path to the falls.

The Strafford Area Lions Club sponsors a wide variety of recreational activities. The club maintains a one third acre pond with a 100- foot beach as well as a 500-foot rope ski

tow. Swimming and ski lessons are available in season. Membership and participation are open to all. The Lions Club completed a .4 mile bicycle and pedestrian path between the Varney Ball field and Our Lady of Peace Chapel.

The Strafford Athletic Association, often in conjunction with the Strafford Recreation Board, supports local recreational activities, including an ice hockey rink at the Varney field and the utilization of the Rosa B. Tyson Gym which is owned by Newton School and used for indoor recreation. The basement of the gym is used as the space for the Creative Preschool program.

The Justin Morrill Drift Skippers Snowmobile Club maintains a network of trails with the permission of property owners and at considerable expenditure of time, money and labor by club members. Membership is open to anyone with a properly registered snowmobile. Associate membership is also available to cross-country skiers who wish to use the trails. All members, regular and associate, assist in the upkeep of the trails. The Club has recently purchased a Snow cat trail groomer for use on local trails and for grooming the Harrington Hill ski slope.

The State of Vermont's Fish and Game Department owns 1400 acres, principally in the Podunk Wildlife Management Area and maintains the fishing access on Miller Pond. The Clover Hill and Kibling Hill Wildlife Management Areas are available to the public for hunting. Dr. Gardner Cobb gifted Strafford the 14 acres which became the town forest. The town also owns several other small parcels of land which have the potential to be developed for recreational purposes

As of 2009, 15 miles of trails, known as the Cross-Town Trail, were developed under the auspices of the Conservation Commission, involving numerous landowners who made their properties available for these publicly accessible trails. This system is a testament to the community's support of outdoor recreation as private landowners have chosen to allow public access to their property. Other hiking opportunities can be found using trails maintained by VAST.

## **D. PUBLIC BUILDINGS**

There are a number of historic buildings in Strafford which are used for various public purposes.

### **Municipal Building**

The Municipal Building, or Town Office, is located in Strafford Village. The upstairs was renovated in 2007 and a conference room was created as well as an office for the Listers. The upstairs is not handicap-accessible. The downstairs accommodates office space for the town clerk, town treasurer, zoning administrator, selectmen, and the general public, all in a confined space. The building is in need of a new slate roof and would benefit from retrofitting to increase its energy efficiency.

### **Strafford Town House**

Strafford's Town House which was completed in 1799 celebrated its bicentennial in 1999. Initially serving as a Congregational church, it has, since 1801, served as the venue for Town Meeting. Except for state and national elections, its use throughout the year is limited to special events in the warmer seasons. In 2005, the Town House tower, was repaired and strengthened. Prior to this work, during 1993-4, under the auspices of the Strafford Historical Society, a successful fund-raising campaign was launched which resulted in the restoration of the Town House tower clock. In 2009, the wood stove heating system was replaced by a much safer propane heating system and the network of stovepipes was removed restoring the interior to its original configuration. Renovation and maintenance are ongoing, partially funded with trust funds.

### **Barrett Hall**

Barrett Hall in South Strafford, originally built in 1897, was rebuilt in 1939 after fire destroyed the original structure. It serves the Town as an all-purpose site for meetings, private celebrations and other sponsored events such as Pre-Town Meeting, the Lords Acre Supper, various talent shows and performances and, in particular, has provided Newton School with a site for various plays and assemblies. The Hall also serves as a meal site for the weekly senior lunch.

Under the guidance of an independent Board of Trustees, Barrett Hall has been dramatically improved with a new kitchen, bathrooms, boiler, granite steps, an elevator for handicap-access and a new floor.

## **Morrill Memorial and Harris Library**

The Morrill Memorial and Harris Library in Strafford Village, which was completed in 1929, holds 15,000 items including books, periodicals, records, audio and video cassettes. The library collection is supplemented by the State of Vermont's inter-library loan system. In 1993 an addition to the rear of the building was completed and includes a handicap-accessible entrance. The small children's room was augmented by the construction of a loft in 2003.

## **Justin Smith Morrill Homestead**

The Justin Smith Morrill Homestead, the picturesque and historic home of U.S. Senator Morrill, author of the Land Grant College Act, is owned and maintained by the State of Vermont and is a registered National Historic Landmark. The new Education Center at the Homestead is a year round heated facility that provides visitors with an opportunity to view special exhibits and the contents of his personal library. This space is an important community resource and greater public utilization is being encouraged. The house and grounds, due state budgetary considerations, are currently open only Friday through Sunday during the warmer months.

## **E. Telephone and Internet**

For a rural community such as Strafford, the ability to communicate on a regional and national level has become increasingly important. The better the access via phone and internet is, the more likely that residents will be able to conduct business by telecommuting. The following telephone and internet services are available in Strafford:

### **Landline Communications**

Most of the telephone related services in Strafford are still offered via the traditional telephone lines and poles (landline). Coverage over landlines in Strafford is provided exclusively by Fairpoint Communications, Inc.

### **Cellular Communications**

There are no cell towers located in Strafford, but there is spotty coverage in some areas in town.

### **High-speed Internet**

There are presently five ways to access the internet in Strafford;

- Dial-up - This access is the most commonly available service to residents. Speeds over a telephone modem are very slow, and given the ever increasing need for bandwidth in day-to-day use of the internet, it is not practical for more than checking email. The faster and more stable options available to residents are via satellite modem, cable and DSL.

- Cable - Cable offers fairly consistent bandwidths. It is substantially faster than dial-up. Cable coverage in town is limited to those areas receiving expanded cable access through Comcast (generally limited to the village areas) and represents only a fraction of internet users in Strafford.
- DSL (Digital Subscriber Line) - DSL is very similar to cable in speed. This service is less subject to decreases in speed caused by heavy internet traffic because a certain amount of bandwidth is dedicated for each user. DSL is provided to those within the service area of Fairpoint Communications, but only within three line miles of the Fairpoint switching station in South Strafford.
- Satellite Internet - Satellite internet is an option for residents who are unable to access the internet via cable or DSL and provided they have a clear view of the southern sky from their location. Bandwidth over satellite is on average three times faster than a dial-up connection, it is more expensive than other methods of access and it can be affected by heavy weather such as torrential rains and blizzards.
- WaveComm Wireless Internet – Strafford has a small wireless network that serves about 120 Strafford residents. Wireless networking can allow access in more remote areas, but it is still susceptible to topography and line-of-sight.

It is likely that as many as two-thirds of the households in Strafford only have access to the internet via landline, wireless or satellite modem. Because of the difficulties in convincing cable and DSL providers to extend their coverage areas, Strafford and other towns have considered alternatives to those listed above. In some cases, wireless internet providers have placed towers in towns that provide wireless broadband access to those within line-of-sight.

In the past three years, East Central Vermont Community Fiber Network has approached Strafford and other towns in the Upper Valley and surrounding areas. This organization has developed a long-term plan to extend fiber optic cable throughout the region. Fiber optic cables offer the fastest internet connection speed available. Although this project is still in the development and planning stages, it has the potential to benefit Strafford residents.

## **F. Goals, Policies and Recommendations**

### **Goal**

1. To provide community facilities and services that meet the needs of the residents of Strafford.

**Policies:**

1. Growth and development should not exceed the capacities of local facilities and services.
2. Any increase in infrastructure should be designed to have minimal aesthetic impact on the community.

**Recommendations:**

1. The town should continue to support the ongoing work of the Broadband Committee to enable all households to have faster and more efficient internet and communication facilities is encouraged.
2. The Planning Commission should review the wireless communication facility section of the zoning ordinance.
3. The three cemetery organizations should work cooperatively to plan for future space needs.
4. The Strafford Recreation Board should develop a management plan for each parcel under its authority.
5. The Board of Selectmen and the Planning Commission should evaluate the feasibility of managing other Town-owned parcels for the public good.
6. The Selectboard should consider the creation of a policy regarding gifts of land to the town that addresses under what criteria the town may or may not accept such gifts.
7. Management plans for each public structure, addressing both immediate needs and long term requirements, should be developed.
8. Strafford should seek to establish a village to village trail.
9. A committee is being formed to explore ways to maintain the town house.

## **V. Health and Emergency Services**

### **A. Health Care Facilities**

Due to Strafford's population and location, there are limited options in terms of health care services. However, the Strafford School-Based Health Clinic (located in the Gardner Cobb Health Room at The Newton School), which is affiliated with the South Royalton Health Center, does offer services (primarily to children) several days a week. The clinic's professional staff provides physical, mental and dental health services including health education. Approximately 55% of The Newton School students are enrolled in the clinic. For more intensive medical care most residents seek health care services in other parts of the Upper Valley. The Dartmouth Hitchcock Medical Center in Lebanon, NH, is the largest hospital near Strafford.

### **B. Strafford Volunteer Fire Department**

Firefighting services in Strafford are provided by the Strafford Firemen's Association. This incorporated entity is not a part of town government, but a substantial portion of its operating expenses are provided through an agreement with the town on a yearly basis.

Although the most common hazard in Strafford is structural fire, the fire department also assists with other events including motor vehicle accidents, flooding, and storm related hazards such as downed power lines.

#### **Staff**

The 15-20 member staff of the Strafford Fire Department is entirely voluntary. Training for the Strafford Firemen's Association will, in the future, be conducted largely at a training site in Thetford. The training site includes a 'burn building' and a 'propane gas' facility.

#### **Fire Stations**

The main firehouse, in Strafford Village, has two bays with an area of approximately 650 square feet and a hose-drying tower. The building also contains meeting room space. As with any old building, the structure always needs repair. Energy efficiency improvements are needed, and storage capacity is an issue for growing equipment needs.

A second three-bay sub-station, completed in 1976, is located on Rte. 132 a half mile east of South Strafford.

## **Finances**

Except for an annual appropriation by the Town, equipment and maintenance are financed by the fundraising efforts of the firemen. Fire protection in Strafford is a significant service provided at minimal cost in tax dollars. Because State and Federal regulations are becoming more stringent, additional training time will be necessary, thus reducing the time firemen have for fund-raising.

### **C. Police Protection Services**

Strafford has one constable who is elected by town vote. In addition to the constable, the Town contracts with the Orange County Sheriff's Department to provide expanded coverage throughout town. A portion of any fines or tickets issued by the Sheriff's department in Strafford are returned to the town in order to offset the cost of the service. Supplemental police coverage in Strafford is provided by the State Police. Because of pending changes in Vermont law, as well as liability issues, the town may need to consider alternatives to our traditional police protection. It is likely that budget changes will be required in any case to meet training requirements, provide for adequate insurance and necessary vehicle usage.

### **D. Emergency Medical Services**

#### **Strafford FAST Squad**

Emergency medical calls are answered initially by the Strafford Fast Squad, which has between 5-6 members trained in handling situations of a medical nature. The Fast Squad has combined operations with the Firemen's Association. The purpose of the fast squad is to provide immediate response to emergencies while an Upper Valley Ambulance is en route to the accident or situation. Like the Fire Department, the FAST squad is a private organization receiving funding through the annual municipal budget.

#### **Upper Valley Ambulance**

Housed in Fairlee, VT, the Upper Valley Ambulance (UVA) is a not-for-profit emergency ambulance and rescue service composed of paid full-time and volunteer staff. UVA covers an area consisting of nine towns in Vermont and several towns in New Hampshire. In addition to emergency services, UVA offers non-emergency services including transportation to hospitals, nursing homes and other residences as well as trainings in CPR and first aid. On a regular basis more intensive EMS training is offered for fast squads and fire departments. In 2008, Strafford paid UVA \$15,675 for

ambulance services. It is anticipated that rising costs for fuel and other goods will have an impact.

## **E. Emergency Planning in Strafford**

Strafford maintains an Emergency Management Director as one of its appointed officers. The role of this individual is to coordinate local and regional emergency services and to ensure that the town is prepared in the event of an emergency. The town keeps an up-to-date Emergency Operations Plan as well as an Emergency Operations Manual and Rapid Response Plan. These tools help determine the chain of command during major emergencies and provide local officials with the information they need to safely handle such difficult situations.

Strafford is also home to four certified Red Cross shelters. The Newton School has been designated as Strafford's primary shelter and the Tyson Gym is equipped with a generator.

## **F. Goals and Policies**

### **Goals**

1. High quality medical care should be available to all Strafford residents.

### **Policies**

1. Strafford supports and encourages the development of local health care facilities and counseling services in order to help residents obtain health care as close to home as possible.
2. The town supports programs that expand and improve medical services.
3. Strafford supports efforts to provide residents with access to high quality physical and mental health care through local providers.
4. Strafford's policy is to support and continuously update the Rapid Response Plan and Emergency Operations Plan.

## VI. Transportation

Land use, energy, and transportation are related. Land use, both within and outside Strafford's borders, drives the need for improvements to the transportation system. At the same time, local land use goals must be facilitated in part by providing the necessary transportation facilities to accommodate growth where growth is desired. In addition, a given land use can have very different impacts on the transportation system depending on how it is sited and designed. Land use and transportation are both linked to the town's economic well being. Poorly planned land use patterns increase transportation costs and also the tax rate, whereas well planned development can add to the tax base of the town, providing additional funds for the transportation system.

### A. Public Highway System

Roads in Strafford	
Class 1	0
Class 2	15.74
Class 3	52.39
Class 4	12.76
<b>Total Town Roads</b>	<b>80.89</b>

Figure 11 - Source: Vermont Agency of Transportation

As indicated in figure 11, there are a total of 80.89 miles of roads in Strafford. Unlike most towns in the Upper Valley, none of the town's total miles are state maintained, which has direct impact on road maintenance expenses. Highway classifications determine the amount of state aid available to assist with repair and maintenance. The Vermont Agency of Transportation (VTrans) and the Strafford Selectboard determine road classes. Criteria include traffic volume, road condition and function. Class 2 highways are the major connectors linking villages with each other and with state highways, and they receive a higher rate of State aid than Class 3 highways. Nineteen percent (19%) of Strafford's roads are Class 2, of which 12.77 are paved. Class 3 highways are other town roads that are maintained in a manner enabling them to be driven under normal conditions in all seasons by a standard car. The majority (65%) of Strafford's roads are Class 3, of them 4.55 are paved.

Strafford has 12.76 miles of Class 4 highway. According to the Town's Policy Regarding Class IV Highways and Town Trails, the Town is obliged to keep those Class 4 town highways routinely used by adjacent landowners traversable by four-wheel drive, high clearance vehicles during the months of May through October.. No state aid is available for work on Class 4 highways. While not suited for regular traffic, these roads do represent a valuable asset for the town from a recreation standpoint. Such town-owned corridors will help ensure that there will continue to be a place to enjoy

snowmobiling, cross country skiing, walking, hunting, horseback riding and other outdoor recreation.

## **B. Road Maintenance**

Apart from education costs, public roads have been and will continue to be Strafford's largest town asset requiring significant financial investments paid by every taxpaying resident. The burden of cost is exacerbated by the fact that none of Strafford's roads are state maintained, meaning taxpayers pay for all transportation expenses. Transportation funding sources come from numerous combinations of the local tax base, state and federal gas tax receipts, state and federal allocations and registration fees, U. S. Congressional apportionments and private financing sources. The most significant funding resource comes from the federal transportation bill. The federal and state government pays a percentage of project costs and the community pays the remainder.

Increasing costs of asphalt and other highway construction materials make maintaining asphalt roads too expensive for towns of Strafford's size. It is functionally three times more expensive to reconstruct a paved road than it is to reconstruct a gravel road (including the addition of geo-textile fabric). This expense creates a dilemma when considering the maintenance and reconstruction of paved roads. Clearly, thought needs to be given to the road surface based on analysis of traffic and road quality.

## **C. Class 4 & Ancient Roads**

Class 4 roads primarily offer access to Town and conservation resources and provide unique insights into an agrarian landscape long abandoned. Many Class 4 roads have been incorporated into the natural landscape and very little development has occurred along these roads. Even though the Town owns the Class 4 roads and rights-of-way, there is no legal obligation to maintain the road surface, culverts, or bridges. Public utility services or other municipal infrastructure that typically accompany roads are nearly nonexistent. Often these roads are scenic travel corridors for hikers and bicyclists and provide limited access to hunting and conservation lands.

The question of how Class 4 roads were created is important to the policies set forth in this Town Plan. Class 4 roads were created by the state's local road classification system which required that towns identify Class 1, 2, and 3 roads for state aid. Local roads not identified by the Town Selectmen to receive state aid would be, by default, Class 4 roads. As funding was involved, municipalities were diligent in identifying and mapping local roads for the State of Vermont. But since Class 4 roads were not needed for state aid, they were not as consistently identified or mapped. A common misconception is that since many of these roads do not exist on any official state funding map, they are therefore ancient highways unknown to Town officials or citizens. This is not true, and many Class 4 roads remain a well-known transportation and recreation resource. Another common misperception is that since automobiles cannot use these roads, then the Town no longer requires a public right-of-way. This auto-centric attitude fails to recognize that

the public travel ways often are used by other traveling constituencies, such as walking, bicycling and equestrian users.

Because it is important that the Town explore the role of Class 4 roads in our land use development policies, traffic circulation, emergency management access, and natural and historic resource impacts, the town created an Ancient Roads committee. Recent state legislation required that the Town identify and map, by July 2015 all Class 4 Roads or lose all public claims to Class 4 roads not presently identified on the State's Highway map. The Ancient Roads Committee concluded after more than two years of research that it didn't have the resources to exhaustively investigate all the ancient roadways in Strafford and that documentation was elusive. These roadways were laid out, altered and discontinued over a 200-year period and in the end the Committee concluded that the Town's highway budget didn't need any additional miles of road to maintain.

#### **D. Development Review Road Standards**

The Town currently follows state standards that were first adopted by the Selectboard in April, 2001 (Town Road and Bridge Standards) and subsequently revised and re-adopted in March, 2011. This policy details construction standards for roadways, ditches and slopes, bridges and culvert and guardrail. State statutes are followed in regard to changes in road classification, rights-of-way, road acceptance and discontinuance. The Town of Strafford Highway Access Policy, adopted in April, 2004, governs driveway and private road access. The responsibility for policy implementation rests with the Selectboard and the Strafford Highway Crew. Insofar as guidelines for development review can contribute to this process, the following planning considerations should continue or be expanded upon in future policy updates:

- Emergency management services will have guaranteed access to all development.
- Roads should be designed with multi-modal transportation safety (pedestrian, bicycle, etc.) in mind.
- Since local and state road construction follows State of Vermont design standards, private roads should be constructed to those standards, thereby minimizing changes if the road is accepted by the Town at a later date.
- Road design and construction should adhere to the relevant Town Plan goals and objectives including land use, natural resources and transportation elements.
- All roads will reflect a context-sensitive design that preserves and enhances the adjacent land uses and transportation system.
- Private road and driveway standards should be adopted to ensure storm water is not discharged onto public highways or drainage systems.

Major transportation projects often place a greater emphasis on contemporary engineering design standards. However, in some instances, the design and engineering of our roadways and bridges fail to consider the Town's unique historical and natural landscapes. The design of a transportation project should account for a road being

historic, scenic, pleasant to drive and respectful to the people and businesses living alongside it. While engineering sufficiency criteria are important factors for road and bridge improvements, compatibility with existing and future development patterns also are important considerations.

## **E. Access Management**

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

The Town recognizes the value of access management and can implement access management strategies through its planning and public works related policies. The following are some of these strategies for all public and private transportation and development projects impacting local and state public roads as well as private roads:

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

## **F. Parking**

The parking needs of the businesses and recreational activities in the lower village create additional concerns. Some relief has been felt by the conversion of the old town garage to a parking area. There is further concern because of the movement of children back and forth between Newton School and Coburn's Store.

In 2009, a park & ride facility was created in South Strafford Village to help with parking congestion issues, particularly related to the use of the gym and Murray Recreation Field.

## **G. Traffic Regulation**

The current Strafford Traffic Ordinance is focused primarily on Strafford's villages and the area between them. The Selectboard is in the process of revising and updating the document to include other roads in Town, establishing safe rates of speed on all Town roads.

## **H. Other Modes of Travel**

### **Bicycles and Pedestrians**

Many residents bike or walk on town roads in Strafford. The rural nature of most of Strafford's roads makes bike/pedestrian travel reasonably safe. However, bike/pedestrian travel along the primary roads in Strafford (Route 132 and parts of the Justin Morrill Highway) is less safe due to higher traffic volumes and speed and a lack of available shoulders. At some point, the town may want to consider extending the sidewalks in South Strafford Village northeast along Rte 132 toward the recreational areas of Varney Ball Field and southwest toward the swimming pond.

An informal trail system, known as the cross-town trail, is available for non-motorized travel. The cross-town trail is located primarily on private land. Fortunately, these landowners have been willing to allow public access to their property. Other hiking opportunities can be found using trails maintained by VAST.

### **Sidewalks**

Using a Transportation Enhancement Grant from the Agency of Transportation, Strafford is designing a new sidewalk system for safer pedestrian travel in the Lower Village and

to improve parking at Coburn's Store. It is expected that this project will be implemented in 2011.

## **ATVs**

Some ATV use is allowed on town roads, but it is limited to Class 4 roads or other roads that are not maintained in the winter.

## **Public Transportation**

Strafford, like most Vermont Towns, lacks public transportation. Stagecoach, Inc. offers limited public transportation in the form of special requests for individuals who need transportation for medical reasons. Given that Strafford's elderly population is growing, the need for an affordable source of public transportation that can bring the elderly to major medical facilities like Dartmouth Hitchcock and larger commercial centers for day-to-day shopping needs is important.

### **I. Goals, Policies and Recommendations**

#### **Goals**

1. To provide and maintain a safe, energy efficient, and cost effective transportation system integrating all modes of travel (auto, pedestrian, bicycle, and mass transit) and meeting the needs of the public in a manner consistent with the other goals, policies and recommendations of this Town Plan.

#### **Policies**

1. It is the policy of the town to consider public input prior to a decision to change the maintenance level, surface treatment, or class of a town road.
2. When determining which roads to pave (or remove pavement from) and when, it is the policy of the town to evaluate traffic volume and maintenance costs against other factors, such as the up-front cost of paving and base improvements that may be necessary to support a paved surface and the potential quality-of-life impacts to residents.
3. It is the policy of the town to integrate land use and transportation planning by encouraging concentrated growth in areas served by an adequate highway system, utilizing land use regulations and appropriate highway access management techniques to control the impacts of development on the transportation system, and making transportation improvements in areas where growth is desired.
4. It is the policy of the town to encourage access management techniques that limit the number of access points during new development along highways.
5. It is the policy of the town to cooperate with other communities in the region through the TRORC and its Transportation Advisory Committee to ensure that the

region's transportation system is developed in a well-coordinated manner that recognizes and balances the needs and desires of each community.

6. It is the policy of the town to consider the relationship of a road to surrounding features of the landscape when planning improvements needed to safely accommodate increasing traffic.
7. It is the policy of the town to combine widening of roadways to accommodate safe use by bicyclists with traffic calming measures and enforcement of speed limits to ensure that traffic speeds do not increase.
8. It is the policy of the town to retain some Class 4 roads, trails, and other public rights-of-way as public resources.
9. It is the policy of the Town to require development on private roads to adhere to town access standards and to provide safe year-round access for town services, particularly fire and rescue.

### **Recommendations**

1. As Route 132 from South Strafford to the Thetford line is rehabilitated, it should be done on a scale which is in keeping with the Town's size and rural character.
2. A local source of crushed stone or ledge to be used on local roads, driveways and as riprap should be developed to curb energy use and expense.
3. Geo-textile fabric should be used in a systematic fashion to reduce maintenance costs on unpaved Town roads.
4. The bicycle and pedestrian path between the Varney ball field and the Our Lady of Peace Chapel should be extended to connect with the South Strafford Recreation fields to reduce the risk of accidents.
5. A bicycle, horse and pedestrian path along the Ompompanoosuc River should connect South Strafford and the Upper Village to reduce the risk of accidents on the Morrill Highway.
6. Creative solutions to the parking problems in South Strafford, as a matter of safety as well as convenience, should be explored and implemented.
7. The sidewalks in South Strafford should be upgraded and kept free from snow to insure that there is always a safer alternative than walking in the road.

8. The Selectboard should analyze the current classification of Strafford's roads, making sure that roads are classified according to their present level of use.
9. The town should develop a long range management plan for public highways perhaps as part of a capital budgeting process.

## **VII. Natural Resources**

### **A. Water Resources**

Water resources include aquifers (the supply of fresh water beneath the ground) and surface waters (includes streams, ponds and lakes). Sustainable yields of quality water are necessary for the lives and livelihood of citizens of Strafford. Strafford has no mapped groundwater information.

The process for mapping groundwater is complicated. It involves multiple scientific methods including using technology to create a detailed picture of groundwater situations and use patterns, analysis of well data provided to the state by well drillers and site specific analysis. Unfortunately, there is no easy method.

There are concerns about the safety of groundwater in Strafford's villages. The historic concentration of development, coupled with the density and number of wells currently in existence, has led to unsafe drinking water conditions. The town has mapped existing wells in South Strafford in an effort to determine how drinking water might be protected. A similar study in Strafford Village is also warranted. Because an increase in the number of septic systems in the Villages could have negative impacts on existing drinking water resources, any future development in Strafford's Villages that requires a new septic system to be created should be carefully reviewed.

In order to ensure safety of residents located within the village, Strafford could consider the creation of community water and sewer systems for both villages. But, the high cost of such infrastructure investments make it unlikely that the Town as a whole would support the creation of such systems. During public discussions about the Town Plan, residents agreed that the Town might be able to offer incentives to local developers who wanted to create privately owned multi-user water and wastewater systems, provided that these incentives were approved by the citizens of Strafford.

The health of Strafford's surface waters is essential to maintaining quality groundwater, as well as an important element for outdoor recreation and natural beauty. In 2006, the Strafford Conservation Commission conducted a river corridor management plan for the West Branch of the Ompompanoosuc River. The results of the phase 1 and 2 studies indicate that many reaches of the West Branch are suffering from instability, usually due to man-made activities. The River Corridor Management Plan makes recommendations to restore stable channel conditions by providing a structure for identifying and prioritizing river restoration and corridor protection project opportunities and for

developing effective approaches. An overriding objective of the study was to reduce the need for maintenance of traditional channel management applications along the West Branch, and to shift the focus of management projects from short term control to long term equilibrium and stability.

There are a number of state and federal programs that help fund stream-management projects, such as the Conservation Reserve Enhancement Program (CREP). CREP provides funds to farmers for the purpose of preserving lands once used for agriculture, with the goal of introducing and encouraging plant life to prevent erosion and provide habitat. The Conservation Commission has approached landowners along unstable reaches of the West Branch about participating in programs of this type, but there has been little interest in participating. Stream instability can lead to excessive flooding and other types of damage due to increased flow velocity.

The River Valley Conservation district provides examples for the purpose of improving river quality through better zoning. Requiring riparian buffers within the River Valley Conservation district would help protect shoreline areas that are fragile. Riparian buffers are strips of bankside vegetation along waterways that provide a transition zone between water and land use. Construction or development along shorelines, or removal or disruption of vegetation within these areas can create increased water pollution, higher water temperatures, destabilization of banks, higher soil erosion rates and loss of fish or wildlife habitats.

### **Goals**

1. To maintain or enhance the quality and quantity of drinking-quality resources.
2. To allow use of groundwater resources by new development in such a manner to protect the public right to adequate quality and quantity of the resource.
3. To consider surface water and groundwater impacts and effects related to proposed or existing uses of land.
4. To maintain or improve surface water quality and quantity.

### **Policies**

1. No new development or improvements in Strafford's Villages that require a new well or septic system should be allowed unless the builder can prove that there will not be a significant impact on the quality of existing resources.
2. Land use activities which potentially threaten groundwater quality should be carefully reviewed and monitored to prevent undue loss of groundwater quality.
3. Maintenance or enhancement of water resources for recreation, fisheries, necessary wildlife habitats and quality aesthetics are high priorities.

4. The location, sizing and density of on-site sewage disposal facilities should be determined by the capacity of the soil, the natural limitations of the site, and underlying substrata conditions, such as depth to bedrock and seasonal high water tables. For the most current information regarding permitting, see <http://www.anr.state.vt.us/dec/ww/rules.htm>.
5. Preservation of the natural state of streams should be encouraged by,
  - Protection of adjacent wetlands and natural areas;
  - Protection of natural scenic qualities; and
  - Maintenance of existing stream bank and buffer vegetation including trees, together with wildlife habitat.

### **Recommendations**

1. The Planning Commission should investigate possible methods of incentivizing private water and wastewater systems in Strafford, particularly in the Villages.
2. Conduct a mapping study of groundwater resources in Strafford.
3. The Conservation Commission should conduct a septic system inventory in Strafford Village.
4. The Planning Commission should develop water resource policy and practices to protect ground and surface waters with assistance from the Conservation Commission.
5. The Planning Commission should examine the River Conservation zoning district to determine how it can be modified to better protect unstable areas of the West Branch.
6. The Conservation Commission should continue educational and project-development work outlined in, or as an outgrowth from, the River Corridor Management Plan for the West Branch of the Ompompanoosuc.

## **B. Forestry and Farming**

Forests cover the majority of the acreage in Strafford and the timber industry is still a viable portion, though small, of the local economy. Commercial forestry is a small, but important, part of the local economy. Forestry and farming together currently employ only 5% of Strafford's residents, down from 10% in the 1980 Census. Out of Strafford's total 28,278 acres, more than 9,000 acres are mixed coniferous-broadleaf, another 8,000 acres are hardwoods and about 3,500 acres are in pine and hemlock. Strafford's forests also represent a substantial recreational venue for hunting, hiking and other outdoor pursuits.

For the purposes of property valuation, the State of Vermont lists 21 working farms in Strafford. Dairy farms now number only six. Just over 2,500 acres of land in Strafford, according to the most recent sources available, is devoted to hay, corn, or permanent pasture. Prime agricultural lands are a small but important component of Strafford's landscape and are often located in areas with easy road access, which makes them prone to development. Maintaining these prime soils as farmland is important to the current and future viability of farming in Strafford. The distinctiveness of the working landscape gives Strafford much of its beauty. Farms provide open space for wildlife habitat, scenic views and a connection to the land that is hard to find in other places. They also help maintain small town and village settlement patterns.

The Wildlife Habitat Incentives Program (WHIP) promotes voluntary implementation of on-farm management practices to develop habitat for wetland and upland wildlife, threatened and endangered species, fish and other types of wildlife.

Many landowners in town have their land enrolled in the Use Value Appraisal Program which involves these properties in forest or farm management activities in exchange for a property tax benefit. The acreage of land in this program reached approximately 9750 in 2009. Undeveloped forest land provides many benefits to Strafford including wildlife habitat, recreational opportunities, abundant clean water, and forest products.

#### **Goals**

1. To preserve the working landscape, in particular pastures and grasslands, as they are essential to maintaining the rural character of Strafford.
2. To encourage the growth, marketing and consumption of local foods.

#### **Policies**

1. To support and encourage the Strafford Farmer's market.
2. To encourage the preservation of the working landscape for the purposes of protecting open space and the scenic quality of Strafford.

#### **Recommendations**

1. Strafford should consider strategies to encourage the expansion of farming and forestry uses of open space, and to further the education of town citizens with regard to the importance of these activities within the town.
2. The Conservation Commission should create a landowner welcome package that would include land trust policies, use value land taxation policies, conservation resources and local permit requirements.
3. The Town should explore various State, Federal, and Town initiatives designed to bolster farming and forestry.

## C. Wetlands

Wetlands are ecologically fragile areas. How these lands are managed has a direct bearing on the quality and quantity of water resources. The Vermont Water Resources Board estimates that wetlands comprise less than 5 percent of the surface area of Vermont. In addition to being Vermont's most productive ecosystem, wetlands serve a wide variety of functions beneficial to the health, safety and welfare of the general public, including the following:

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

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

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

There are approximately 17 acres of wetlands in Strafford. (Classes I & II, i.e., 'significant,' wetlands are protected.)

For Strafford, as well as the State, the most significant wetlands have been mapped and are included as part of the National Wetlands Inventory (NWI) prepared by the U.S. Fish and Wildlife Service. These wetlands have been delineated on USGS topographic maps, and by reference are made a part of this Plan (see Map #4 of 5, Natural Resources). Other smaller wetlands often do not show on these maps, so a field determination by a qualified biologist is needed for most activities that involve state permits.

In those towns such as Strafford, that have zoning or subdivision regulations, final approvals cannot be granted for projects involving wetlands unless the Agency of Natural Resources has first had an opportunity to evaluate the effect of the project on the wetland [24 V.S.A., Section 4409]. It is important to note that future investigations of wetlands within Strafford may result in additional areas being determined as significant or important for conservation.

### **Goal**

1. To identify and encourage land use development practices that avoid or mitigate adverse impacts on significant wetlands.

### **Policies**

1. Structural development or intensive land uses shall not be located in significant wetlands or within buffer zones to significant wetlands.
2. Developments adjacent to wetlands should be planned so as not to result in undue disturbance to wetland areas or their function. Mitigating measures to protect the function of a wetland are an acceptable measure. These measures are avoidance, minimization and compensation.

### **Recommendation**

1. The town should consider conducting an inventory of wetlands to determine where, if any, wetlands that have not been mapped by the State of Vermont are located.
2. The Planning Commission should develop zoning regulations that require landowners to provide the DRB with evidence that their proposed development will not negatively impact wetlands.
3. The Planning Commission should develop clear buffer rules for wetlands.

## **D. Flood plains**

Floods are inevitable and uncontrollable natural events which occur sporadically and affect lands adjacent to watercourses. It is therefore in the public interest to plan for floods, to implement land use strategies which will protect these areas, and to minimize the risks to public health, safety, and property.

Floodplains, lands adjacent to watercourses (streams, brooks or rivers), are periodically inundated by heavy rains or during spring thaws. They are porous and can absorb considerable water before reaching flood stage. Floodplains make excellent agricultural land but are poorly suited for development, both because of their propensity for flooding and because of their proximity to watercourses, which creates the potential for pollution. Approximately 78 acres in Strafford are within the floodplain area.

Vermont has experienced thirteen statewide and regional floods since 1973. All but one of these were declared federal disasters, and economic losses were significant. Damage was not limited to designated floodplains, but often occurred along unstable river systems and steep streams. In some cases, recovery costs to the public sector alone amounted to several million dollars per flooding event. Public interest dictates that every reasonable attempt should be made to avoid or reduce such exposure to flood damage.

### **National Flood Insurance Program (NFIP)**

Under the provisions of the National Flood Insurance Act (1968), the Federal Emergency Management Agency (FEMA) has conducted a series of evaluations and hydrologic engineering studies to determine the limits of flood hazard areas along streams, rivers, lakes, and ponds expected to be inundated during the 100-year base flood, meaning that the flood level has a 1% chance of being equaled or exceeded in any given year. The calculations do not take into account the impact of ice dams or debris, and may, therefore, actually underestimate the areas which are subject to flooding damage.

FEMA has prepared a Flood Hazard Boundary Map for the Town of Strafford, which includes flood hazard areas for the Ompompanoosuc River and for major streams and ponds. This map is on file at the Town Office and at the Regional Commission. The Flood Hazard Area has been incorporated into the River Valley Conservation Area as indicated in Map #1 of 5, Current Land Use. The topography of Strafford is such that there are few areas low enough to be in the FEMA Flood Hazard Area. The designated area runs primarily through Strafford along the Justin Morrill Memorial Highway. If in doubt when developing, contact the Strafford Zoning Administrator.

FEMA also administers the National Flood Insurance Program, which provides flood hazard insurance at subsidized rates for property owners in affected areas. In order to qualify for federal insurance, towns must adopt and retain a by-law to control land development within these areas. Minimum standards must be included and approved by FEMA. The Town of Strafford adopted a Flood Hazard Area Zoning Ordinance in 1991, and is recognized as a participating community in the National Flood Insurance Program. Coverage is only available to landowners in town if a town elects to participate in the program.

Two Rivers-Ottawaquechee Regional Commission has determined that approximately 34 buildings in Strafford are presently located within the mapped flood hazard areas. Mortgage lending institutions require as a prerequisite to financing that flood insurance be purchased on property subject to flooding.

## **Fluvial Erosion Hazards**

Much flood damage in Vermont is associated with stream channel instability, also known as the fluvial erosion hazard (FEH), as opposed to inundation related losses. This is a reflection of Vermont's natural geography and its man-made landscape consisting of steep, relatively narrow valleys with agricultural land uses, highway infrastructure, private residences and commercial properties located in close proximity to stream channels. River channels that are undergoing an adjustment process as a result of historic channel management activities or floodplain encroachments oftentimes respond catastrophically during large storm events.

Historically, landowners and local government have relied on the standards and the flood hazard boundary maps provided by FEMA through the National Flood Insurance Program (NFIP) to determine areas within river corridors susceptible to flood damage. The maps are also used to delineate the allowable (floodway) limits of river corridor encroachments and human land use investments. However, the NFIP maps address only inundation issues by applying a water surface elevation based standard. For this reason the NFIP maps are often inadequate as an indicator of flood hazards, especially erosion. The NFIP standards do not recognize the danger present in unstable channels which may be undergoing a physical adjustment process. The stream bed may be eroding or it may be actively aggrading due to erosion occurring upstream.

The NFIP standards often allow for significant encroachment within floodplain areas and river corridors that may prevent the stream from ever reestablishing its stability. Special mapping and geomorphic assessments can identify FEH areas along rivers, more comprehensively defining high-hazard areas. The 2006 River Corridor Management Plan identified fluvial erosion hazard areas along the West Branch of the Ompompanoosuc River. Approximately 4 miles of the river, from North of Strafford's Upper Village to South Strafford Village have been classified as having very high instances of fluvial erosion. The Planning Commission can strengthen the regulations within the River Valley Conservation district to include language that discourages development within the FEH areas.

### **Goals**

1. To enhance and maintain use of flood hazard areas as open space, greenways, non-commercial recreation and/or agricultural land.
2. To ensure no net loss of flood storage capacity in an effort to minimize potential negative impacts. These impacts include the loss of life and property, disruption of commerce, and demand for extraordinary public services and expenditures that result from flood damage.
3. To maintain maps that reflect as accurately as possible the flood hazard areas to assist in appropriate land use decisions.

## **Policies**

1. It is the policy of the Town that the preferred uses for flood hazard areas shall be for open space, greenbelts, and non-commercial recreational or agricultural uses.
2. Any land use activity (filling, or removal of earth or rock) within flood hazard areas which would result in net loss of flood storage or increased or diverted flood levels or increased risk to adjacent areas shall be prohibited.
3. Utilities or facilities serving existing development (e.g. water lines, electrical service, waste disposal systems, roads, and bridges) may be located within these areas only when off-site options are not feasible and provided that these utilities or facilities are relatively protected from flooding damage.
4. Strafford should continue to maintain its membership in the National Flood Insurance Program.
5. To recognize that upland areas adjacent to unstable rivers and to steep streams may be at risk of erosion during floods.

## **Recommendations**

1. The Planning Commission should update the Strafford Flood Hazard Bylaw to ensure that it meets the standards required by the Federal Emergency Management Agency so that Strafford may continue to participate in the NFIP.
2. The Planning Commission shall update the Strafford Flood Hazard Bylaw to include areas identified as at risk to fluvial erosion hazards (FEH).
3. The Planning Commission should develop buffer zones for floodplains.
4. The Conservation Commission should be encouraged to study, raise money, and begin to reclaim the banks of the West Branch of the Ompompanoosuc River where farming practices have caused the destruction and loss of extensive stretches of prime pasture and hayfields.

## **E. Wildlife Habitat**

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

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

Strafford's fields, forests, wetlands and streams are home to a diverse and healthy wildlife population that includes bear, bobcat, moose, deer, otter, geese, ducks and mink, to name only a few. Nearly all open space provides habitat for game and non-game species. There are, however, some areas in Strafford which provide critical habitat that should remain intact. These areas include wetlands, vernal pools, deer wintering areas and bear mast stands. Development or logging in or adjacent to these areas should consider wildlife implications during the planning process.

Wintering areas are an important habitat requirement for deer during the critical winter months when snow depth and climate are limiting factors to survival. Typically these areas consist of mature softwood stands, at low elevations or along stream beds, which provide cover and limit snow depths. Southerly facing slopes are also beneficial due to good sun exposure and may be utilized even in areas of limited softwood cover. More specific factors, such as percent canopy closure, species of softwoods, and stand age, also figure into the quality of the wintering area. Strafford has in excess of 2,230 acres of deer wintering yards, principally contained in three wildlife management areas, Podunk (506 acres), Clover Hill (882 acres) and Kibling Hill (924 acres), which together comprise some 2,300 acres of land in which the State retains an interest.

Most important when considering development and its impact on wildlife is the concept of habitat fragmentation. Forests provide habitat to a diverse population of wildlife, which are negatively impacted when forested land is fragmented through development. Forest fragmentation affects water quality and quantity, fish and wildlife populations, and the biological health and diversity of the forest itself. When many small habitat losses occur over time, the combined effect may be as dramatic as one large loss. Forest fragmentation can disrupt animal travel corridors, increase flooding, promote the invasion of exotic vegetation, expose forest interiors, and create conflicts between people and wildlife. Habitat loss reduces the number of many wildlife species and totally eliminates others.

To help mitigate the effects of human population growth and land consumption, many scientists and conservationists urge governments to establish protected corridors, which connect patches of important wildlife habitat. These corridors, if planned correctly, allow wildlife to move between habitats and allow individual animals to move between groups, helping to restore or maintain genetic diversity that is essential both to the long-term viability of populations and to the restoration of functional ecosystems. Strafford has been part of the Linking Lands Alliance, a focus group comprised of ten towns in the region. This group is developing a map that indicates core and priority wildlife habitat areas and potential connectivity corridors. This can serve as a starting point from which the town can consider planning decisions with regards to wildlife habitat.

## **Goals**

1. To maintain or enhance the natural diversity and population of wildlife, including natural predators, in proper balance.
2. To restore stable populations of endangered or threatened wildlife in appropriate habitat areas.
3. To maintain or improve the natural diversity, population, and migratory routes of fish.
4. To allow sport and subsistence hunting of ecologically sound intensities to provide continued success of the species.

## **Policies**

1. Wildlife populations and natural diversity should be maintained or enhanced.
2. Long-term protection of major habitats through conservation easements, land purchases, leases and other incentives is encouraged.
3. It is the policy of the Town to protect deer wintering areas from development and other uses that adversely impact the resources.
4. Development other than isolated houses and camps shall be designed so as to preserve continuous areas of wildlife habitat. Fragmentation of wildlife habitat is discouraged. Effort shall be made to maintain connecting links between such areas.
5. Preference shall be given to development that utilizes existing roads and field lines.

## **Recommendations**

1. Encourage owners of necessary habitat for threatened species to contact the State for assistance in developing a management plan for these sites.
2. Identify critical wildlife species and their habitat and wildlife corridors in Strafford.
3. The Conservation Commission should expand and validate Linking Lands wildlife habitat connectivity mapping with on-the-ground field evaluation.

## **F. Plant Communities**

A plant community is a recognizable and complex collection of plant species which interact with each other as well as with the elements of their environment. A plant

community is not a static entity: rather it may vary in appearance and species composition from location to location and also over time. Community structure and distribution are dictated by the delicate balance of environmental factors: soils, climate, topography, geography, fire, time, humans and other living beings.

In Strafford, there are a broad range of communities that exist in the older forests, early successional forests, open fields and valley floors. The breadth and diversity of wildlife and plant communities indicate a healthy, thriving ecosystem. Yet, plant communities are usually strongly affected by the surrounding environment. Plants respond to soil structure and chemistry, hydrology, and climate. The effects of unmanaged development can have a negative impact on plant communities, which in turn will harm the overall ecosystem in the area affected. Good management practices, such as requiring developers to locate their projects in less sensitive areas, maintain buffer areas and protect against silt runoff from excavating, are a few of the ways that these communities can be maintained. Human activities can be especially harmful to sensitive plant communities such as orchids, lady slippers and wild irises. The impacts of travel, whether by vehicle or foot, uncontrolled harvesting, etc, can cause permanent damage to fragile plant communities. Strafford has a number of plant species that have been identified as threatened by the VT Agency of Natural Resources. (See Map # Natural Resources)

Invasive species are a growing problem in Vermont. Invasive species are defined as those species which spread from human settings (gardens, agricultural areas, etc.) into the wild. Once in the wild, invasive species may continue to reproduce and displace native species, causing biodiversity to suffer and throwing entire ecosystems out of alignment. Both Federal and State governments have guidelines in place for handling invasive species, and there are resources available to interested parties through the University of Vermont. While the list of invasive species in Vermont is extensive, the most common invasive plants in Strafford seem to be Wild Chervil and Wild Parsnip.

### **Policies**

1. Preservation of lands which provide habitat to identified rare and irreplaceable botanical species should be supported.

### **Recommendations**

1. Educate Strafford's citizens on special plant communities.
2. The Conservation Commission should conduct a plant communities inventory.
3. Inform citizens to identify and practice the safe elimination of invasive plants.

## **G. Mineral Resources**

The use and management of Strafford's earth and mineral resources are matters of public good. Maintenance of sustainable quantities of gravel, sand, crushed rock, and other materials are essential for business development, as well as state and local highways. In spite of this, public and private interests are oftentimes in conflict over use of the resource. It is in the interest of the Strafford business owners and residents to enable utilization of these resources when such uses do not significantly inhibit or conflict with other existing or planned land uses, or are in conflict with other stated goals in this Plan.

### **Goal**

1. To support extraction and processing of mineral resources only where such activities are appropriately managed and the public interest is clearly benefited.

### **Policies**

1. Existing and proposed mineral extraction and processing facilities shall be planned, constructed, and managed,
  - so as not to adversely impact existing or planned uses within the vicinity of the project site;
  - to not significantly interfere with the function and safety of existing road systems serving the project site;
  - to minimize any adverse effects on water quality, fish and wildlife habitats, viewsheds and adjacent land uses;
  - to reclaim and re-vegetate sites following extraction and;
  - to minimize noise impacts on adjacent uses including residential areas.

## **H. Elizabeth Mine Environmental Cleanup**

### **Background**

In April 2001, the U.S. Environmental Protection Agency (EPA) placed the Elizabeth Mine on the National Priorities List for cleanup under EPA's Superfund program. The cleanup site is located on approximately 1,400 acres in rural Strafford and Thetford, Vermont, in Orange County. The Elizabeth Mine site is a 200-year-old settlement, a copper and copperas mine, an industrial community, and a cultural resource of great local and national significance. The EPA estimates that there were more than 2 million tons of metals and sulfides-rich tailings in three large exposed mine tailings piles on 42 acres of the property that comprise the site. Clean-up is underway and tailing piles are being consolidated and covered.

The Elizabeth Mine site is currently unused, having been closed by its operators in 1958. The site is a unique historic, cultural and scenic resource for the Town of Strafford. The Elizabeth Mine Site has been shown to have immense historic value. Mine remediation experts from around the country brought in by the EPA all agree the site is "unique." One EPA report describes the Elizabeth Mine as, "the oldest large scale mining operation in the United States. It was probably the first large mine-side smelting of copper in the country." The ways in which copper was processed after it was mined were important industrial achievements of their time. The Elizabeth Mine also played a defining economic role in Strafford for more than 200 years. The historic area is much larger than the area that is believed to be the source of the environmental problems at the site.

The Elizabeth Mine is one of three mines in the area, and is the largest. This is a mining district, not an isolated mineral deposit. EPA studies have demonstrated that environmental remediation is necessary to restore the water quality of the West Branch of the Ompompanoosuc River and for the Elizabeth Mine and adjacent lands to be reused. Reuse of the Elizabeth Mine site can provide greater recreational and educational opportunities and will allow development of historic, environmental, or cultural exhibits. Maximizing the preservation of the site itself, landscape as well as buildings, and minimizing the disruption of the site, should be a high priority. Purchases of land and easements at the mine can result in conservation of a corridor that can be used for historic preservation, recreation and education. Reuse of the Elizabeth Mine site is an investment in our community. Reuse of the Elizabeth Mine site is compatible with other goals and objectives of the Town Plan. First, it is possible to fit this project within a regional context. Second, it can provide limited economic stimulus for Strafford. Third, the project promotes education and preservation of unique historic structures at the site.

### **Planning Process**

Through a grant from the EPA, the Town of Strafford, in partnership with the Town of Thetford, hired a consulting firm to develop a Reuse Plan for the Elizabeth Mine site. This firm through outreach to the two communities drafted a plan for consideration and implementation by the Town.

### **Objectives**

1. Develop an understanding of the community's interests regarding reuse of the Elizabeth Mine site.
2. Develop options for the reuse of the Elizabeth Mine site that incorporate community interests.
3. Design and implement a reuse plan for the Elizabeth Mine site that is consistent with the U.S. Environmental Protection Agency's remedial strategy for the site.

4. Develop a community vision statement to reduce or stop the use of products that contaminate the natural environment.

## **Recommendations**

1. Develop a community vision statement for reuse of the Elizabeth Mine site that is based on outreach to landowners and residents of Strafford and surrounding communities.
2. Develop a plan for the reuse of the Elizabeth Mine site that incorporates community interests to the greatest extent practicable, is affordable for the Town, and can be implemented at a controlled pace.

## **I. Culturally and Naturally Significant Open Space Areas**

Open Space lands typically have no structures in service and are usually in their natural state. These lands may be part of the working landscape and be in agriculture or forestry use. These lands may serve place-making, aesthetic, cultural or resource protection functions. These lands are what most residents agree make Strafford the place it is today.

Open spaces may have historic or recreational structures and size is not a limiting factor although may be an important consideration. Some of these lands may allow for appropriate access to certain areas and others may not allow for any access but still may provide important natural or aesthetic functions.

In 2009, the Conservation Commission completed their first Open Space Plan with the intention of identifying those areas that had significant cultural and natural value to Strafford's residents. This plan was developed with the understanding that the Town of Strafford should accommodate reasonable growth in many forms while working to protect those areas that are important to Strafford. However, because of the value placed by residents on the areas outlined below, the impacts from development in these identified locations should be carefully considered and designed or located in such a fashion that their impact is limited.

### **Open Space Benefits**

Open space provides many benefits to the residents of Strafford. These benefits manifest themselves across Strafford as various themes and networks. Several of these networks such as vistas and gateways and highways and trails do not provide direct natural resource benefits but provide cultural benefits. Others such as the surface water network of streams and wetlands provide both natural resource benefits as well as cultural benefits. These include flood control, water quality and recreation.

These networks allow Strafford residents to access these lands and contribute to Strafford's sense of place. These themes and networks can serve as a starting point to prioritizing areas across town. Lands that exhibit several qualities listed below may be designated as a higher priority when evaluating conservation opportunities.

### **Opens Lands**

Open valley bottom lands support Vermont's working landscape as well as riparian areas and provide an important aesthetic function. Buffers and undeveloped river corridors in the valley bottoms can serve as habitat connections across the open valley bottom and protect the surrounding fields from erosion. Open lands in the uplands may include active farms or old hill farms that are still managed or leased for pasture or haying. These open lands provide views and edge habitat along their hedgerows. Several parts of old hill farms may be in various stages of succession and may provide several different types of habitat. While these lands are not true middle to late successional natural communities in Vermont, they are a critical part of Vermont's working landscape and provide many habitats for various grassland birds.

### **Vistas and Gateways**

Vistas provide central common spots that offer views which tie certain neighborhoods together and contribute to Strafford's overall sense of place. Gateways also provide similar functions as they can frame entrances to villages, neighborhoods or special places.

### **Forest Lands**

Forest lands are Vermont's most common natural and working community. There are eighteen natural community types of northern hardwood forests and oak-pine northern hardwood in Vermont and several of these forests are present in Strafford. Northern hardwood forests are likely the most common natural communities across Strafford. Many of these forests are actively managed for various timber products including firewood and saw logs and are currently in the forestry use value appraisal program.

### **Surface Water and Wetlands**

Strafford's surface water network is an integral part of the community's sense of place. Whether wading or swimming in Old City Falls or canoeing on Miller Pond, the streams and ponds of Strafford are an important part of natural and cultural processes. Much of Strafford serves as the headwaters of the West Branch of Ompompanoosuc and maintaining high water quality is an important function of these areas. For years, Strafford has been dealing with the water quality issues associated with the Elizabeth Mine and the Copperas Brook, the tributary that passes through the mine complex and into the Ompompanoosuc.

### **Recreation and Access**

Enjoying Strafford's beautiful hillsides and valleys from the roadway or across a driveway is one way to see the town but many residents enjoy accessing Strafford's special places directly. Trails, power line rights-of-way, class 4 roads, streams, and friendly neighbors offer ways to get around on the ground all across Strafford. Once on the ground, residents can run, hike, swim, horseback ride, bicycle, ski, snowshoe, and snowmobile among other modes. Additionally, the town highway network can provide recreation options for bicyclists, hikers, horseback riders and walkers throughout town.

### **Connections, Corridors, Buffers**

Connection areas include a smaller forested tract connecting two large tracts. This smaller tract may straddle a highway and development that is nearby on both sides. This connector serves as a plant and animal pathway between the two large habitat blocks and can help to maintain populations through seasonal and long-term migration routes. Smaller site specific habitats exist in Strafford, e.g., the bat caves up by the Elizabeth Mine. Riparian buffers and corridors are important tools that maintain and enhance riparian habitats and provide important connections in more fragmented valley bottoms.

### **Important Open Space Areas**

This section lists the prominent natural areas identified by the public through the Linking Lands Alliance Forum in the fall of 2008 as well as other public lands and significant sites in Strafford.

- **Taylor Valley** - Taylor Valley provides habitat and watershed protection functions. Taylor Valley Road and Sawyer Mountain Road provide walking, hiking and bicycle routes to residents. This area borders the larger Orange County Headwaters conservation project.
- **Podunk WMA – Miller Pond– Hanchett Flowage** - This area includes the 924 acre Podunk Wildlife Management Area and the Miller Pond and Hanchett Flowage. North of Pennock Road, the area consists of a large unfragmented forest block. The Podunk WMA is bisected by Pennock Road and can be accessed from Old City Falls Road from the west or from Miller Pond Road and Maple Hill Road from the east. A developed parking area is available from Maple Hill Road west on Podunk Road, which accesses the 4 acre breached Podunk Pond in the middle of the WMA via a maintained trail. Podunk WMA is owned by the State of Vermont but the property still has mineral rights encumbrances. The state maintains 10 acres of field in five units with the largest being a five acre area around an old farmstead. Apple trees that the state is maintaining through release cuttings can be found in abundance in these fields. Miller Pond has a state access point on the southeast side near the outlet off of Miller Pond Road. Just to the east off of the south side of Sawnee Bean Road, the Hanchett Flowage site is a significant wetland on 14 acres owned by the State.

- **Whitcomb-Richardson Hill** - The two summits of Whitcomb and Richardson Hills at 1866 and 1534 feet respectively form the core of this area.
- **Upper West Branch Valley** - These valley bottom lands stretch from the Upper Village into the beginning of the Taylor Valley past Old City Brook. A small hamlet at the base of Old City Falls Road above the Upper Village ties this area together.
- **Middle West Branch Valley** - These lands run between the Upper and Lower villages and form the core of Strafford's open valley bottom lands. These lands include several working farms as well as the edges of both villages. Recreation fields are part of the river buffer in the Lower Village.
- **Lower West Branch** - These areas beginning at the Lower village and following the West Branch east to the Connecticut River Valley are much more forested than the other valley bottom lands in Strafford. These lands are the gateway to the Lower Village on the west end. Above the Copperas Brook, the river is shaded from the trees along the banks accessible in spots from VT 132.
- **Kibling Hill WMA** - The State of Vermont owns the public hunting rights on the 882 acre Kibling Hill WMA. Trapping and fishing rights remain with the landowners and require permission.
- **Clover Hill WMA** - This 506 acre Wildlife Management Area is owned by the State of Vermont, and the timber and mineral rights are privately owned. This area consists of a northern hardwood forest with conifers in the north central area serving as a deer wintering area. Two small fields can be found in the northeast and southeast corners.
- **Elizabeth Mine** - The Elizabeth Mine Superfund site is an abandoned copper and copperas mine in the southeast corner of Strafford. Mining continued for 150 years from the early 1800's to the Korean War in 1958. The tailings piles from the last period of production are leaching into tributaries of the Ompompanoosuc and the mine is in the process of being cleaned up by the EPA. This area offers many historical and open space resources and once the federal government has completed its cleanup, may offer many opportunities to Strafford residents. Stone foundations and other remains exist around the site from earlier structures. The site will eventually have large open space areas available for various uses.
- **Other areas** - Other areas include town-owned recreation properties that are outlined in the Utilities and Facilities section of this Plan.

## Land Protection Strategies

Methods of protecting open space are varied. In general, there are two ways to encourage the preservation of open space, regulatory and voluntary. Voluntary methods include:

- Preserving land by placing restrictions on its use, through such tools as conservation easements or mutual covenants.
- Transferring land to a conservation organization (such as the Upper Valley Land Trust) through donation.
- Selling or donating land with conditions attached, like deed restrictions or conditional transfers.

Strafford could become an active participant in land conservation through the creation of a conservation fund. This fund, which is generally funded on a yearly basis, would contain monies that the Conservation Commission could use to purchase land outright, or assist a land conservation organization with the purchase of a conservation easement.

Regulatory methods use zoning and/or subdivision rules to regulate the location, density and design of development within selected areas to minimize harmful impacts while allowing for a reasonable level of development. It is safe to assume that there will never be sufficient funding for land protection strategies to acquire conservation easements or ownership for all of the unprotected identified areas of value. Such methods include:

- **Overlay Districts** - The creation of overlay districts is the most common method of regulating specific areas for the purpose of protecting cultural or natural resources. Overlay districts can be used to exclude development on or to impose resource protection or conservation standards within overlay areas. Overlay districts can be used to protect many types of resources.
- **Resource Protection Districts** - protect resource and open space areas or resource-based uses such as farming, forestry, recreation from incompatible development.
- **Large Lot Zoning** - Large lot zoning refers to the designation of a very large minimum lot size within certain zoning districts to accommodate resource-based uses, such as farming or forestry, or to require a pattern of very scattered, low-density development to limit, for example, impervious surfaces and protect surface and groundwater quality.
- **Fixed Area & Sliding Scale** - Fixed area and sliding scale zoning are two zoning techniques (typically applied in association with subdivision regulations) that are used to differentiate allowed densities of development from district lot size requirements.

- **Conservation (Open Space) Subdivision Design** - Conservation or open space subdivision design is a subdivision design process wherein subdivisions are intentionally designed to protect rural character and open space.

Each of these methods has its own set of benefits and pitfalls and all of them should be thoroughly evaluated before they are implemented. However, there are many examples of successful regulatory land protection strategies in Vermont. The key to success is to ensure that the community, on a whole supports, the regulations.

### **Goals**

1. To identify and protect those natural resources that are unique to Strafford and make it special.
2. To preserve and protect Strafford's important cultural and natural resources for future generations.
3. To allow for reasonable development without sacrificing important cultural and natural resources.

### **Policies**

1. It is the policy of the town to ensure careful review of all development projects to minimize the impact on Strafford's natural and cultural resources.
2. Protect unique resources by careful planning.

### **Recommendations**

1. A scenic road and ridgeline inventory should be conducted in order to provide data for the protection of scenic roads through the Strafford Subdivision Regulations.
2. The Planning Commission should conduct a detailed viewshed analysis in order to determine which corridors have the most scenic value.
3. The Conservation Commission should complete a wetlands and natural communities inventory of Strafford in order to determine where the unmapped wetlands and natural communities are located.
4. The Conservation Commission should conduct an agriculture field and use inventory in Strafford. Pasture lands are defined as an existing feature to be preserved in the Strafford subdivision regulations.

5. The Town should prioritize recreation corridors along the town highway network to identify safety improvements as well as other improvements that may be needed for bicycle, pedestrian and other forms of access.
6. The Conservation Commission should identify formal and informal access points to various open space and recreational areas.
7. The Selectboard should consider the creation of a conservation fund, to be administered by the Conservation Commission for the purposes of conserving naturally or culturally significant areas in Strafford.
8. The Conservation Commission should continuously update the Open Space Plan.

## VIII. Land Use

### A. INTRODUCTION

In terms of planning for the future, one of the most complex discussions is about land use. How a town uses its land and plans for future land development can affect a wide range of issues including the town's character and its ability to provide services adequately and at a reasonable price. In order to ensure that the impacts of future development in Strafford do not have unintended consequences, the town's growth must be managed to reflect the vision of this plan.

This section discusses both current and future land use patterns and provides goals, policies and recommendations for future implementation. V.S.A. Title 24, §4411(a) authorizes towns to implement land use regulations, such as zoning, subdivision and site plan preview, provided that those regulations are in conformance with the Town Plan and §4302 of Title 24, which addresses the state's planning goals. State statute defines "conformance with the plan" as:

*"All such regulatory and nonregulatory tools shall be in conformance with the plan, shall be adopted for the purposes set forth in section 4302 of this title, and shall be in accord with the policies set forth therein." [§4411(a)]*

The Planning Commission has the task of implementing the town plan through the wide range of tools offered in state statute. All of these tools must conform to the policies of the Town Plan. Once drafted, the Planning Commission is required to issue a report on how any newly drafted tools implement the plan.

## **B. Current Land Use**

Strafford's scenic charm, both as to its natural setting and its architectural treasures, can be preserved only by careful attention to growth management. To date only a small percentage of Strafford has been developed.

While only a small percentage of Strafford has so far been developed, including residences and farmsteads, it is significant because of the limitations to construction caused by the steepness and remoteness of much of the terrain. Further development would naturally follow the valley of the Ompompanoosuc River and tributaries and the associated roadways, resulting in a scattered, rural version of strip development and/or construction on the heights above.

As residents have been surveyed about their vision for the future of Strafford, there has been clear support for maintaining the current pattern of development, which has been primarily dense development in Strafford's villages and more diffuse (mostly residential) development in the rural countryside. Some changes to Strafford's land use ordinances should be considered in order to make them more effective (or in response to new state laws or new areas of concern). The Planning Commission recognizes that any changes which are made must maintain the current rural development pattern.

## **C. Development Trends**

Strafford adopted Subdivision Regulations on June 15, 1996. Strafford's Zoning Ordinance was revised and adopted on June 5th, 2005. The Village Centers zone has a 1-acre minimum lot size. The Rural Residential, Land & Forest Conservation, and River Valley Conservation zones have 3-acre minimum lot sizes, and the Miller Pond Shoreline zone has a 2&10 acre minimum lot size.

The Town remains concerned about the tendency for new residential construction to be located on more remote roads with the consequent straining of the Town's resources and services to accommodate demands for road maintenance and extension of school bus routes and a disturbing and risky lack of regard for access by emergency vehicles. Additionally, this more remote development has the potential to fracture larger rural parcels, which could have an adverse effect on wildlife, water quality, recreation and the aesthetic character of the community.

## **D. Proposed Land Use Settlement Pattern**

### **Historic Preservation and Visual Environment**

Strafford was granted its charter on August 12, 1761, by Benning Wentworth, royal Governor of the Province of New Hampshire. The town was named in honor of one of the Earls of Strafford, a title first held in Wentworth's family in 1640. Prior to 1761, the land was a sparsely inhabited wilderness in which Native Americans, the Abenakis, had been present for many thousands of years. Not until the early 1600s did Europeans arrive in the area, principally French fur trappers based in Montreal. The first known permanent settlers in Strafford arrived about 1767, establishing what is now called the "Old City" settlement. By 1771, there were nine households in town and more began to arrive from Massachusetts and New Hampshire as well as Connecticut. Strafford's Grand List had grown to 64 names in the early 1780s. When Vermont became the fourteenth state in 1791, Strafford had 844 inhabitants in 148 households.

Now 250 years later, with just over a thousand residents, Strafford stands out as an architectural and aesthetic treasure of New England's Upper Connecticut River Valley. This distinction, embodied in the viewshed of the valley between the villages and crowned by the Upper Village, which has been characterized as the quintessential Vermont village, make Strafford visually appealing and in many ways unique. Much of this viewshed and its open spaces are guaranteed to future generations through conservation easements.

The Upper Village was added to the National Register of Historical Places in 1974 and South Strafford Village was added to the Vermont Register of Historical Places in 1989. In 1991, more than 200 acres of the valley between the villages were protected from development through easements with the Upper Valley Land Trust (UVLT) in addition to a 14-acre parcel that provides the backdrop to the Town House just north of the Upper Village. In addition, in the Upper Village, the east side of the valley above the Morrill & Harris Library and the historic Coburn Barn have also been protected by an UVLT conservation easement and the west side of the valley, above the floodplain of the West Branch of the Ompompanoosuc River, by an easement with the Connecticut River Watershed Council.

The Upper Village is a rarity in Vermont, because not only is it protected from random and scattered development, but also because it has managed to retain its historical and architectural integrity. As a result, it has been favored by both the Preservation Trust of Vermont and Vermont's Division of Historic Preservation with numerous restoration grants, including significant funding for renovations to the Strafford Town House, the

United Church, the Coburn barn, the Municipal Building and the Justin Smith Morrill Memorial Homestead. The Town House, which is the architectural jewel in the crown of the Upper Village, endures as one of the state's more stunning and frequently photographed historical buildings.

The quality of this visual environment is essential to Strafford's identity and its villages are fundamental assets. The built environment, both historical and contemporary, and the landscape with its insets of structures, all contribute to this aesthetic triumph. Attention must be paid, therefore, to all these facets if preserving what is distinctive about the topography and the character of the Villages is to be achieved.

Landscape and setting play a vital role in defining aesthetic quality. In the Villages, the "streetscape" environment as a whole and the spaces in between are equally significant. The landscape elements such as plantings, fences, lighting, even driveways and parking areas, all contribute to the richness of this visual experience.

On a larger scale, the patterns of open space and forest, pasture, ponds, the winding river and roads as well as other natural elements, have evolved over time, through both natural processes and human intervention, into what we now consider to be uniquely "Vermont."

## **Future Land Use**

The future land use section of a town plan is intended to act as a guide for future development within a town, and to aid local planners in the process of implementing the plan through regulatory tools. Future land use areas are not necessarily required to mimic the historic character of land use, but instead should reflect Strafford's vision of the future, even if the proposed land use settlement pattern suggested differs from the present pattern. However, when surveyed, most residents indicate that they are content with the present pattern of development and wish to maintain this into the future. The Planning Commission recognizes that they need to continually analyze Strafford's land use regulations to ensure that they are capable of maintaining this vision into the future.

The following Land Use Areas are indicated on the Future Land Use Map. It should be noted that the exact size shape and location of the land use areas do not need to be duplicated precisely in order to be considered "consistent with this plan" provided that they are implemented in a manner that reflects the purpose and vision outlined below.

## **Village Centers**

The purpose of the Village Center land use area is to provide for the continuance of areas known as Strafford and South Strafford villages as social and physical centers of community services; to enable higher density residential and non-residential uses in the traditional village setting and to protect and enhance their character and quality in the future.

Both the scenic villages of South Strafford and Strafford are distinct and dynamic entities, the historic commercial centers and focal points of the community's social life. Future development should respect this traditional settlement pattern, its architecture, building proportions and land capability as well. Services such as the Post Office and the school as well as commercial activity, are essential to the vibrancy of the Village Centers and any efforts to disperse such services should be discouraged.

When residents were surveyed in 2008, almost 60% of the responses supported increasing the size of the village center zoning districts so that there would be more lots for new residential building. The topographic and flood hazard constraints in Strafford's villages, limit the area available for expansion. Expansion is further limited in South Strafford and in Strafford Villages by the potential for water contamination from private septic systems.

In order to encourage cluster development in areas adjacent to Strafford's villages, the Planning Commission may want to consider ways in which it can offer incentives that encourage innovative multi-user septic systems while reducing any threat to village water supplies.

### **Rural Residential**

The purpose of the Rural Residential land use area is to provide for and maintain an environment outside the villages which is primarily residential/agricultural/silvicultural in use and rural in character. This goal is to be accomplished by allowing a moderate density of residences compatible with agricultural/silvicultural uses, making a conscious effort to preserve prime and good agricultural and forest land, permitting other land uses which can augment the local economy by providing services or sources of employment, and promoting patterns of land use which preserve or improve open space.

Historically, much of the area outside the village centers has been devoted to agriculture, forestry and mining. Much of the open land has now reverted to scrub or forest. Residential construction, particularly in recent decades, has increased dramatically in these outlying areas. With lot sizes as small as 3-acres, many open fields and pastures have become house-sites.

Planned unit development (PUD) or 'clustering' is one solution that concentrates services, such as power, telephone, septic and road maintenance and, at the same time, protects open land and prime forest. They can also allow the Development Review Board to offer density bonuses for developers who cluster their development while preserving open space or wildlife habitat. When surveyed in 2008, residents were supportive of PUD's when they protected open space. Siting houses close to each other while maintaining buffers of trees, allows reasonable privacy. Such a solution preserves open lands and prime woodlands, and yields a financial benefit from the shared costs of installing the services. Small home-based commercial or entrepreneurial enterprises would also be appropriate in cluster development.

Residents are split on the concept of increasing lot sizes beyond the present standard of 3-acres in this land use area. The current acreage requirement may not preserve the historically diffuse pattern of development in the Rural Residential Area.

### **Land & Forest Conservation**

The purpose of this area is to encourage a pattern of land and forest conservation which sustains the rural and natural characteristics of the town and to discourage development that will burden the town by requiring the extension of roads and other town services.

The primary characteristics of such areas are excessively steep slopes, shallow soils, remoteness and lack of development. This land tends to be held in larger tracts. It is obvious that its most appropriate use is for timber production and recreation. It provides clean water to the watershed and habitat for wildlife. Residential development in this area is expensive and cost of such public services, such as road maintenance, places an enormous burden on any community. Any residential development should be undertaken with care so as not to disrupt the natural environment or disfigure areas of notable natural beauty or sensitivity.

When surveyed, many citizens indicated that protecting agriculture, critical wildlife habitat, forests and woodlands and scenic views was important to them. It is commonly understood that three acre zoning does not assure the maintenance of open space or protect wildlife habitat and corridors.

PUD's that are not adjacent to Strafford's villages should be carefully considered for their impact on town services before being permitted.

### **River Valley Conservation**

The purpose of the River Valley Conservation Area is to lessen or avoid the hazards to persons, the damage or loss to property caused by floods, and to ensure wise use and conservation of lands bordering rivers and streams and to maintain the open character of the valley and its traditional architecture.

The narrow strips of land adjacent to significant rivers and streams, such the West Branch of the Ompompanoosuc River, Old City Brook or Alger Brook, are, because of their relative flatness and depth of their glacial till soils, best suited for agricultural use. Their proximity to the flood plains make them unsuitable for development and their ecological sensitivity has a direct bearing on water quality.

Within this area, the Planning Commission may want to consider updating the zoning ordinance to incorporate Fluvial Erosion Hazard data as discussed in the Natural Resources Chapter of this Plan.

### **Miller Pond Shoreline**

The purpose of the Miller Pond Shoreline Area is to protect the quality of water and to maintain high standards for permitted development so as to protect the pristine character of the pond and the scenic and recreational assets of the shore land.

This is currently accomplished by protecting and preserving the shore lands which are unsuitable for development as determined by septic suitability; maintaining a low density of development on those shore lands suitable for development; and providing compatible use of the public water by the general public.

However, changes in state regulation regarding the permitting of septic systems, and improvements in septic system technology, have left this method out-dated and in conflict with state regulations. Because of this, the Planning Commission will need to consider alternative methods of achieving the purpose stated above. This will require reevaluating the current setback requirements and creating a simple standard for all structures, as opposed to the current method which varies based on soil types. Likewise, any prohibition on development that occurs on steep slopes will need to apply to all development.

### **Elizabeth Mine Land Protection Area**

The purpose of this proposed land use area is to ensure that residents located near the Elizabeth Mine Area have access to safe, potable water and remain free from any toxic hazards the mine might produce.

Although the Elizabeth Mine occupies a specific location in South Strafford, its impact extends beyond the boundaries of the property through the water table. The Planning Commission is concerned that property within this area might be purchased without the knowledge that there is the potential that a landowner might not be able to acquire safe drinking water on the property.

This area would represent a new zone or overlay district in the Strafford Zoning Ordinance. Development in this area would require, through conditional use, proof of access to safe drinking water. A similar requirement could be put on landowners who are subdividing land within this area.

## **E. Other Issues Relating to Development**

Strafford's land use regulations are currently in the form of stand-alone zoning and subdivision regulations. In 2005, State statute made it possible for towns to merge Subdivision and Zoning into a single document, called a Unified Bylaw. Having both documents integrated assures that there will be consistency between the two forms.

The Planning Commission intends to implement the Unified Bylaw in Strafford. In doing so, the Planning Commission will address issues that will ensure that the regulations are up-to-date, consistent with the Plan and consistent with state law. Updates should

include adding a waiver provision that allows the Zoning Administrator or Development Review Board to waive dimensional standards under certain circumstances (such as handicapped accessibility). Minor changes, such as adjusting the document's language to account for the shift from a Zoning Board of Adjustment to a Development Review Board, will be fairly simple. Other issues, such as those outlined below, will take greater thought and consideration.

### **Ridgeline Protection**

In 2008, residents indicated that they would be interested in some form of restriction with regard to ridgeline development. To date, Strafford has had limited development on its ridgelines in part due to the difficulty and expense associated with building on steep slopes. However, advances in septic technology have progressed to the point that slopes are no longer a limitation in septic system design.

Ridgeline development can have a distinct impact on the scenic qualities which are considered important by many residents. Developments that are close to ridges are generally farther away from existing roads, making access for fire safety and public services difficult and costly. The Planning Commission plans to update Strafford's land use regulations to address ridgeline development.

### **Telecommunications and Wind Towers**

Large towers utilized for telecommunications and wind generation can have an impact on the rural character of Strafford. Notwithstanding this, residents who were surveyed in 2008 strongly supported the encouragement of both types of towers in Strafford.

Although state and federal regulations have primary control over telecommunication towers and commercial wind towers, it is appropriate for a community to clearly outline their policies on these types of towers. Strafford has a telecommunications ordinance but does not have an ordinance that addresses commercial wind generation.

The Planning Commission will be incorporating updated language with regard to telecommunications and commercial wind towers into the Unified Bylaw.

### **Waivers**

In 2005, the Vermont legislature enabled towns to utilize a form of regulation called "waivers." This new concept was created as a way to address certain inconsistencies that occur in the variance process. A variance is supposed to be difficult to get and should be the last resort for developers who are unable to develop their property in conformance with zoning due to an unusual hardship.

However, the state legislature recognized that there are certain instances where the requirements of the variance process are unreasonable. For example, a homeowner who

is attempting to put in a handicapped accessibility ramp that falls outside the allowed setback might not be able to meet all five elements of the variance criteria. To enable such deviations from the zoning ordinance to be more acceptable, the legislature created “waivers.”

Waivers allow the Zoning Administrator or Development Review Board to waive dimensional requirements under certain circumstances as allowed by the town’s zoning regulation. The Planning Commission intends to add this level of flexibility to the Strafford Zoning Bylaw.

### **Goal**

To protect and perpetuate the distinctive rural, agricultural, cultural, architectural and scenic appeal of Strafford while allowing growth that does not overwhelm the Town’s limited financial resources and services.

### **Objectives**

1. To manage growth and development without sacrificing Strafford's natural resources, scenic villages, distinctive pattern of open fields and forest, or straining its municipal infrastructure, facilities, and services.
2. To allow for a reasonable diversity of uses within the Town.
3. To encourage preservation of open land, farms, forests, wetlands, scenic ridgelines, wildlife habitat and outdoor recreation.
4. To guarantee the preservation and perpetuation of Strafford’s unique historic structures.

### **Recommendations**

1. The Planning Commission should consider adding language to the Strafford Bylaw which addresses lighting, viewsheds, and residential construction on ridgelines, and access to proposed structures, which insures that emergency vehicles and personnel can reach the sites without unreasonable risk..
2. The Board of Selectmen, Development Review Board, Planning Commission and administrators of the Fire Department and Fast Squad, or representatives of each, should meet to discuss and develop such an ordinance pertaining to driveway specifications and accessibility in emergencies.
3. Planned Unit Developments which cluster development and preserve open land, working land, and wildlife habitats should be encouraged

4. The Planning Commission should update Strafford's PUD language to offer incentives in areas adjacent to the village that encourage innovative shared septic systems that will not negatively impact the water supply.
5. Information from the USDA Natural Resource Conservation Service should be maintained as a community resource to assist landowners, farmers and foresters in farmland conservation and habitat protection for wildlife.
6. The Planning Commission should merge the Strafford Zoning Ordinance and Subdivision Regulations into a single, unified bylaw.
7. The Planning Commission should consider expanding the boundaries of the Village Districts in order to accommodate additional village growth.
8. The Planning Commission should consider adding language to the Land & Forest Conservation district that will encourage the protection of open space and wildlife habitat.
9. The Planning Commission should add Fluvial Erosion Hazard language to the River Valley Conservation district.
10. The Planning Commission must update the Miller Pond Shoreline district regulations to conform to state regulations and develop other techniques for protecting the Pond's scenic character.
11. The Planning Commission should create regulations that ensure a safe drinking water supply can be accessed in areas near the Elizabeth Mine. This could be done through zoning and/or subdivision or both.
12. The Planning Commission should update zoning language relating to telecommunications and commercial wind towers.
13. The Planning Commission should assure that the Unified Bylaw appropriately addresses waivers and variances.
14. The Town, with its limited financial resources, should encourage the precedent of sustaining and restoring historic public structures and maintaining significant public areas through grants and organized volunteer efforts, such as those of the Friends of the Library, Friends of the Morrill Homestead and the recently organized Town House Advisory Group.

## **IX. Energy**

The Planning Commission recognizes that energy supply and demand are directed largely by economic forces at the state, federal, and international levels, the manner in which Strafford plans for and regulates future growth can have an impact on energy. For example, a highly dispersed and unplanned pattern of land use can waste both land and energy resources. By encouraging the location of jobs, public services and housing in close proximity to growth centers, the consumption of fuel and the needs for additional roads can be reduced. The siting and design of buildings and the selection of energy systems can influence efficient use and conservation of energy.

According to the 2000 U.S. Census, the major heating fuels consumed in Strafford are oil (48%), wood (34%), LPG and gas (16%) and electric (less than 1%). Per capita energy consumption for residential and transportation purposes is about the same as in the northeast. About 76% of all energy used is for these purposes. Almost 80% of residential energy is dedicated to space heating and domestic hot water. State energy officials estimate that simple conservation measures incorporated in new housing could result in a 20% to 30% reduction of energy usage statewide.

The 2000 Census reports that 34% of Strafford's households use wood as a fuel source for heating. The Vermont Department of Public Service estimates that the average household burns between 3 and 4 cords of wood each year during the heating season. Given that the total number of homes in Strafford heating with wood was 145, it is estimated that between 435 and 580 cords of wood were burned in 2000.

The 2000 U.S. Census indicates that 84% of Strafford residents drive to work. Transportation represents the largest single use of energy in Vermont. Because public transportation in Strafford is nearly non-existent there are few alternatives, if any, to the automobile if a resident needs to work outside of town.

### **A. Energy Efficiency**

Energy efficiency is considered one of the key elements to sustainable energy use. Strafford can promote energy efficiency and sustainable living in our households, school and community buildings and operations while we educate, empower and challenge our community to inspire change and drive innovation.

## **Municipal Role in Energy Efficiency**

Although Strafford is unlikely to have an impact on energy consumption on the global level, it can have an impact locally. Strafford is fortunate to have an active Energy Committee. The Energy Committee, which acts as an advisory board to the Selectboard and Planning Commission on all things energy related. It is this board that has taken an active role in auditing town buildings for energy use and creating an energy strategy for Strafford, much of which has been incorporated into this Plan. The continued action of the Energy Committee will be an essential part of reducing energy use in Strafford.

## **Municipal Energy Use**

The most obvious way to reduce energy use on the municipal level is to ensure that all municipal buildings are audited and that energy use in each building is properly tracked. Because of the age of many of the town's buildings, there are issues that impact energy efficiency. Insufficient insulation, inefficient cooling and heating systems and out-of-date lighting systems all result in higher energy use and thus cost the taxpayers of Strafford more in operating expenses.

In 2009, under the guidance of the Strafford Energy Committee, Strafford contracted a professional energy auditor to analyze the Strafford Town Clerk's office. The resulting report indicated that much of the building required additional insulation. If all of the proposed upgrades were implemented, it is estimated that total energy use could be reduced by as much as 50%. The difficulty in implementation is primarily financial in nature. However, because the town has completed an audit for the Town Clerk's office, they are well positioned to apply for any energy efficiency grants that become available on the state or federal level. Renovations may require coordination with the state historic preservation officer in buildings over 50 years old.

In addition to auditing, the town could consider implementing policies that would require energy efficiency to be considered when purchasing or planning for other town investments. For example, purchasing Energy Star rated equipment is a well-documented way to increase energy efficiency. Energy Star is an international standard for energy efficient consumer products. Devices carrying the Energy Star logo, such as computer products and peripherals, kitchen appliances and other products, generally use 20%–30% less energy than required by federal standards. While these devices may cost slightly more than the same products without the Energy Star rating, the savings over time offset the expense of the initial investment.

Strafford could also implement policies designed to reduce municipal fuel usage. Through a process of monitoring and analyzing past and present fuel usage, it is possible to identify areas of waste and inefficiency. For example, the idling of municipal vehicles has been proven to be an expensive waste of fuel. It is possible that a policy requiring that town vehicles (such as dump trucks and other road maintenance equipment) must not be idled could lead to a substantial savings in money spent on fuel on a yearly basis.

It is important to recognize that all energy efficiency strategies and projects should be assessed, monitored and reported so that the Selectboard is able to recognize when they are or are not working effectively. Taxpayers should be made aware of the benefit provided to them through such policies, particularly when the resulting energy efficiency improvement also results in a financial savings.

### **Residential & Commercial Energy Use**

Residential and commercial energy use make up a substantial part of Vermont's overall energy consumption, with heating and electricity consuming almost 70% of the state's total energy consumed. One of the most reliable ways to reduce energy use in these two areas is to be sure that buildings are built to be energy efficient. The significant ways to reduce energy use in the home or commercial building are:

- Insulate with modern insulations and technologies
- Use high efficiency windows
- Install energy efficient, Energy Star appliances like refrigerators, freezers, front loading washing machines, gas heated clothes driers and heating systems without blowers.
- Use high efficiency compact fluorescent lighting
- Use gas and/or solar hot water heaters
- Site building to encourage solar gain, wind blocks and natural cooling patterns.

The State of Vermont requires that all new residential development must meet the standards set forth in Vermont's Residential Building Energy Standards law. The Vermont Residential Building Energy Code Handbook provides contractors with specific instructions as to how to comply with state law in this regard. The following new development must comply with these state regulations:

- Detached one and two family dwellings
- Multifamily and all other residential dwellings three stories or less in height
- Additions of 500 square feet or more
- Factory-built modular homes not on a permanent chassis.

When a new building or addition has been constructed, the developer must fill out, file and post a certificate of compliance in the town in which the building has been constructed. A completed copy of this certificate of compliance should be filed at the town offices.

Strafford will consider adopting zoning and subdivision language which offers incentives to developers and homeowners who build more energy efficiency homes or site their homes in a manner that increases energy efficiency. Strafford could offer density bonuses to developers and homeowners who build to Green Building Standards and/or employ renewable energy technology to provide at least 10% of the building's estimated annual energy usage.

The Town may also include waivers of setback limits to maximize solar access without shading neighboring homes, and waivers of height restriction or permits for solar tracking devices or individual renewable energy structures such as wind turbines.

There are a number of energy weatherization and energy efficiency resources available:

- **Cover Home Repair** (<http://www.coverhomerepair.org/>) - Cover offers weatherization instructions and for people with limited income or disability they offer supplies and weather-proofing services at no or low cost in the Upper Valley area.
- **Efficiency Vermont** - <http://www.encyvermont.com> – Efficiency Vermont is the state's primary resource for energy efficiency information for home and business. Efficiency Vermont offers a wide range of rebates for energy efficient products.
- **Energy Star** (<http://www.energystar.gov/>) - Energy Star is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy designed to help save money and protect the environment through energy efficient products and practices.
- **Sustainable Energy Resource Group** (<http://www.serg-info.org/>) - promotes energy conservation, efficiency and renewables through the formation of town energy committees to help residents, businesses and the municipalities reduce energy consumption, save money, increase the sustainable use of renewables, strengthen the local economy and improve the environment.
- **Vermont Environment and Climate Action Network** (<http://vecan.net/>) - VECAN is a network of statewide Vermont organizations helping communities across the Green Mountain State to reduce energy costs and climate impacts through conservation, increased energy efficiency and conversion to renewable energy sources. VECAN project partners include the 10% Challenge Program, the New England Grassroots Environment Fund, the Sierra Club, the Sustainable Energy Resource Group, the Vermont Energy Investment Corporation and the Vermont Natural Resources Council.

- **Weatherization Technical Assistance Program** (<http://www.waptac.org/>) - The Weatherization Assistance Program (WAP) was created in 1976 to assist low-income families who lacked resources to invest in energy efficiency.

## B. Renewable Energy

The term “renewable energy” refers to energy supplied by sources that are naturally and continually replenished, such as wind, solar power, geothermal (using the earth’s heat to create power), hydropower, and various forms of biomass (trees, crops, manure, etc.). These systems can save users money over the long term, and they reduce the consumption of carbon-based fuels, which helps to protect our environment and reduce our reliance on centralized energy.

In Vermont, some of these energy sources are more readily available than others and some are more cost effective for the individual energy producer. Examples of these sources include:

- **Wood:** Strafford is largely forested. Prior to the wide-scale use of fossil fuels, all of Strafford was wood heated. Strafford contains enough forested land that it could produce sufficient fuel wood for the entire Town on a sustainable basis. With proper technology, wood can be burned cleanly and effectively.
- **Solar:** Solar power has the potential to provide space heating, water heating, and photovoltaic electricity. Strafford currently uses a significant amount of solar energy. Approximately 10% of the residents incorporate some form of solar electricity or heat; including households both connected and not connected to the electric grid.
- **Hydro Generation:** There are at least two micro-hydro turbines operating in Strafford, with the potential for several additional small scale sites.
- **Wind:** Two wind turbines operate in Strafford, with the potential for some larger scale wind generators in the Kibling Hill vicinity.
- **Biomass:** By using cow manure, compost and other biowaste, the generation of methane at scale can be used to generate electricity, keeping the methane from otherwise contributing to global warming.
- **Geothermal:** Geothermal energy utilizes the ground's heat to supplement home heating. In conjunction with solar, this technology is viable in the northeast.

Strafford can encourage the use of renewable energy sources in a number of ways. As previously stated, incentives that encourage renewable resource use can be added to zoning and subdivision regulations. Additionally, the town might be able to acquire grant funding that would allow them to create incentive programs that would reduce energy use or improve efficiency. For example a program that offers rebates to residences that upgrade old, inefficient wood stoves to new, clean burning wood stoves.

Primarily, Strafford can focus on making renewable energy systems a priority when the opportunity to upgrade town buildings arises. By making these renewable energy systems on municipal buildings a priority the town can be prepared to take action when grant funding becomes available for such improvements. Additionally, Strafford can make efforts to support private renewable energy production that will benefit the municipality and its citizens.

## **C. Goals, Policies and Recommendations**

### **Goals**

1. To encourage a pattern of settlement and land use that uses energy efficiently.
2. To promote the design, siting and construction of buildings and structures that are energy efficient and minimize the need for costly sources of energy.
3. To encourage the development of local renewable energy sources and to reduce dependence on outside energy sources.

### **Policies**

1. Major public investments, such as schools, public recreational areas, and municipal facilities need to be situated within or in close proximity to the villages of Strafford.
2. The rehabilitation or the development of new buildings and equipment should use proven design principles and practices with the lowest life cycle costs (cost of owning, operating, maintaining, and disposing of a building or a building system over a period of time):
  - a. Where land development or subdivisions are proposed, design plans shall reflect sound energy conservation principles, such as solar and slope orientation and protective wind barriers. An example would be the cluster planning concept, which is an approach that encourages energy conservation and efficiency; and
  - b. Visual effects of electrical generation, transmission, and distribution facilities shall be minimized whenever feasible.
3. Generation, transmission, and distribution facilities or service areas shall be encouraged only when they complement the recommended land use patterns set forth in this plan.

4. To reduce commuting, the development of broadband services, energy efficient home occupations and small-scale home business is encouraged.
5. To promote energy efficient commuting, the community supports state and regional transportation programs serving Strafford.
6. To continue to sponsor workshops and encourage the work of weatherization services on homes, with special emphasis on low income homeowners.

**Recommendations**

1. The Town should work to increase public awareness and use of energy conservation practices through educational efforts and consider renewable energy sources in public facilities.
2. The Town should explore the potential for a commuter shuttle and appropriate parking.
3. The Planning Commission should consider updating the Town's zoning and subdivision regulations to offer incentives for energy efficient development.
4. The Selectboard should create policies for staff in municipal buildings that encourage energy efficiency and reduce energy use.
5. The Energy Committee should identify areas in town appropriate for community sponsored renewable energy facilities.

## **X. RELATIONSHIP TO OTHER PLANS**

Strafford, in Orange County, is bounded, clockwise from the south, by Norwich, Sharon, Royalton, Tunbridge, Chelsea, Vershire, West Fairlee and Thetford. All of these towns have planning programs and Planning Commissions. All of these towns have plans in effect or are in the process of re-adopting them: Norwich (2006), Sharon (2010), Royalton (2010), Tunbridge (2006), Chelsea (2007), Vershire (2006), West Fairlee (2005) and Thetford (2007). Of these only Norwich, Chelsea, Vershire and Thetford have zoning ordinances in place.

Strafford shares numerous activities and services with surrounding towns, including school services, rescue squad and fire protection. The town is a member of the Two Rivers-Ottawaquechee Regional Commission (TRORC). Strafford also maintains membership in both the Greater Upper Valley Solid Waste District, centered in North Hartland, and the Central Vermont Solid Waste Management District, centered in Barre.

TRORC's regional plan covers 30 towns including Strafford. Since the preparation of the Strafford Town Plan was done with the assistance of the Regional Commission, no conflicts between the two have arisen. In fact, the two plans have similar policy statements regarding the need for development that does not overburden services. In addition, no specific development goals in this Plan conflict with any regional goals.

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

### **Goal**

To cooperate with neighboring communities by addressing shared concerns in a regional context.

### **Policies**

1. Maintain the distinct rural character and natural beauty of the region while guiding appropriate growth.
2. Support regional solutions to shared problems.

### **Recommendations:**

1. To encourage continued communication and cooperation between Strafford and its neighboring towns.
2. To continue participation in the Two Rivers-Ottawaquechee Regional Commission.
3. To exchange planning information and development data with neighboring communities.

## **XI. Implementation**

### **A. Putting the Plan into Action**

The character of Strafford, its people, and landscape has been created over the years through the individual and collective decisions of its citizens and public officials. The efficiency, attractiveness, and well-being of the community are determined, in part, by the ability of the Town to plan for its needs and to find a mechanism to put planning goals into action.

Previous elements of this Plan have been centered on existing conditions, probable trends and policy development which, when combined, represent a vision for the kind of town Strafford desires for the future. One thing is certain – the community will change. The opportunity is that citizens and town officials together can direct this change consistent with their desires, using a variety of mechanisms.

The following sections describe the tools and techniques that could be used to implement the Strafford Town Plan.

### **B. Adoption of the Plan**

Adoption of the Strafford Town Plan by the Selectboard, in accordance with the procedures outlined in the Vermont Planning and Development Act [24 V.S.A., Chapter 117], is the first step in putting this Plan into action. Through its adoption, the town accepts that the principles and policies set forth in this Plan are in the public interest and are a guide for the future growth and development decisions affecting Strafford.

### **C. Ongoing Planning**

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

The quality of a Town Plan is reflected in the amount of public involvement in its creation. Regular community meetings, held by the Planning Commission, that discuss important issues relevant to the Town plan will ensure that the document truly reflects the vision of the residents of Strafford.

The Strafford Town Plan is a dynamic document reflecting the community's visions and values. By statute [24 V.S.A., Section 4387] the plan must be revisited at least every five years to be kept relevant. The Planning Commission is responsible for the maintenance and amendment of the plan. Within the next five years following the Planning Commission will need to again evaluate the plan in light of new conditions and needs.

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

- is consistent with the goals established in section 4302
- is compatible with the Regional Plan
- is compatible with approved plans of other municipalities in the region
- contains all the elements included in subdivisions 4382(a) (1-10)

Approval of the plan provides an improved legal standing for Strafford to influence and integrate its planning policies with State agency planning affecting land use.

#### **D. Implementation Tools**

Vermont law enables Strafford to implement the adopted Strafford Town Plan through a variety of ways. Regulation of land use and development through rules adopted by the voters is one possible method. Because these regulations are susceptible to legal challenge and must clearly benefit the public, discretion must be used. Well recognized and utilized means include, but are not limited to, zoning bylaws and subdivision regulations. Examples of potential implementation tools include:

**Zoning Bylaws** - Zoning bylaws are a commonly used method for guiding development at the local level. Zoning may regulate,

- uses of land,
- the placement of buildings on lots,
- the relationship of buildings to open space, and
- the provision of parking, signs, landscaping and open space.

Zoning generally involves partitioning the town into districts or zones that have a different set of uses, densities, and other standards for development. Zoning districts must be reasonably consistent with the Town Plan. As an alternative to conventional methods, Strafford may opt to implement a set of measurable performance standards for specific uses as opposed to dividing the Town into districts. This technique, referred to as "performance zoning," is designed to be more flexible and to recognize the specific conditions of each site proposed for development.

**Subdivision Regulations** - Strafford does have subdivision regulations, which are administered by the Development Review Board. Such regulations govern the division of parcels of land and the creation of roads and other public improvements. Furthermore, subdivision regulations ensure that land development reflects land capability and that critical open spaces and resources are protected from poor design or layout.

In order to achieve the goal of natural resource protection while avoiding changes in lot size, the Planning Commission should consider updating their subdivision regulations to create maximum density requirements. As an alternative to designating multiple zoning districts within the designated Land & Conservation district, maximum density could be based upon the unique characteristics of the parcel relative to highway access, distance to the town center, and proximity to protected open space. While the total development density of a site would be presumed to be one unit per every 3 acres of developable area, the density would be adjusted in accordance with whatever formulas are implemented by the Planning Commission. The primary downside to this method is that it is complicated and somewhat difficult to clearly explain to those who are not familiar with non-traditional forms of zoning or subdivision. Strafford intends to create a unified zoning and subdivision bylaw. The Town has applied for a Municipal Planning Grant from the State of Vermont to work on this project in 2010-2011.

**Flood Hazard Area Zoning Ordinance** - Under Vermont law [24 V.S.A., Section 4412], the Town of Strafford may regulate the use of land in a defined flood hazard area adjacent to streams and ponds. These bylaws can be established to ensure that design and construction activities within the limits of the 100 Year Flood Plain are designed so as to minimize potential for flood damage and to maintain use of agricultural land in flood-prone areas. As noted in the Natural Resources section of this Plan, property owners are eligible for federal flood insurance on buildings and structures at relatively low federally subsidized premium rates. However, such insurance cannot be obtained for properties in Strafford unless the Town has in effect a Flood Hazard Area Zoning Ordinance which, at present, Strafford has.

**Highway Policies** - Strafford has in effect a Town Road and Bridge Standards of the Town of Strafford setting forth minimum standards and conditions for the construction of roadways, ditches and slopes, culverts and bridges and guardrails. The Town follows state statutes regarding the reclassification of Town Highways as well as the discontinuance, laying out and acceptance of its highways.

Lastly, Strafford does have, through its Selectboard's Highway Access Policy, the ability to regulate private access to municipal roads through the issuance of "curb cut" permits to landowners. "Curb cuts" are places where a private driveway or road connects to a town highway. In granting a cut onto town roads, the Selectboard can give consideration to safety issues such as adequacy of sight distance and proximity to intersections as well as conformance with this Plan.

**Capital Budget** – A capital budget and program is a financing approach that benefits the town greatly in the selection, prioritization and costing of capital projects. Under the capital budget, a project is selected (e.g. bridge refurbishment), a funding source determined (e.g. general taxes or general obligation bonds) and a priority year given for each activity (e.g. construction in 2006). Collectively these capital projects make clear where public facilities will be placed to accommodate projected growth. When used in conjunction with the Town Plan and local bylaws, it can be a powerful

mechanism for limiting the rate of growth in accordance with the fiscal capacity of taxpayers and other funding sources.

In addition, it is noted that under Vermont's Act 250 law, in granting a Land Use Permit for a major development or subdivision, the District Environmental Commission must first find that the project is in conformance with the town's capital budget. [See 10 V.S.A., Section 6086(a)(10).] Accordingly, this mechanism gives the town an indirect method of implementing its policies and priorities as set forth in the Plan.

While Strafford has an informal system of capital programming, it is recommended that a Capital Budget Committee be established to work with the Select Board in the development of a list of capital needs and expenditures, and to formally present a Capital Budget and Program for adoption.

**Vermont Community Development Program** - Since the mid-1970s, the Vermont Community Development Program (VCDP) has made grant funds available to towns for community projects. Historically, the major focus of the program has been on housing rehabilitation and affordable housing projects benefiting low and moderate-income families.

Strafford should investigate the Vermont Community Development Program and its potential to assist the community in addressing its housing needs. The Regional Commission and the Vermont Agency of Commerce and Community Development are resources available to assist. (PH: 802-828-3217).

**Act 250** - Since 1970, Vermont has had in place a statewide review system for major developments and subdivisions of land. Exactly what constitutes a "development" or "subdivision" is subject to a rather large and involved set of definitions. However, generally, commercial and industrial projects on more than one acre of land; construction of 10 or more units of housing; subdivision of land into 6 or more lots; construction of a telecommunication tower over 20 feet in height; and development over 2,500 feet in elevation qualifies.

Prior to these activities being commenced, a permit must first be granted by the District Environmental Commission. In determining whether to grant a permit, the Commission shall evaluate the project in relation to ten specific review criteria.

These criteria relate to the environmental, economic, and social impacts of the proposed project on the community and region. Parties to Act 250 proceedings include Strafford, through the Planning Commission and Selectboard, the State, and the Regional Commission. One criterion that needs to be addressed is whether the project is in conformance with the Strafford Town Plan. If a project were determined not to be in conformance with the plan, the District Environmental Commission would have a basis to deny a permit. As such, Act 250 reviews can take into consideration protection of those types of resources considered important to the well-being of the community.

Accordingly, it is in the interest of the Town to evaluate Act 250 projects affecting Strafford and to offer testimony, as appropriate.

**Coordination of Private Actions** - Citizens and private enterprise have a vested interest in the well-being of Strafford. The actions of the private sector, such as the construction of homes and businesses, land conservation, and the use of land for recreation and agriculture, should relate positively to the goals and policies as set forth in this Plan.

It is in the interest of Strafford, through the Planning Commission and Selectboard, to develop a cooperative relationship with private investment activities that may have a significant impact on the community values and policies set forth in the Plan. By working together in a cooperative venture early in the process of planning for a project, an adversarial relationship can be avoided.

**Conservation Activities** - Conservation programs are an effective means of securing protection of valuable farm and forestland or significant natural resources. Techniques available involve voluntary direct work between non-profit conservation organizations and affected landowners such as donation of conservation easements, bargain sales of land, and limited development schemes.

The land trust movement has grown immensely during the past twenty years, particularly in Vermont. Land trusts offer viable means of bringing together the needs of property owners with the community interests. The Upper Valley Land Trust and the Nature Conservancy are particularly well-recognized organizations. Several organizations are also involved in water quality protection. It is the intent of this Plan to implement its policies through coordination and the involvement of these organizations and others dedicated to public purposes.

Other methods of encouraging land conservation include Transfer of Development Rights (TDR). The Planning Commission can allow, through revisions to the Strafford Zoning Ordinance, development rights to be transferred from one property in a sending district to another property(ies) in a receiving district(s). TDR's are commonly used in areas where there is a substantial amount of development potential in more densely populated areas.