

TOWN OF GRAFTON, NEW HAMPSHIRE

MASTER PLAN

Prepared by the Upper Valley-Lake Sunapee Council

for the

Grafton Planning Board

1986-1987

GRAFTON PLANNING BOARD

1987

Paul Jalbert, Chairman

Jim Spaulding

Phillip Weber

Stewart Downs

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1987

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Ken Cushing

Chester Martin

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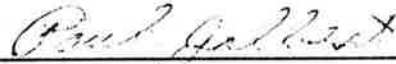
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**ADOPTION OF MASTER PLAN,
GRAFTON, NEW HAMPSHIRE**

The Planning Board of the Town of Grafton, New Hampshire, in accordance with the provisions of RSA Chapter 675:6 does hereby adopt the Grafton Master Plan of 1987, including the findings, recommendations, goals and policies contained in this plan to aid the Planning Board and other Town Boards in the performance of their respective duties for the purpose of guiding and accomplishing the coordinated and harmonious development of the Town of Grafton, New Hampshire.

A handwritten signature in cursive script, appearing to read "Paul Jalbert", is written over a horizontal line.

Paul Jalbert, Chrm.

Grafton Planning Board

GRAFTON MASTER PLAN
OVERALL GOALS 1986 - 2000

Land Use Goals

- (1) Maintain the Town's rural and village character and scenic beauty.
- (2) Encourage continued use of the town's best farm lands and to discourage the use of this land for other purposes.
- (3) Recognize the developmental limits on wetlands, steep slopes and floodplains.
- (4) Protect the quantity and quality of the town's water resources.
- (5) Protect historic sites, buildings and settings.

Population Goals

- (1) Provide for a slight rate of growth, in keeping with the town's capacity to provide for community services.
- (2) Accommodate a reasonable share of the region's population growth.

Community Facilities Goals

- (1) Expand the town's parks and recreational facilities.
- (2) Provide community services (e.g. schools, library, public safety and utilities) at a level equal to or better than currently provided.

Transportation Goals

- (1) Work with the State to maintain and improve the State highway network as it affects Grafton.
- (2) Encourage development that promotes both safety and the effective flow of traffic.
- (3) Improve existing town roads.
- (4) Promote the high quality of new roads.

Economic Development Goals

- (1) Encourage small, non-polluting (light) industries and commercial establishments to locate on well-planned sites where they will not create a potential for land use or traffic conflicts.

Housing Goals

- (1) Encourage high quality residential developments which maintain and enhance the natural character of the land, promoting the enjoyment and safety of their residents.

- (2) Maintain Grafton as a town of predominantly single-family houses, while accommodating a fair share of the region's need for housing low income, disadvantaged, and elderly people.
- (3) Encourage the location of mobile homes in pleasing environments, augmenting both the aesthetic quality and the level of housing opportunity in Grafton.
- (4) Promote an awareness of energy conservation and alternative energy sources in building design and construction.

I. POPULATION

INTRODUCTION

An analysis of changing trends in the town's population is one of the most fundamental aspects of a master planning effort. Any significant changes in Grafton's population will consequently affect land use patterns, the town's economic base, and local demand for housing, transportation, human services and community facilities. Shifts in the composition of the population are important since knowledge of changes in the school age, elderly and seasonal population is a prerequisite to providing for proper education, elderly housing and the timing and tailoring of services in the future.

This chapter examines five facets of population change in Grafton. First, historical population trends in Grafton are summarized and contrasted to those of Grafton County, the State and the United States as a whole. Next, migration patterns affecting Grafton's population growth are analyzed. Third, selected characteristics of the town population are examined (age and sex distributions and income). Fourth, the town's year-round and seasonal population is projected through the year 2000. These projections indicate the degree of change to expect for the 20-year span between 1980-2000.

Information used in this chapter was derived from a variety of sources: the U.S. Bureau of the Census, the Upper Valley-Lake Sunapee Council, the Office of State Planning and the N.H. Bureau of Vital Statistics.

HISTORICAL TRENDS

What is today the Town of Grafton was originally granted in 1761 to a group of proprietors from Cheshire County, Massachusetts including Ephraim Sherman. Because the original grantees failed to settle the area and fulfill the conditions of the charter, the land was subsequently granted to another group including Josiah Willard and others in 1769. Undoubtedly the best known of this group was John Hancock, signer of the Declaration of Independence.

The Town takes its name from Augustus Henry Fitzroy (also known as the Duke of Grafton and Viscount Thetford) a British Secretary of State who was sympathetic to American settlers before the Revolution and who was active in demanding the repeal of taxes against the colonies, especially the Stamp Act which was revoked while he was in office.

The first permanent settlement was made in 1772 by Capt. Joseph Hoyt of Poplin, Massachusetts. Hoyt settled along what is today the Danbury Road. The Town was incorporated by legislative action on November 11, 1778 by petition of the inhabitants who authorized Daniel Sanders to call the first town meeting in the Meeting House on Razor Hill. Boundaries were established in 1781 and subsequently adjusted in 1802. The first saw mill in town was built in 1772 and the first grain mill the following year.

The population of Grafton showed steady growth from a base of 354 persons in 1786 to a high of 1,259 in 1850. Historically, farming and mining were the Town's principal industries. Ruggles Mine on Isinglass Mountain in the northwest section is the oldest mica mine in the U.S. Some parts of the mine have been in continuous operation since Revolutionary War times. In early years mica was widely used as a substitute for costly window glass. In this century, feldspar, garnet, quartz, topaz, uranium and zircon have also been extracted from the mine. Major farms were located in Wild Meadows, Barney Hill, Razor Hill, and along the Smith River.

The Grafton Turnpike, incorporated June 21, 1804, connected Orford to the Fourth New Hampshire Turnpike in Andover and was a major impetus for Grafton's early growth, supporting a number of inns along the well-traveled route. In Grafton, the Turnpike passed through the easterly part of the town giving rise to a village center, early on known as Bungtown because of the barrels made there, today known as East Grafton. Other industries in this area included an axe manufactory, grist mill, wool carding mill, sawmills, wheel wright shops and a shop in which caskets were made. In response to population shifts the meetinghouse was moved here from Razor Hill about 1840. A second turnpike, the Fourth New Hampshire Turnpike, incorporated in 1800 and extending from Lebanon through Enfield, Grafton and Springfield to Merrimack County, had a much more negligible effect on Grafton's development as it passed through only a western corner of town.

Over the years, other distinct village centers in Grafton have included Grafton Center, Grafton Village and Slab City. Grafton Center historically grew around the common, church, grist mill and streams which furnished valuable water power, while Grafton Village developed largely due to the siting of the depot and its freight yards.

Slab City probably so named because of the piles of slabs from the sawmills, at its height boasted two or three stores, a sawmill, brick yard and cooper shops. This area was also known as Pleasant Valley. Beginning about 1848, Slab City began a downward trend as families moved west and young people moved off farms. By the early 1960's there were only five to six permanent houses.

The advent of the Northern Railroad connecting White River Junction and Concord was to have a powerful influence on Grafton. The Northern Railroad was opened to Franklin, N.H. on December 28, 1845 with the line to Grafton on the first of September, 1847. On the 17th day of November it opened to Lebanon and was opened to White River Junction in June, 1848. Over the years the railroad proved to be a ready source of employment for many Grafton residents.

The railroad also had a tremendous impact on the layout and topography of the town. The existence of the railroad funnelled activity to the village centers, reinforced by highways which were laid out to Grafton Center and Grafton Village. In the late 1800's, Grafton's forested land diminished due to the railroad's demand for fuel, amounting to approximately 1,000 cords a year as well as charcoal kilns located in Grafton Village. Profit prevailed with an absence of proper land conservation methods.

During the last half of the nineteenth century the charcoal kilns at Grafton Depot were a prominent local feature. Built after 1848 by Jesse Cass, a local entrepreneur the six or seven kilns were each about thirty feet long, twenty feet wide and sixteen feet high. Constructed in the shape of an arch with brick from Slab City each would hold from 20 to 30 cords of wood with one being opened and filled each day. At full capacity, 5,000 to 7,000 bushels of charcoal were produced from 800 cords of hardwood, most of which was shipped to Concord and beyond to fuel forges and heat urban dwellings. Demand declined in the 1890's with the introduction of other fuels and today the kilns have long since disappeared. By the 1960's, traffic on the railroad diminished to the extent that today it is proposed to be abandoned.

Beginning in 1860 Grafton's population was marked by steady decline, from a peak of 1,259 persons in 1850 to a low of 348 in 1960. Here and throughout the State, population decline in the late 19th Century was largely due to the inability of New Hampshire farms to compete against midwest farms, leaving New Hampshire hillsides and parts of Grafton a maze of stone walls, cellar holes, second growth forests and abandoned roads. School districts were consolidated, workers became diversified and employment opportunities in town became increasingly service-oriented.

Before the days of the automobile, it was common for people from the city to find places in the country and stay for a few weeks. During the 20th century, summer residents attracted by ponds including Grafton, Tewksbury and Kilton, supplemented the local economy. Much of Grafton's recent population growth can be attributed to the conversion of summer to year-round homes and Grafton's popularity as a "bedroom community," offering an affordable, pleasant residential alternative to more expensive and densely settled communities in the Hanover-Lebanon area. Finding work in town has become increasingly difficult.

Figure I-1 and Tables I-1 and I-2 on the following pages present the historical trend of Grafton's population growth. It is marked by a steady increase from 1786 to 1850, reaching an alltime high of 1,259 in 1850. From 1850 to 1960 the town population showed an almost steady decrease, climaxing with a 99.7% increase between 1970 and 1980 which saw a population of 739.

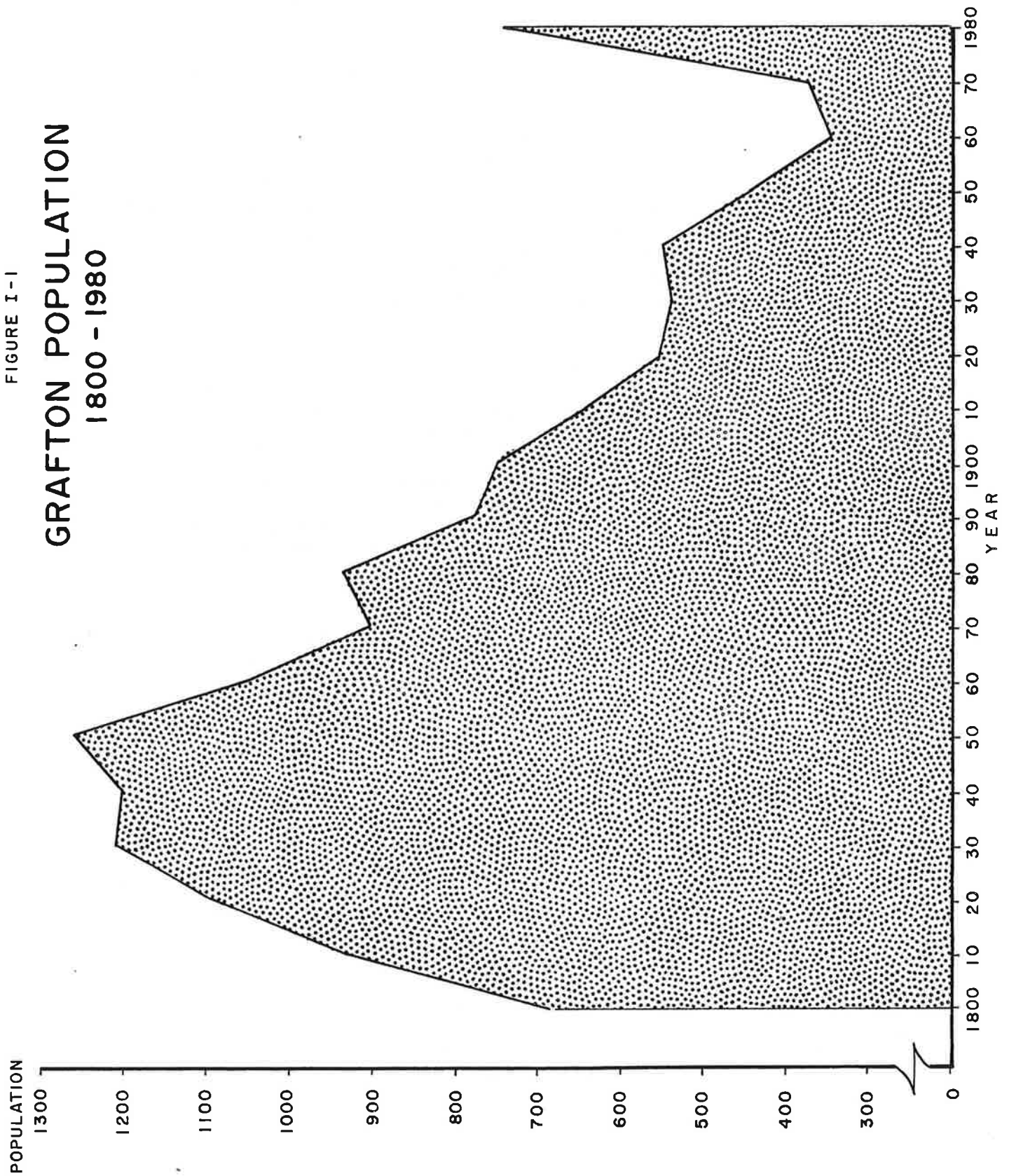
Table I-2 and Figure I-2 show that Grafton's population steadily declined as a percentage of Grafton County's population from highs of 4.5% in 1786 and 3.5% in 1800 and 1820 to a low of 0.7% in 1960 and 1970. Due to rapid growth in Grafton during the 1970's and a distinctly slower rate of increase in the County, Grafton's share of the County population rose to 1.1% in 1980.

Table I-2 and Figure I-3 show the relationship of Grafton's population to that of New Hampshire. Note that the graph is generally similar to Figure I-2 and that Grafton's minute share of the State population has remained 0.1% for the past 70 years.

The rapid population growth experienced in Grafton recently has predictably accelerated development of its land base and a change in the appearance of the landscape. Table I-3 summarizes the population density of selected communities in the Upper Valley-Lake Sunapee region. As you can see, the average population density in the region in 1970 was 58.5 persons per square mile; by 1980 this density had increased to 69.6 persons per square mile. Meanwhile, Grafton's density rose from 8.8 persons per square mile in 1970 to 17.5 persons per square mile in 1980, an increase of 99 percent. Despite this amazing rate of growth, Grafton remains one of the more sparsely settled communities in the area, with a density of 17.5 persons per square mile. Only Orange (8.2 persons per square mile) and Springfield (12.3 persons per square mile) have lower population densities.

Despite the fact that the town has a very small population and relatively low density, Grafton's density is still rising at a very rapid rate. Increased density decreases the amount of open space, places greater demand on local resources and increases the possibility of conflicting land uses. Even with its small population, there is a strong need for Grafton to plan wisely for the future to assure that the town will grow in a desirable manner.

FIGURE I-1
GRAFTON POPULATION
1800 - 1980



SOURCE: U.S Census

Table I-1

Historical Population Trends
Grafton, Grafton County, New Hampshire, U.S.A.; 1767 - 1980

<u>Year</u>	<u>Grafton</u>	<u>Percent</u> <u>Change</u>	<u>Grafton</u> <u>County</u>	<u>Percent</u> <u>Change</u>	<u>State of</u> <u>N.H.</u>	<u>Percent</u> <u>Change</u>	<u>U.S.A.</u>	<u>Percent</u> <u>Change</u>
1767	-	-	747	-	-	-	-	-
1773	-	-	2,930	292.2	-	-	-	-
1775	-	-	3,518	200.7	-	-	-	-
1783	-	-	3,394	-3.5	-	-	-	-
1786	354	-	7,802	129.9	-	-	-	-
1790	403	13.8	11,953	53.2	141,885	-	3,929,214	-
1800	682	69.2	19,413	62.4	183,858	29.58	5,308,483	35.1
1810	931	36.5	27,222	40.2	214,460	16.64	7,239,881	36.4
1820	1,094	17.5	31,551	15.9	244,161	13.85	9,638,453	33.1
1830	1,207	10.3	36,806	16.7	269,328	10.31	12,866,029	33.5
1840	1,201	-5	40,495	10.0	284,574	5.66	17,069,453	32.7
1850	1,259	4.8	40,455	-0.1	317,976	11.74	23,191,876	35.9
1860	1,150	-8.7	40,395	-0.1	326,073	2.55	31,443,321	35.6
1870	907	-21.1	38,307	-5.2	318,300	-2.38	39,818,449	26.6
1880	934	3.0	38,788	1.3	346,991	9.01	50,155,783	26.0
1890	787	-15.7	37,217	-4.0	376,530	8.51	62,947,714	25.5
1900	748	-5.0	40,844	9.7	411,588	9.31	75,944,575	20.7
1910	641	-14.3	41,652	2.0	430,572	4.61	92,228,496	21.4
1920	554	-13.6	40,572	-2.6	443,083	2.90	106,021,537	15.0
1930	539	-2.7	42,816	5.5	465,293	5.01	123,202,624	16.2
1940	552	2.4	44,645	4.3	491,524	5.63	132,164,569	7.3
1950	442	-19.9	47,923	7.3	533,242	8.49	151,325,798	14.5
1960	348	-21.3	48,857	1.9	606,921	13.82	179,323,175	18.5
1970	370	6.3	54,914	12.4	737,578	21.53	203,211,926	13.3
1980	739	99.7	65,806	19.8	920,475	24.79	226,504,825	11.5

SOURCE: U.S. Census

NOTE: Data from 1790 to 1940 are permanent residents only.

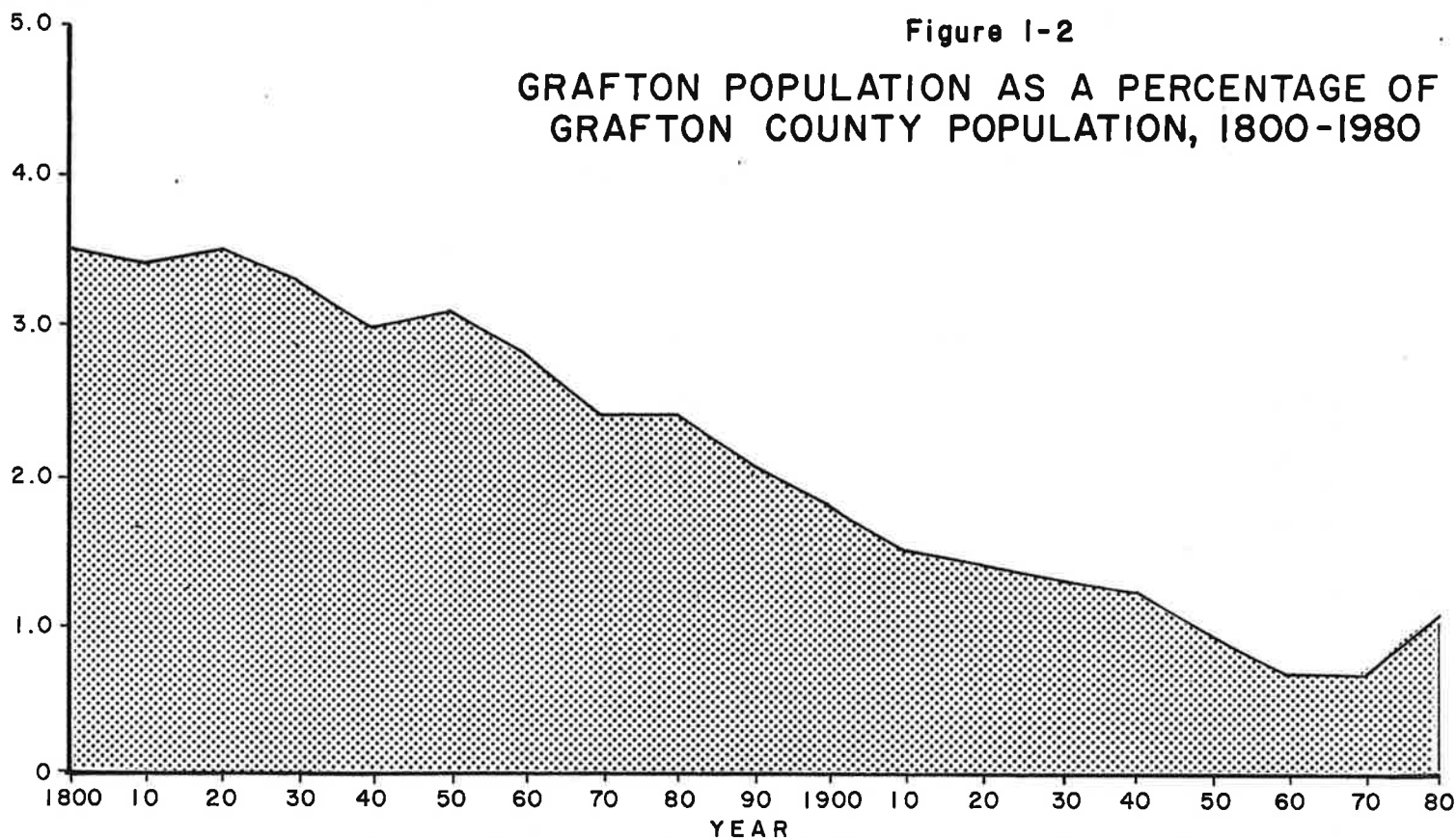
Data from 1950 to 1980 include permanent residents and students.

TABLE I-2
RELATIVE SHARES OF POPULATION
Grafton, Grafton County, New Hampshire, U.S.A.; 1767-1980

Year	Grafton	Percent Gr/Cty	Grafton County	Percent Gra/NH	State of N.H.	Percent Cty/NH	U.S.A.	Percent NH/USA
1767	-	-	747	-	-	-	-	-
1773	-	-	2,930	-	-	-	-	-
1775	-	-	3,518	-	-	-	-	-
1783	-	-	3,394	-	-	-	-	-
1786	354	4.5	7,802	-	-	-	-	-
1790	403	3.4	11,953	.3	141,885	8.4	3,929,214	3.61
1800	682	3.5	19,413	.4	183,858	10.6	5,308,483	3.46
1810	931	3.4	27,222	.4	214,460	12.7	7,239,881	2.96
1820	1,094	3.5	31,551	.4	244,161	12.9	9,638,453	2.53
1830	1,207	3.3	36,806	.4	269,328	13.7	12,866,020	2.09
1840	1,201	3.0	40,495	.4	284,574	14.2	17,069,453	1.66
1850	1,259	3.1	40,455	.4	317,976	12.7	23,191,876	1.37
1860	1,150	2.8	40,395	.4	326,073	12.4	31,443,321	1.03
1870	907	2.4	38,307	.3	318,300	12.0	39,818,449	.80
1880	934	2.4	38,788	.3	346,991	11.2	50,155,783	.69
1890	787	2.1	37,217	.2	376,530	9.9	62,947,714	.60
1900	748	1.8	40,844	.2	411,588	9.9	75,994,575	.54
1910	641	1.5	41,652	.1	430,572	9.7	92,228,496	.47
1920	554	1.4	40,572	.1	443,083	9.2	106,021,537	.42
1930	539	1.3	42,816	.1	465,293	9.2	123,202,624	.38
1940	552	1.2	44,645	.1	491,524	9.1	132,164,569	.37
1950	442	0.9	47,923	.1	533,242	9.0	151,325,798	.35
1960	348	0.7	48,857	.1	606,921	8.0	179,323,175	.34
1970	370	0.7	54,914	.1	737,578	7.4	203,211,926	.36
1980	739	1.1	65,806	.1	920,475	7.1	226,504,825	.40

SOURCE: U.S. Census

PERCENTAGE



SOURCE: U.S. Census

PERCENTAGE

Figure I-3
**GRAFTON POPULATION AS A PERCENTAGE OF
NEW HAMPSHIRE POPULATION, 1800-1980**

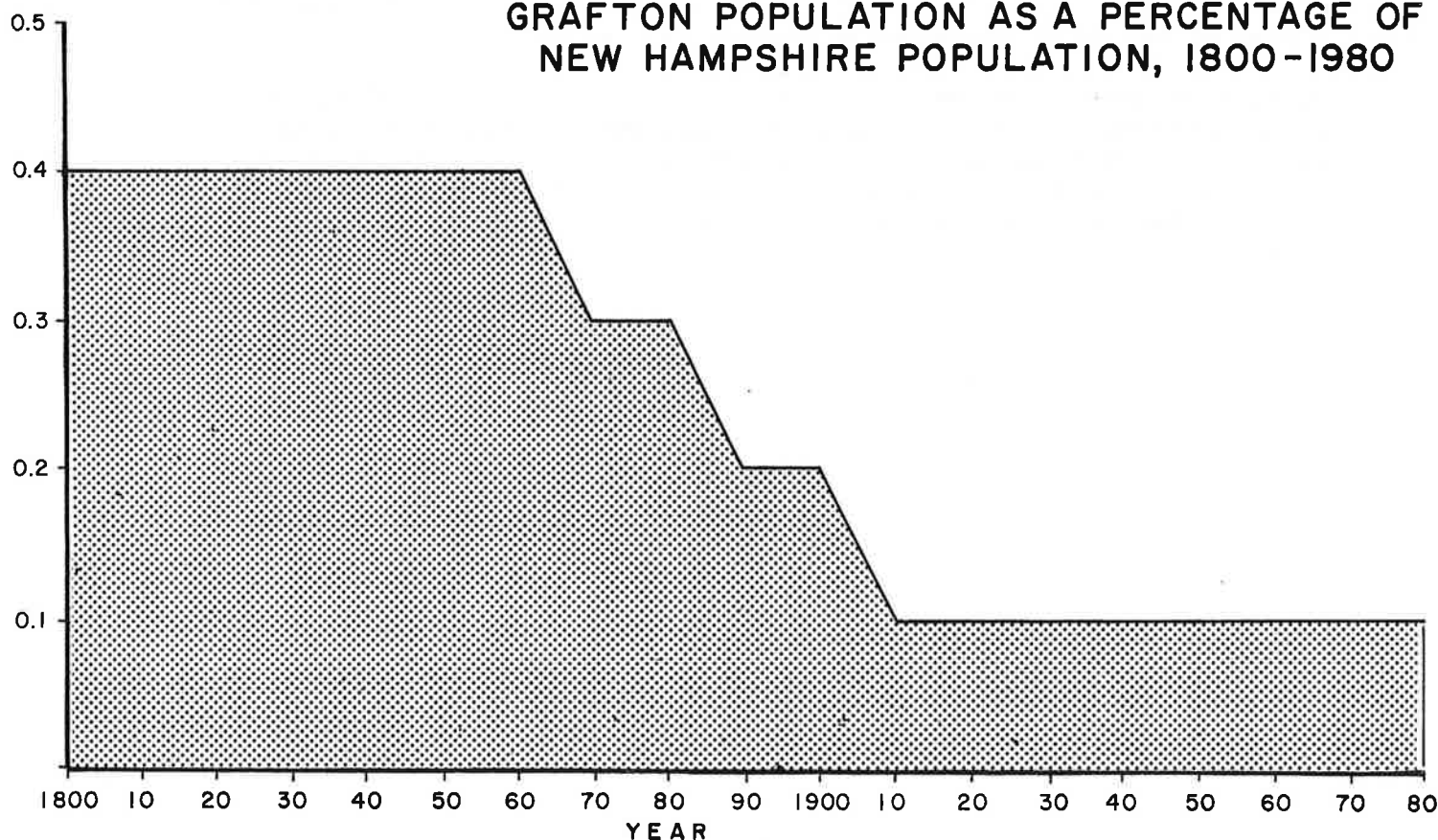


Table I-3

Population Density in Selected Upper Valley-Lake Sunapee Communities
1970-1980

	<u>Land Area</u> <u>Square Miles</u>	<u>1970</u>	<u>1980</u>	<u>% Increase</u> <u>1970-1980</u>
Grafton	42.2	8.8	17.5	99.0
Canaan	52.9	36.4	46.4	27.5
Enfield	40.4	58.0	78.6	35.5
Grantham	26.9	13.6	26.2	92.6
Springfield	43.1	7.2	12.3	70.8
Orange	24.0	4.3	8.2	90.7
Wilmot	29.0	17.8	25.0	40.4
New London	22.1	101.2	132.8	31.2
Region	1,192.8	58.5	69.6	19.0

Source: Upper Valley-Lake Sunapee Council

NATURAL INCREASE & MIGRATION

The two components of population change are natural increase and migration. Natural increase is defined as the excess of resident births over deaths in any one period. Migration refers to the number of people moving into and out of a town. If a community has little in- and out-migration, almost all changes in population are attributable to natural factors alone. The change in Grafton's population is derived from the following formula:

"The population of Grafton at the close of a period is equal to its population at the start of the period, plus natural increase (the excess of births over deaths) during the period plus the net migration during the period."

As seen in Table I-4, during the period from 1970 to 1980 in Grafton, there was a natural increase of four persons. Since Grafton's population increased by 338 persons over that period, there was a net in-migration of 334 persons (99% of the total increase). Thus nearly all of Grafton's net population growth in the 1970's can be attributed to outsiders moving into town.

Table I-4

Births, Deaths and Population Growth
Grafton, 1970-1985

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Natural Increase</u>	<u>Total Population</u>
1970	7	12	-5	370
1971	8	6	2	
1972	6	9	-3	
1973	8	6	2	
1974	6	9	-3	
1975	7	4	3	
1976	8	4	4	
1977	3	8	-5	
1978	13	11	2	
1979	14	7	7	
			+4	
1980	14	8	6	739
1981	18	5	13	
1982	14	13	1	
1983	18	6	12	
1984	10	10	0	
1985	8	5	3	805
			+35	(estimate)

1970-1980 net in-migration = $369 - 4 = 365 = 99\%$

1980-1985 net in-migration = $66 - 35 = 31 = 47\%$

Source: Birth & Death Counts - N.H. Dept. of Health & Welfare, Office of Vital Records and Statistics; Population - U.S. Census; 1970, 1980 and NH Office of State Planning.

HOUSEHOLD SIZE

Census figures shows that the mean ("average") number of persons per year-round housing unit in Grafton was 2.85 in 1980. This figure is slightly larger than those for the County and State, indicating that families and households are slightly larger in Grafton than in other areas of the County and State.

Table I-5

Mean Number of Persons
Per Occupied Year-Round Housing Unit

	<u>Mean</u>
Grafton	2.85
Grafton County	2.6
New Hampshire	2.75

Source: U.S. Census, 1980.

AGE DISTRIBUTION

The age composition of a community has great importance in planning for future needs. An increase in the school-age population, for example, indicates the need for greater investment in educational facilities. Likewise, growth in the elderly population requires a different range of services and facilities.

In comparison to the County and State, Grafton has a slightly older population. As the table below shows, the median age in the town is 30.8, a little older than both Grafton County and New Hampshire figures. In addition, the table shows the median age for the town is decreasing, while a general aging trend is evident in the County and State.

Table I-6**Median Ages: Grafton County, New Hampshire**

	<u>1970</u>	<u>1980</u>
Grafton	38.1	30.8
Grafton County	27.1	29.3
New Hampshire	27.8	30.1

Source: U.S. Census, 1970 and 1980.

SCHOOL-AGE POPULATION

The school-age (0-19) population in Grafton has increased in actual numbers but declined as a percentage of total population over the past decade. In 1970, there were 125 children/young adults in this age group; in 1980 there were 235, an increase of 110 persons. The increase in the school-age population was the result of a rise in both preschool (0-4) and student (5-19) age groups. As a percentage of Grafton's population, the preschool group (0-4) increased from 6.8 percent in 1970 to 7.8 percent in 1980, while the student population (5-19) decreased from 27 percent to 24 percent between 1970 and 1980.

WORKING AGE POPULATION

The working age group (20-64) is often referred to as the labor force, although not all persons in the group are actually employed or looking for work. This group accounted for the main portion of Grafton's population increase in the 1970's, jumping from 167 people (45.1%) to 405 people (54.8%). As Table I-7 indicates the 25-34 age bracket alone was responsible for an increase in population of 100 persons. This helps to define the type of in-migration which has occurred in Grafton.

ELDERLY POPULATION

The elderly (senior citizen) population is comprised of persons sixty-five years of age or over. Although most of the persons in this age group are retired, some are employed full or part-time. There are almost always more women than men in this age group. The size of this population group in the town rose only slightly from 53 to 56 persons between 1970 and 1980. As a percent of the Town's population, this age group decreased sharply from 21.1% in 1970 to 13.4% in 1980. The following table compares Grafton's elderly population as a percentage of the overall population to the percentages of Grafton County and the State. It shows that the town actually contains a slightly higher percentage of elderly people than do other areas, despite the fact that County and State, unlike the town, are experiencing an aging trend.

Table I-7

Elderly Population as a Percent of Total Population
Grafton, Grafton County and New Hampshire, 1970, 1980

	1970	1980
Grafton	21.1	13.4
Grafton County	11.6	12.4
New Hampshire	10.6	11.2

Source: U.S. Census

The population of the U.S. will show a relative increase in the over 65 age group over the end of this century. Grafton, Grafton County and New Hampshire will no doubt be influenced by this population shift. Coupled with the in-migration of retirees, it is expected that the elderly age group will increase as a percentage of the total population and the town will have to consider meeting the special needs of these people.

Table I-8

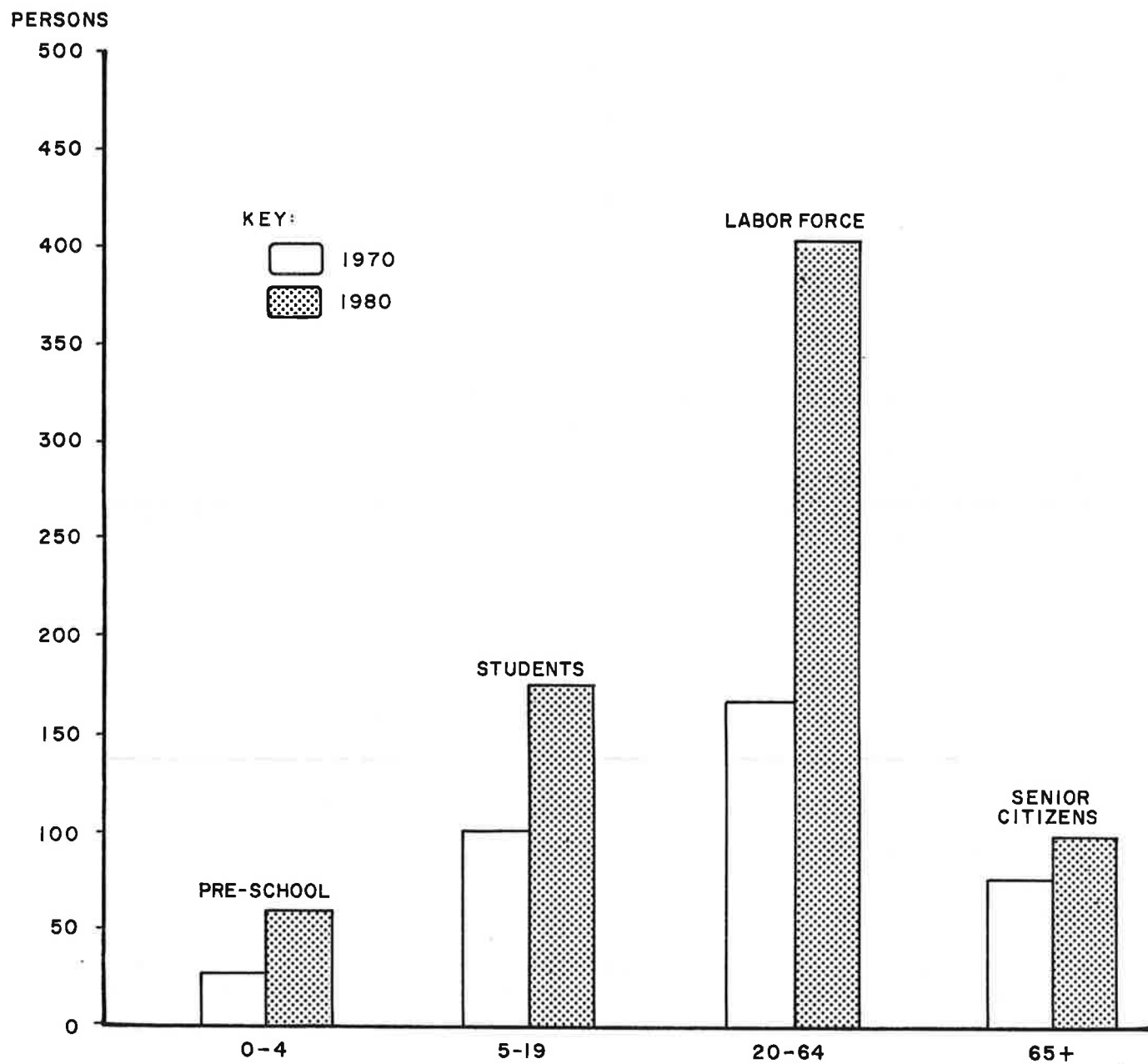
Age Distribution by Group
Grafton; 1970, 1980

	1970	1970	1980	1980	No.	%
<u>Grafton</u>	<u>#</u>	<u>%</u>	<u>#</u>	<u>%</u>	<u>Change</u>	<u>Change</u>
Preschool (0-4)	25	6.8	58	7.8	33	132
Student (5-19)	100	27.0	177	24.0	77	77
Working Age (20-64)	167	45.1	405	54.8	238	142
Elderly (65+)	78	21.1	99	13.4	21	27

Source: U.S. Census

How does Grafton's age group distribution compare to the County and State?
 The following table shows that Grafton's preschool and elderly populations are comparatively high while student and working age are slightly lower than County and State figures.

FIGURE I-4
AGE DISTRIBUTION
GRAFTON, 1970, 1980



SOURCE: U.S. Census, 1970, 1980

Table I-9

Comparative Age Distributions by Group
Grafton, Grafton County, New Hampshire; 1970, 1980

	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Preschool (0-4)	6.8	7.8	7.5	6.1	8.9	6.8
Student (5-19)	27.0	24.0	28.9	24.6	29.3	25.2
Working Age (20-64)	45.1	54.8	52.0	56.9	51.2	56.8
Elderly (65+)	21.1	13.4	11.6	12.4	10.6	11.2

Source: U.S. Census

Table I-10

Age and Sex Distribution
Grafton, 1970, 1980

Years of Age	<u>Total</u>			<u>Male</u>			<u>Female</u>		
	<u>1970</u>	<u>1980</u>	<u>Change</u>	<u>1970</u>	<u>1980</u>	<u>Change</u>	<u>1970</u>	<u>1980</u>	<u>Change</u>
Under 5	25	58	33	12	29	17	13	29	16
5 - 9	34	63	29	22	31	9	12	32	20
10 - 14	36	57	21	19	29	10	17	28	11
15 - 19	30	57	27	16	40	24	14	17	3
20 - 24	12	49	37	6	22	16	6	27	21
25 - 34	37	137	100	14	73	59	23	64	41
35 - 44	35	64	29	16	31	15	19	33	14
45 - 54	42	79	37	25	42	17	17	37	20
55 - 64	41	76	35	21	39	18	20	37	17
65 - 74	53	56	3	26	32	6	27	24	-3
75 & over	25	43	18	11	22	11	14	21	7
Total	370	739	369	188	390	202	182	349	167

Source: U.S. Census

SEASONAL POPULATION

The seasonal population is a major factor in Grafton and must be considered to provide a total picture of the town's population. There is a fairly large concentration of seasonal homes along the shores of Kilton Pond and a smattering of seasonal homes in the area of Grafton, Tewksbury, Half Moon, Spectacle & Whitney Ponds. Others are scattered throughout the town's rural setting.

The size of Grafton's seasonal population is largely determined by the number of seasonal homes in the community. It should also be noted that those staying in or traveling to neighboring communities also have an effect on Grafton by increasing traffic, buying goods and services and using town facilities.

The precise number of seasonal homes in Grafton is difficult to determine. The biggest problem is that many seasonal homes are used for different periods of time. With the winterization of seasonal homes, many are now used throughout the year, but by non-residents. In contrast, many "regular" residents (legally registered voters) are away much of the year - usually during the winter months. A further complication is that a "summer" resident may rent his house to a "year-round" resident during the period that he is away.

According to the 1980 U.S. Census, there were 241 seasonal housing units in Grafton in 1980, as compared to 148 in 1970. As a percent of total units (51%) seasonal housing represents 46.4% of the town's housing stock.

The number of seasonal residents obviously varies according to the month and day. According to a statewide study of seasonal homes conducted in 1968, the average number of persons per seasonal household was 4.87. The study further established that each household had an average of 1.31 guests, for a total occupancy rate of 6.2. Multiplying the number of seasonal homes in 1980 (241) by this rate gives a seasonal population estimate of 1,494. A 1984 survey of Lake Sunapee Shorefront owners in Sunapee, N.H. conducted by the Upper Valley-Lake Sunapee Council established an average seasonal household size of 4.2 persons. Multiplying this assumed rate by the number of seasonal units in Grafton gives a 1980 estimate of 1,012. This figure does not, however, include any transient people staying in the town.

In projecting the future seasonal population, two assumptions have been made. First, the number of seasonal homes will be constant, with the number of conversions offsetting the number of new seasonal units. Secondly, the average size of families occupying seasonal homes will decrease as a reflection of national trends toward smaller family size. Carrying these assumptions through, the following table indicates that Grafton's seasonal population is projected to decrease over the next twenty years.

Table I-11

Seasonal Population Projections
Grafton, 1980-2000

<u>Year</u>	<u>Projected Number of Seasonal Housing Units</u>	<u>Projected Average Size</u>	<u>Projected Seasonal Population</u>
1980	241	4.2	1,012
1985	241	4.1	988
1990	241	4.0	964
1995	241	3.9	940
2000	241	3.8	916

Source: Upper Valley-Lake Sunapee Council

As stated, it is expected that many of Grafton's seasonal homes will continue to be converted to year-round use. The conversion issue is important because (1) the town has no control over conversions; (2) since there are 241 seasonal homes, the town's population could increase dramatically without the construction of a single new home; (3) many seasonal homes have poor road access (especially for fire-fighting equipment) and septic systems which are close to water and inadequate for year-round use; and (4) the town's tax base would be changed, since homes which once demanded services for only a portion of the year would demand town services (possibly including education) throughout the year.

YEAR-ROUND POPULATION PROJECTIONS

After analyzing past trends, two methods were used to develop three alternative population projections. The first projection is based on a computer model developed for the State Planning Office. A detailed description of the projection methodology is available at the Upper Valley-Lake Sunapee Council.

In the second method, a least squares line was fitted to the population figures for: (a) 1960 to 1980; (b) 1970 to 1983; and (c) 1970 to 1980. This method is, of course, based on the assumption that economic, social, institutional, cultural and natural conditions will generally remain constant (linear) until the year 2000.

Unfortunately, a totally accurate method for predicting the future population of small areas has not been devised - hence the alternative projections. Any unexpected change, such as the addition of a large industry, institution, or housing development can alter the projections drastically. One should, therefore, view these projections as a general guide which should be updated periodically as conditions change or new information is available.

Table I-12

Alternative Population Projections Grafton, 1985-2000

<u>Year</u>	<u>State Computer Method</u>	<u>1960-1980 Trend</u>	<u>1970-1983 Trend</u>	<u>1970-1980 Trend</u>
1985	810	779	855	924
1990	905	877	1,014	1,108
1995	1,010	974	1,172	1,293
2000	1,129	1,072	1,331	1,477

Source: N.H. Office of State Planning & Upper Valley-Lake Sunapee Council

SUMMARY OF POPULATION TRENDS

- o Grafton's growth rate during the 1970's and 1980's has far exceeded the county, state and national growth rates.
- o From 1970 - 1980, Grafton's population density nearly doubled, although Grafton remains one of the more sparsely settled communities in the area. (Only Orange and Springfield have lower population densities).
- o Nearly all of Grafton's net population growth in the 1970's can be attributed to in-migration rather than natural increase.
- o Grafton's median age decreased sharply from 38.1 in 1970 to 30.8 in 1980, indicating that most of the people moving into the town are in the younger age brackets.
- o Grafton's student (5-19) and elderly (65+) age groups decreased as a percentage of total population over the past decade, while the preschool group (0-4) increased slightly and the working age population (20-64) accounted for the main portion of the town's population increase in the 1970's.
- o The number of elderly (65+) residents increased in actual numbers but declined as a percentage of total population over the past decade. This age group is expected to grow rapidly over the next twenty years.
- o Grafton's population more than doubles during the summer months with the influx of seasonal residents and those staying at tourist accommodations.
- o Unless there is a major new development, Grafton's seasonal populations is projected to remain relatively constant over the next fifteen or twenty years.
- o Grafton's year-round resident population is projected to increase from about 800 in 1985 to about 1,200 in the year 2000.

GROWTH POLICY

According to the 1984 Community Attitude Survey, the greatest proportion of Grafton residents (37%) would like to see the town's population decrease or stay the same over the next 10 years; 32 percent favor slight growth and 23 percent want moderate growth. Thus, 92 percent indicated that they desire slight, moderate or no growth over the next decade. Grafton's residents do not want rapid growth and a majority are in favor of master planning and local land use controls to guide the future growth and development of New London.

With these and other concerns in mind, the following population growth goals are hereby adopted by the Town of Grafton:

- (1) Grafton should allow for slight to moderate growth, as it has been experiencing, but the Town must be careful to ensure that this growth is orderly and reasonably timed to allow for gradual expansion and improvement of community facilities and services to accommodate this growth.
- (2) Grafton's Master Plan and local land use regulations should be designed to create a desirable land use pattern which protect the natural environmental, cultural, historic and social qualities of Grafton.
- (3) Accommodate a reasonable share of the region's population growth.

Chapter III

ECONOMIC DEVELOPMENT

III. ECONOMIC DEVELOPMENT

INTRODUCTION

The Town of Grafton is a rural residential community with few commercial or industrial firms. There are no major employers - most of the existing businesses are small, home-based businesses and many residents are self-employed. The index of Grafton's businesses at the end of this chapter shows that a wide variety of businesses and occupations are practiced in the town. Most of the businesses are located along Route 4.

Grafton's economic base is closely tied to the regional economy and tourism. Most residents work and shop in neighboring communities, effectively trading the convenience of residing closer to commercial and employment centers for the rural, small-town atmosphere of the town.

Tourism is a significant factor in Grafton's economy. In addition to the many tourists who travel along Route 4, a significant east-west corridor in state, Grafton benefits from seasonal homeowners who own cottages around Kilton Pond and other waterbodies in the area. As a result, many businesses have large seasonal fluctuations.

It is important to recognize that the economy of Grafton and the region is closely tied to our natural resources, scenic qualities and rural character. The clean lakes, ponds and rivers, farms and agricultural fields, scenic views, forests, historic buildings and settings and rural small-town qualities of Grafton attract year-round and seasonal residents, tourists and businesses. The town must understand and strengthen this relationship.

The following chapter reviews a number of economic indicators including income levels, wage rates, poverty, employment levels and distribution, commuting and shopping patterns and local property taxes to help evaluate local and regional economic conditions and trends. This information, coupled with community attitudes and an assessment of Grafton's economic potential, forms the basis for a number of recommendations for future economic development in the town.

COMMUNITY SURVEY RESULTS

In 1984, the Grafton Planning Board conducted a survey of town residents to help determine the town's needs with respect to future planning and land use. The following is a brief summary of the survey results relating to economic development.

- o Almost 70 percent of Grafton's residents indicated that over the next ten years, they would like to see the town's population decrease, stay the same or grow slightly. About 23 percent favored moderate growth, and only two percent wanted rapid growth.
- o Most consider shopping and employment opportunities in Grafton to be poor.
- o Residents appear to be in favor of most local regulations and environmental land use controls, but are evenly split about the need for zoning.

When asked to express their attitude toward various types of businesses, residents indicated that they favor most forms of business activity in Grafton except heavy industry and shopping centers. Doctors, dentists, hardware and building supply stores, a large food store and restaurants are favored.

Table III-1

**Attitudes Toward Types of Businesses,
Town of Grafton, 1984**

	<u>Strongly Favor</u>	<u>Favor</u>	<u>Against</u>	<u>Strongly Against</u>	<u>N/A</u>
Heavy Industry	4.7%	13.3%	24.2%	31.3%	26.6%
Light Industry	26.6	49.2	2.3	6.3	15.6
Retail Shops	15.6	43.8	10.2	8.6	21.9
Shopping Centers	10.9	27.3	20.3	20.3	21.1
Farms	46.9	33.6	0.8	0.8	18.0
Motels	7.0	43.8	14.1	7.8	27.3
Restaurants	14.8	49.2	3.1	4.7	28.1
Personal-service businesses (barbers, laundries, etc.)	24.2	52.3	3.9	1.6	18.0
Woodland	43.0	32.8	-	0.8	23.4
Home Business	39.8	29.1	0.8	-	20.3

Source: Grafton Community Survey, 1984

When asked to indicate where they would like to see businesses located in Grafton, the results were as follows.

- o heavy industry - nowhere (68%) or along state roads (14%).
- o light industry - along state roads (37%), anywhere (25%) or within concentrated areas (16%).
- o retail shops - around village centers (38%), anywhere (20%) or along state roads (20%).
- o shopping centers - nowhere (45%) or around village centers (19%).
- o professional and business offices - around village centers (35%), anywhere (28%), along state roads (15%) or nowhere (15%).
- o farms - anywhere (92%).
- o motels - along state roads (31%), nowhere (30%), around village centers (18%) or anywhere (16%).
- o restaurants - along state roads (30%), anywhere (28%), around village centers (27%).
- o personal services businesses - around village centers (46%), anywhere (27%) or along state roads (14%).
- o woodlands - anywhere (92%).

INCOME LEVEL

In terms of income, the Town of Grafton is a relatively poor community with low median family, median household and per capita income levels. The following table compares Grafton's income figures to those of neighboring communities, Grafton County and the State of New Hampshire.

Table III-2

Comparative Median Family, Median Household
Per Capita Income Levels, 1979

<u>City/Town</u>	<u>Per Capita Income</u>	<u>Median Household Income</u>	<u>Median Family Income</u>
Alexandria	\$5,381	\$14,722	\$16,319
Canaan	5,328	14,015	15,957
Danbury	6,533	13,403	15,268
Enfield	6,268	15,729	17,776
Grafton	5,975	14,183	15,338
Grantham	8,977	20,161	21,050
Hanover	7,905	22,971	30,482
Lebanon	7,325	15,588	19,231
Springfield	6,334	13,500	14,833
Grafton County	6,403	14,523	17,288
New Hampshire	6,968	17,013	19,724

Source: U.S. Census, 1980 and Upper Valley-Lake Sunapee Council.

Median family income is defined as the median figure (half above, half below) of the total money income distribution which was received in calendar year 1979 by all family members 15 years of age and older, while median household income is the median figure of the money income received in the same year by all household members 15 years and over, whether related to the householder or not. Since many households consist of only one person, average household net income is usually less than median family income. Non-institutional per capita income is the mean income computed for every man, woman and child in a particular geographic area excluding inmates of a group institution.

The next table provides a breakdown of Grafton's household and family income patterns and compares the town's income distribution to those of Grafton County and the State of New Hampshire.

Table III-3
Income Distribution, Town of Grafton,
Grafton County and New Hampshire, 1979

1979 Income	Town of Grafton		Grafton County		State of NH	
	Total	Households %	Total	Families %	% of HH	% of FAM
\$0 - \$4,999	37	13.9	21	9.8	12.7	5.3
\$5,000 - \$9,999	56	21.0	40	18.7	19.4	14.8
\$10,000 - \$14,999	49	18.4	41	19.2	19.6	20.3
\$15,000 - \$19,999	48	18.0	44	20.6	16.8	19.7
\$20,000 - \$24,999	46	17.2	43	20.1	12.0	15.2
\$25,000 - \$29,999	8	3.0	4	1.9	6.9	8.9
\$30,000 - \$34,999	9	3.4	7	3.3	4.2	5.3
\$35,000 - \$39,999	2	0.7	2	0.9	2.6	3.1
\$40,000 - \$49,999	2	0.7	2	0.9	2.5	3.3
\$50,000 - \$74,999	4	1.5	4	1.9	2.1	2.6
\$75,000 OR MORE	6	2.2	6	2.8	1.2	1.5
Total	267		214			

SOURCE: U.S.Census, 1980, and Upper Valley - Lake Sunapee Council

By grouping Grafton's family income ranges, one can see that almost half (48%) of Grafton's families earned less than \$15,000 in 1979 and almost 90 percent had incomes below \$25,000 per year. The biggest void in Grafton's income distributions was the lack of families in the \$25,000 - \$40,000 income range.

Table III-4

Distribution of Family Income Levels
Grafton, Grafton County and New Hampshire

<u>Income</u>	<u>Grafton</u>	<u>Grafton County</u>	<u>New Hampshire</u>
\$0 - \$14,999	47.7%	40.4%	32.9%
\$15,000 - \$24,999	40.7	34.9	34.5
\$25,000 - \$39,999	6.1	17.3	24.1
\$40,000 or more	5.6	7.4	8.5

Source: U.S. Census 1980, and Upper Valley-Lake Sunapee Council.

POVERTY LEVEL

The National Poverty Level is defined by the U.S. Bureau of the Census, and is adjusted annually to allow for changes in the cost of living as reflected in the Consumer Price Index (CPI). Unfortunately, local-level data are only published every ten years. The poverty level figures vary according to family size. In 1979, the poverty threshold for a family of four persons was \$7,412. The percentage of persons in Grafton below poverty level in 1979 was 18.2 percent, well above the Grafton County percentage of 11.1 and the State-wide figure of 8.5. Table III-5 compares poverty level statistics to those of nearby communities, Grafton County and the State. In Hanover, Lebanon, Enfield and other communities near Dartmouth College, it is significant to note that some students living off-campus are included in the Census date, inflating the poverty level statistics.

Table III-5

Number and Percent below Poverty Level
Selected Communities, 1979

<u>City/Town</u>	<u>Number</u>	<u>Percent</u>
Canaan	133	18.2%
Enfield	231	7.3
Grafton	133	18.2
Grantham	34	4.8
Hanover	537	9.5
Lebanon	693	6.3
Springfield	68	13.0
Wilmot	79	11.0
Grafton County	6711	11.1
New Hampshire	75,361	8.5

Source: U.S. Census, 1980, and Upper Valley-Lake Sunapee Council

What are the age characteristics of Grafton's poverty level population? Table III-6 reveals that 78 percent of the town's poverty level population is under 55 years of age, compared to 77 percent in the state as a whole. A relatively high percentage of Grafton's poverty level population is comprised of senior citizens (16%).

Table III-6

Poverty Status by Age Groups
Grafton, Grafton County and New Hampshire, 1979

	<u>Grafton</u>		<u>County</u>		<u>N.H.</u>	
	<u>% of</u> <u>Poverty</u> <u>Persons</u>	<u>% of</u> <u>Age</u> <u>Group</u>	<u>% of</u> <u>Poverty</u> <u>Persons</u>	<u>% of</u> <u>Age</u> <u>Group</u>	<u>% of</u> <u>Poverty</u> <u>Persons</u>	<u>% of</u> <u>Age</u> <u>Group</u>
Under 55 years	78.2	18.8	78.2	11.2	77.3	8.2
55 - 59 years	5.2	17.9	3.7	7.8	3.3	5.5
60 - 64 years	5.3	15.6	3.6	8.7	3.7	7.0
65 years and over	11.3	16.3	14.5	12.6	15.7	12.3

Source: U.S. Census

COMMUTING PATTERNS

The availability of employment opportunities for Grafton's residents within a reasonable commuting distance is another important economic consideration. In addition, commuting patterns into and out of Grafton are key factors in local and regional transportation and land use planning.

As shown in Table III-7, about 78 percent of Grafton's residents over the age of 16 who work rely on employment opportunities in other communities - especially Lebanon, Canaan, Hanover and Bristol. In total, nearly 68 percent of Grafton's residents are employed in Grafton, Canaan, Lebanon, Hanover or Bristol. Clearly, Route 4 is a critical commuting corridor for Grafton's residents.

The percentage of residents who both live and work within the town - 22 percent - is lower than the more urban cities and towns. For example, 46 percent of Lebanon's residents work in Lebanon and 32 percent of Canaan residents work in Canaan.

Table III-7

Number and Percent of Workers by Place of Work Destinations,
Town of Grafton, 1979

	<u>Number</u>	<u>Percent</u>
Total workers 16 years and over living in Grafton	275	100.0
Working in:		
Grafton	60	21.8
Lebanon	51	18.5
Canaan	35	12.7
Bristol	20	7.3
Hanover	20	7.3
Enfield	4	1.4
Merrimack County	17	6.2
Sullivan County	11	4.0
Belknap County	2	0.7
Worked Elsewhere	27	9.8
Place of Work not reported	28	10.2

Source: U.S. Census, 1980 and Upper Valley - Lake Sunapee Council.

Grafton's businesses and institutions employ people from other communities as well as Grafton residents. Where do these workers come from?

The following figures were gleaned from place-of-work table for other communities in the area. Unfortunately, this table does not provide a complete, detailed commuting profile because Grafton is sometimes grouped with other Grafton County communities as an employment destination for some towns. The following table includes towns where Grafton was listed as a single employment destination.

Table III-8

Origin of Workers Employed in Grafton, 1979

<u>Origin</u>	<u>Number</u>	<u>Percent of Total</u>
Grafton	60	80.0
Danbury	11	14.7
Canaan	4	5.3
Total	75	100.0

Note: Actual total is slightly higher since Grafton was sometimes grouped with other Grafton County communities in place of work tables for other communities.

Source: U.S. Census

SHOPPING PATTERNS

With few shopping opportunities in the Town of Grafton, local residents must travel to other communities to purchase most goods and services. The 1984 Grafton Community Survey, conducted by the Planning Board, revealed the shopping patterns of Grafton residents and the percentage of market capture by each community. The results were as follows:

- o Weekly food - Lebanon (70%), Concord/Manchester (8.2%), Canaan (6.0%), Hanover (5.2%), Franklin (3.0%), Enfield (2.2%), Laconia (2.2%), Other (1.5%).
- o Clothes - Lebanon (67%), Concord/Manchester (14%), Boston (5.3%), Hanover (5.1%), Laconia (3.0%), Other (2.3%).
- o Furniture - Lebanon (56%), Enfield (17%), Concord/Manchester (11%), Danbury/Bristol (3.1%), Franklin (3.1%), Laconia (3.1%), Boston (2.1%), Other (2.1%), Canaan (1.0%), Hanover (1.0%), White River Junction (1.0%).
- o Appliances - Lebanon (74%), Concord/Manchester (9.7%), Laconia (3.9%), Canaan (2.9%), Enfield (2.9%), Other (2.9%), White River Junction (1.9%), Danbury/Bristol (1.9%).
- o Hardware - Lebanon (42%), Canaan (37%), Enfield (6.5%), Other (5.0%), Danbury/Bristol (4.3%), Franklin (1.4%), Laconia (1.4%).

- o Building Supplies - Lebanon (50%), Other (21.0%), Canaan (14%), Danbury/Bristol (11%), Franklin (1.9%), Enfield (1.9%), Hanover (1.0%).
- o Doctor - Hanover (34%), Lebanon (22%), Canaan (18%), Enfield (15%), White River Junction (5.9%), Boston (2.2%), Other (2.2%).
- o Dentist - Lebanon (59%), Hanover (18%), White River Junction (6.6%), Enfield (5.7%), Danbury/Bristol (2.8%), Franklin (2.8%), Laconia (1.9%), Other (1.9%).
- o Prescription Drugs - Lebanon (63%), Enfield (20%), Hanover (4.1%), Franklin (2.5%), Other (2.5%), White River Junction (2.5%), Laconia (1.7%), Concord/Manchester (1.7%).
- o Banking - Lebanon (34%), Canaan (33%), Enfield (15%), Hanover (6.4%), Franklin (3.2%), Concord/Manchester (3.2%), Danbury/Bristol (2.5%), Laconia (1.3%), Boston (1.3%).
- o Auto Purchases - Lebanon (43%), Concord/Manchester (17%), White River Junction (8.6%), Enfield (7.5%), Laconia (6.5%), Other (5.4%), Hanover (3.2%), Franklin (3.2%), Boston (3.2%), Danbury/Bristol (2.2%).
- o Auto Repairs - Lebanon (30%), Other (27.4%), Enfield (25%), Canaan (5.3%), White River Junction (4.2%), Danbury/Bristol (2.1%), Laconia (2.1%), Concord/Manchester (2.1%), Hanover (1.0%), Franklin (1.0%).
- o Dining - Lebanon (57%), Hanover (15%), Danbury/Bristol (5.7%), Concord/Manchester (4.9%), Boston (4.1%), Enfield (3.3%), White River Junction (3.3%), Laconia (3.3%), Other (1.6%).
- o Movies - Lebanon (57%), Hanover (24%), White River Junction (8.2%), Concord/Manchester (5.1%), Enfield (2.0%), Laconia (2.0%), Boston (1.0%) Other (1.0%).
- o Favorite Sport - Hanover (28%), Enfield (22%), Canaan (17%), Danbury/Bristol (11.1%), Other (11.1%), Lebanon (5.6%), Boston (5.6%).
- o Dancing - Lebanon (47%), White River Junction (16%), Concord/Manchester (10.5%), Canaan (7.9%), Boston (7.9%), Other (5.2%), Laconia (2.6%), Hanover (2.6%).
- o Concerts - Hanover (61%), Lebanon (13%), Boston (13%), Canaan (4.3%), Enfield (2.2%), White River Junction (2.2%), Concord/Manchester (2.2%), Other (2.2%).
- o Art Exhibits - Hanover (72%), Boston (11.6%), Lebanon (4.6%), Other (4.6%), Canaan (2.3%), White River Junction (2.3%), Concord/Manchester (2.3%).
- o Farm & Garden Supplies - Lebanon (51%), Canaan (16%), Enfield (9.7%), White River Junction (7.7%), Danbury/Bristol (4.8%), Other (4.0%), Concord/Manchester (2.0%), Laconia (2.0%), Hanover (1.9%), Franklin (1.0%).
- o Realtors - Lebanon (37%), Canaan (31%), Danbury/Bristol (19%), Enfield (4.0%), Hanover (4.0%), Other (4.0%), Boston (2.0%).
- o Insurance - Canaan (35%), Lebanon (27%), Danbury/Bristol (11%), Other (7.0%), Enfield (5.0%), Concord/Manchester (5.0%), Hanover (4.0%), White River Junction (3.0%), Franklin (1.0%), Laconia (1.0%), Boston (1.0%).

EMPLOYMENT CHARACTERISTICS

What types of jobs do Grafton residents have? As shown in the following table, Grafton's residents are employed in virtually every major sector of the economy and, in comparison to the state as a whole, a large percentage of Grafton's residents have jobs in the service sector. Most of the service sector jobs are in either health services or educational services, which is a reflection of employment at Dartmouth College, Cardigan Mountain School, the Hitchcock Clinic, the VA Hospital and the Alice Peck Day Hospital.

Table III-9
Number & Percent of Workers by Economic Sector
Grafton, Grafton County and New Hampshire, 1980

	<u>Grafton</u>		<u>County</u>		<u>State</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Employed persons 16 years & over	314	100.0	29,804	100.0	432,622	100.0
Manufacturing	94	29.9	5,926	19.9	137,952	31.9
Durable Goods	72	22.9	3,851	12.9	91,672	21.2
Non-durable Goods	22	7.0	2,075	7.0	46,280	10.7
Non-Manufacturing	220	70.1	23,878	80.1	294,670	68.1
Construction, Agriculture, Forestry, Fisheries & Mining	28	8.9	2,548	8.5	32,333	7.4
Transp., Comm. & Util.	13	4.2	1,411	4.7	23,246	5.4
Trade	49	15.6	5,560	8.7	82,975	9.1
Fin., Ins., & Real Estate	7	2.2	1,171	3.9	23,573	5.4
Services	113	36.0	12,138	40.7	114,887	26.6
Public Administration	10	3.2	1,050	3.5	17,656	4.1

Source: U.S. Census, 1980 and Upper Valley - Lake Sunapee Council

While Table III-9 shows employment according to the types of businesses in which people work, it does not describe the types of jobs within these businesses. Manufacturing jobs, for example, range from the person sweeping the floors to top-level management. The following table provides another view of Grafton residents' employment, grouping jobs by occupational categories. Based on these data, it appears that in comparison to the state as a whole, Grafton has a high percentage of jobs in the service and precision production, craft and repairs occupations and operators, fabricators and laborers and a lower percentage in management, professional specialty and technical, sales, and administrative support occupations.

Table III-10
Number & Percent of Workers by Occupation
Grafton, Grafton County and New Hampshire, 1980

	<u>Grafton</u>		<u>County</u>		<u>N.H.</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Employed persons 16 & over	314	100.0	29,804	100.0	432,622	100.0
Managerial & Prof. Specialty Occupations	63	20.1				
Technical, Sales & Admin. Support	71	22.6	7,658	25.7	99,314	23.0
Service Occupations	46	15.3	7,873	26.4	125,996	29.1
Farming, Forest & Fishing Occup.	1	0.3	859	2.9	6,682	1.5
Precision Production, Craft & Repair Occupations	54	17.2	3,675	12.3	62,747	14.5
Operators, Fabricators & Laborers	77	24.5	5,196	17.4	88,003	20.3

Source: U.S. Census and the Upper Valley - Lake Sunapee Council

PROPERTY TAX BASE

The Town of Grafton has a relatively high tax rate; in 1984, Grafton had the eighth-highest full value tax rate in the 31-town region. In the area, only Lebanon, Canaan and Enfield has a higher tax rate, and Grafton's tax rate of \$25.13 was well above the state average of 19.92 per thousand. Table III-11 also shows the estimated full valuation per capita figure for each community; this provides an indication of a town's ability to afford public facilities and services. Grafton's per capita tax base of \$28,342 was lower than the state average of \$31,651.

Table III-11

**Comparative Tax Rates & Per Capita Tax Base
in Selected Communities, 1984**

<u>Town/City</u>	<u>Equalized Assessed Valuation</u>	<u>Full Value Tax Rate</u>	<u>Rank in Reg.*</u>	<u>Estimated 1984 Population</u>	<u>Estimated Full Valuation Per Capita</u>	<u>Rank in Reg.</u>
Canaan	55,079,980	26.62	5	2,398	22,969	26
Dorchester	7,212,778	19.53	19	185	25,308	22
Enfield	73,526,528	25.22	7	3,298	22,294	27
Grafton	22,504,517	25.12	8	794	28,343	19
Grantham	115,870,851	8.17	31	992	116,805	1
Hanover	334,733,062	20.25	15	9,841	34,014	11
Lebanon	294,697,705	25.59	6	11,186	26,345	21
Lyme	46,551,426	21.66	11	1,704	27,319	20
New London	187,965,221	12.59	29	2,981	63,054	4
Orange	6,012,324	19.69	18	196	30,675	16
Grafton County	-	20.51	-	67,979	32,009	-
New Hampshire	-	19.92	-	977,000	31,651	-

* 1 = highest; 31 = lowest

Source: NH Department of Revenue Administration & Upper Valley-Lake Sunapee Council.

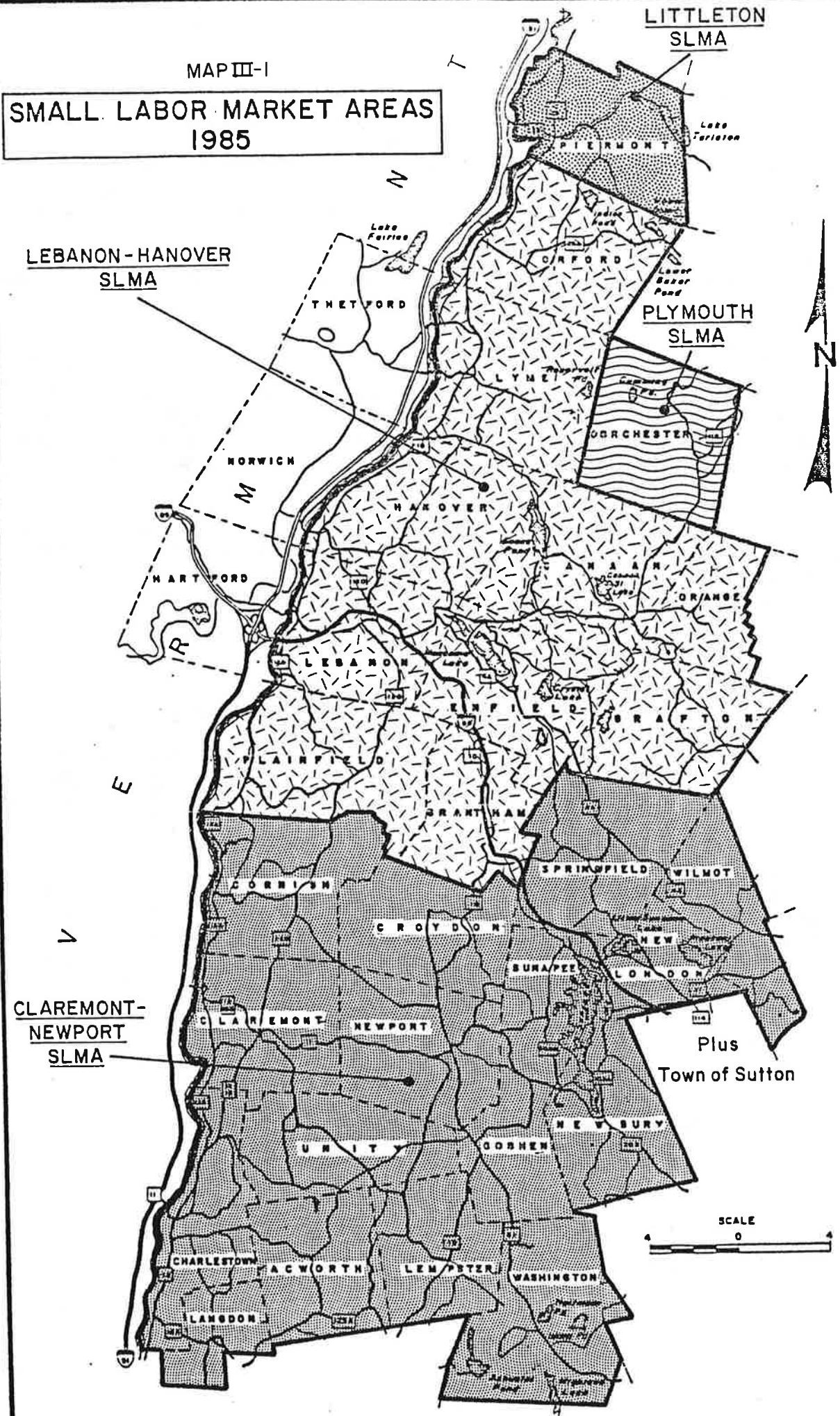
THE REGIONAL ECONOMY

Since nearly 78 percent of Grafton's residents who work travel to other communities for employment, it is important to examine characteristics of the regional economy. In addition, additional economic data are published for the region which are not available on a town-by-town basis. The New Hampshire Department of Employment Security (DES) published labor force, employment and unemployment data on a monthly basis, and these data are kept relatively current. The DES also publishes quarterly wage rate data, but this information is released more than a year after the close of each quarter.

Until 1985, Grafton was grouped with Lebanon, Hanover, Lyme, Plainfield, Enfield, Canaan, Orange and Dorchester into what was called the Lebanon/Hanover Job Center. Beginning in 1985, DES changed the job center boundaries by adding Grantham and Orford and subtracting Dorchester and renamed the grouping of communities as the Lebanon/Hanover Small Labor Market Area (SLMA). For simplicity, the following table will be entitled "Lebanon/Hanover Small Labor Market Area", although most of the historical data is actually job center data according to the previous grouping of communities. Based on the relatively small portion of regional jobs associated with Orford, Dorchester and Grantham, the overall effect of the boundary change is relatively minor.

MAP III-1

SMALL LABOR MARKET AREAS
1985



It should be noted that Department of Employment Security statistics are based upon the number of claims filed for unemployment compensation in any given month. This system of reporting tends to greatly underestimate the true rate of joblessness in an area, because only persons recently employed are eligible for unemployment compensation. People who have not recently worked (young people just leaving school, women seeking to re-enter the labor market after working at home, or those out of work for a long period) are therefore not included in these unemployment statistics.

Despite these limitations, the following statistics represent the best available information for trends in the regional economy.

1. Employment

Which sectors of the regional economy are growing the fastest in terms of employment? The following table shows that, despite low unemployment rates and stable employment, job creation in the Lebanon/Hanover SLMA lagged slightly behind the state during the 1973-1984 period. Over the past few years, however, the regional economy has been growing even faster than the state.

The fastest growing sectors in the regional economy over the period 1973-1984 were services (2,082 new jobs), trade (1,541) and durable goods manufacturing (747). The slowest-growing sectors were non-durable goods manufacturing (144 new jobs), transportation/communication/utilities (63) and construction (40).

Table III-12

Percent Employed by Business Sector
Lebanon/Hanover SLMA and State, 1973-1984

<u>Sector</u>	<u>Lebanon/Hanover SLMA</u>				<u>73/84</u>		<u>State of NH</u>		
	<u>1973</u> <u>No.</u>	<u>1973</u> <u>%</u>	<u>1984</u> <u>No.</u>	<u>1984</u> <u>%</u>	<u>No.</u>	<u>Change</u> <u>%</u>	<u>1973</u> <u>%</u>	<u>1984</u> <u>%</u>	<u>73/84</u> <u>Change</u>
Total	9,984	100.0	14,872	100.0	4,888	49.0	100.0	100.0	53.2
Manufacturing	1,286	12.9	2,177	14.6	891	69.3	39.0	32.5	28.1
Durable	770	7.7	1,517	10.2	747	97.0	20.3	21.8	64.8
Non-Durable	516	5.2	660	4.4	144	27.9	18.7	10.7	-11.8
Non-Manufact.	8,698	87.1	12,695	85.3	3,997	46.0	61.0	67.4	69.1
Construction	459	4.6	499	3.3	40	8.7	7.1	6.7	46.4
T.C.U. ¹	314	3.1	377	2.5	63	2.0	4.9	3.9	24.0
Trade	1,941	19.5	3,482	23.4	1,541	79.4	24.9	27.6	70.3
F.I.R.E. ²	212	2.1	483	3.2	271	127.8	5.3	6.0	74.0
Services & Other	5,772	57.8	7,854	52.8	2,082	36.1	18.8	22.9	86.6

1 = transportation, communications and utilities.

2 = finance, insurance and real estate.

Source: N.H. Department of Employment Security

2. Unemployment

Unemployment rates in the regional economy have been consistently below the state unemployment rates since 1975. Despite some fluctuations, employment in the area has been remarkably steady over this period, largely due to the stability of major employers such as Dartmouth College and area medical facilities and a healthy regional economy in general.

Table III-13

Unemployment Rates
Lebanon/Hanover SLMA, Grafton County and State,
1975-1985

<u>Year</u>	<u>Lebanon/Hanover SLMA</u>	<u>Grafton County</u>	<u>State of N.H.</u>
1975	3.5	7.9	9.0
1976	3.3	6.3	6.5
1977	3.6	5.6	5.9
1978	2.7	3.8	3.7
1979	2.1	3.1	3.1
1980	2.8	4.6	4.7
1981	3.1	4.9	5.0
1982	4.2	7.0	7.4
1983	3.9	5.2	5.4
1984	2.5	3.5	4.0
1985	2.3	3.5	3.9

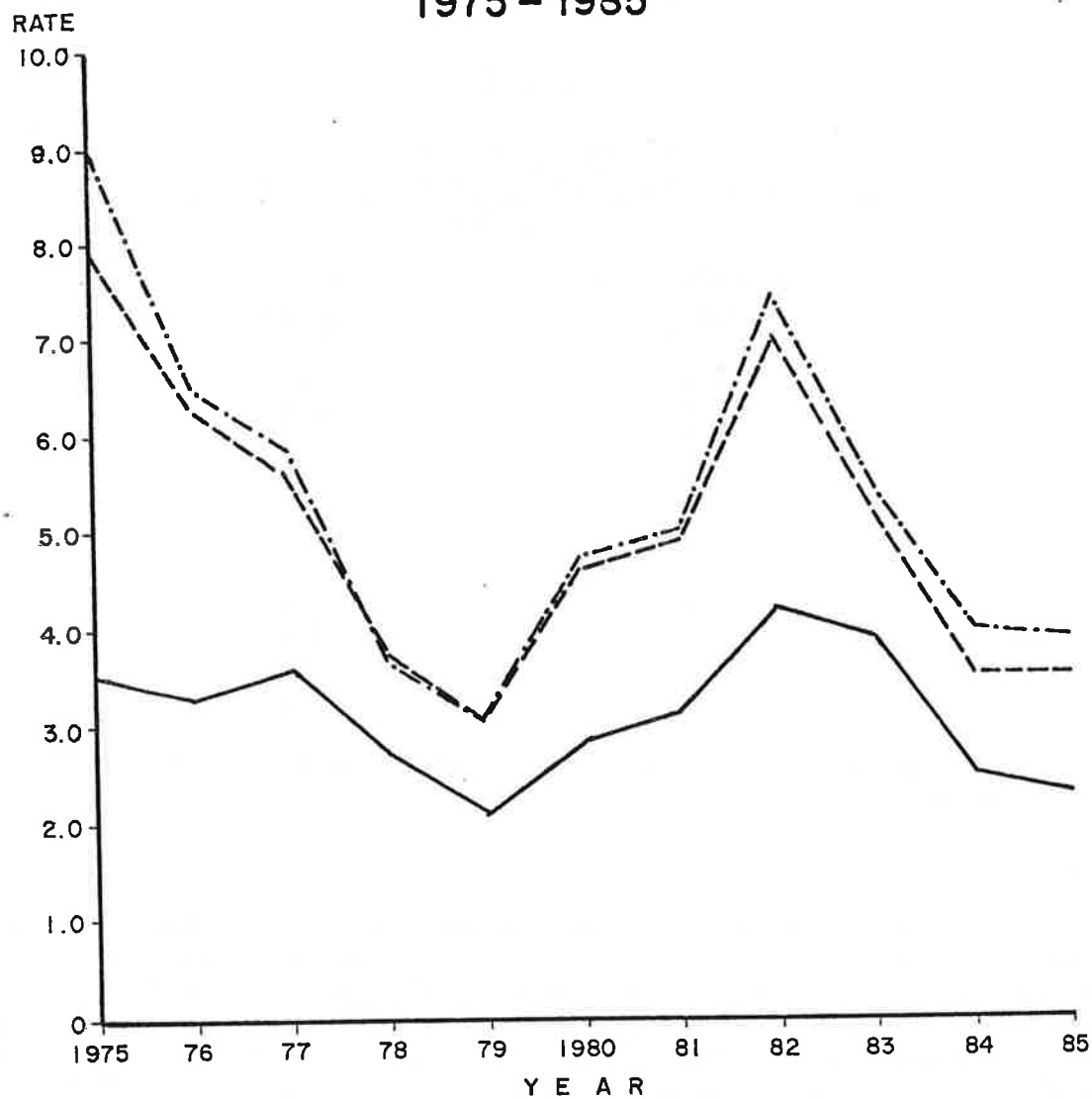
Source: N.H. Department of Employment Security and Upper Valley - Lake Sunapee Council.

3. Wage Rates

Wage rates in the Lebanon/Hanover Small Labor Market Area have been higher than the State average for many years but are lower than wage rates in southern New Hampshire. However, these data are somewhat deceiving. A breakdown of economic sectors shows that wage rates are below the state average in every sector except services and finance/insurance/real estate. However, because 53 percent of the region's jobs are in the service sector and service sector wages in the region are 39 percent higher than the state average for the service sector, the regional wage rate average is higher than the state average for total employment.

FIGURE III-1

ANNUAL AVERAGE UNEMPLOYMENT RATES
LEBANON/HANOVER JOB CENTER, GRAFTON COUNTY,
AND STATE OF NEW HAMPSHIRE
1975 - 1985



KEY:

- LEBANON/HANOVER
- - - GRAFTON COUNTY
- . - NEW HAMPSHIRE

FIGURE III - 2
AVERAGE WEEKLY WAGES BY SECTOR
LEBANON/HANOVER JOB CENTER AND STATE
1984 ANNUAL AVERAGE

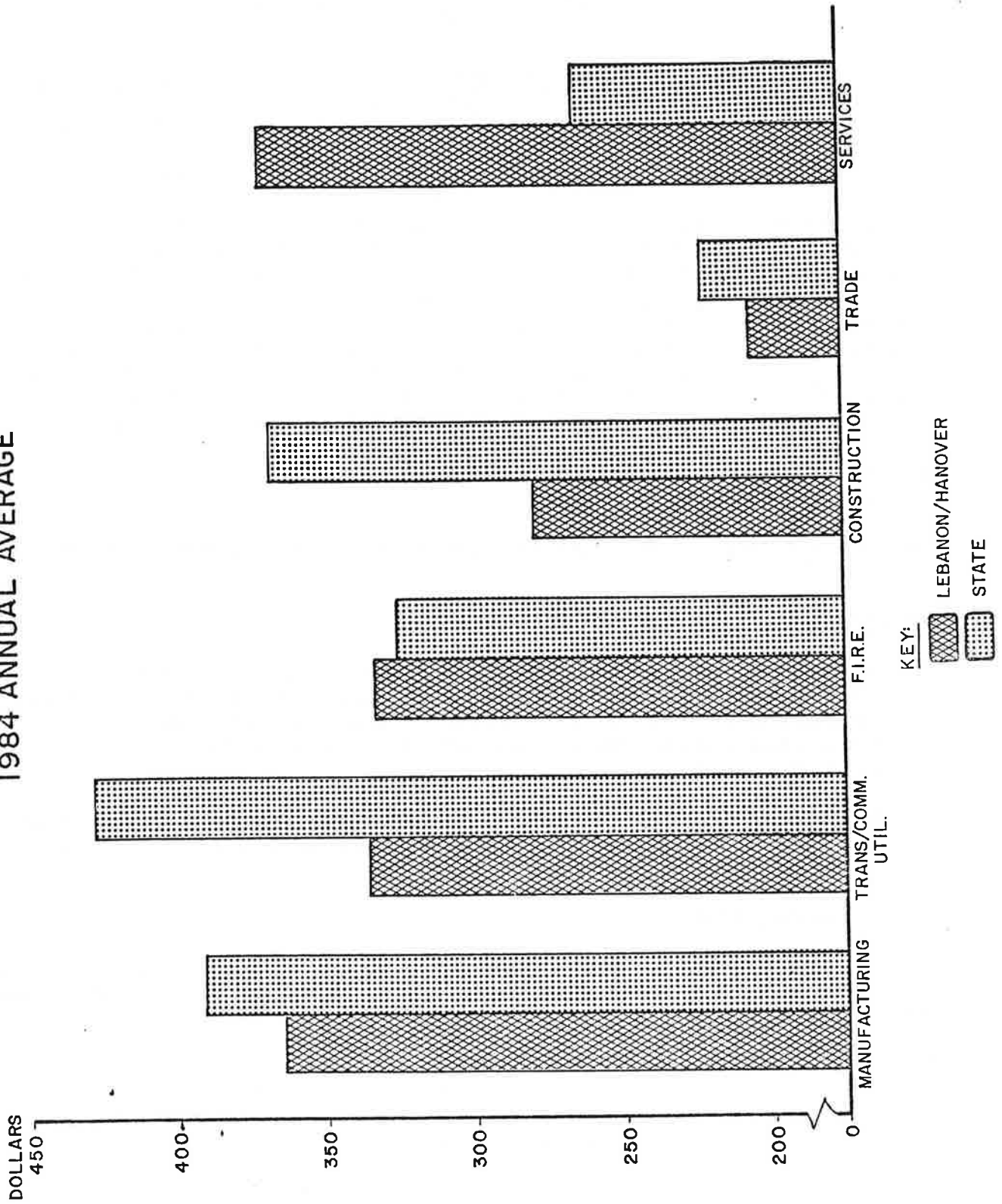


Table III-14

Average Weekly Wages by Sector
Lebanon/Hanover Small Labor Market Area
and State, 1973-1984

<u>Sector</u>	<u>Lebanon/Hanover SLMA</u>				<u>State of N.H.</u>			
	<u>1973</u>	<u>1984</u>	<u>73/84</u>	<u>Change</u>	<u>1973</u>	<u>1984</u>	<u>73/84</u>	<u>Change</u>
			<u>Dollar</u>	<u>%</u>			<u>Dollar</u>	<u>%</u>
Total	140.25	324.64	184.39	131.5	137.40	307.80	170.40	124.0
Manufacturing	160.57	363.99	203.42	126.7	152.81	380.65	227.84	149.1
Durable	167.29	399.87	232.58	139.0	163.05	403.20	240.15	147.2
Non-durable	150.24	281.51	130.97	87.0	141.66	334.77	193.11	136.3
Non-Manufact.	137.25	317.89	180.64	131.6	127.55	272.58	145.03	113.7
Construction	240.14	277.75	37.61	15.6	177.30	366.54	189.24	106.7
T.C.U. ¹	193.40	335.50	142.10	73.4	188.89	427.71	238.82	126.4
Trade	103.08	205.43	102.35	99.2	111.26	222.23	110.97	99.7
F.I.R.E. ²	160.64	333.60	172.96	107.6	144.46	325.14	180.68	125.0
Service & other	142.67	368.49	225.82	158.2	109.43	264.54	155.11	141.7

1 = transportation, communication & utilities

2 = finance, insurance & real estate

Source: N.H. Department of Employment Security & Upper Valley - Lake Sunapee Council.

ECONOMIC DEVELOPMENT GOALS

- (1) To encourage and provide for selected economic growth and diversification of those economic activities which will increase wage rates and income levels, provide employment and shopping opportunities for Grafton residents and increase the town's net tax base without degrading our natural, scenic and cultural resources and quality of life in general.
- (2) Encourage small, non-polluting (light) industries and commercial establishments to locate on well-planned sites where they will not create a potential for land use or traffic conflicts.

RECOMMENDATIONS

The Town of Grafton is a rural residential community with only a few commercial and industrial enterprises. The overall goals and objectives for economic development in Grafton are:

- (1) To maintain the town's rural residential character;
- (2) To attract small-scale, clean businesses which respect the town's character and provide employment opportunities closer to home;
- (3) To enhance the scenic and historical resources of the town;
- (4) To prevent strip development along our state highways;

- (5) To concentrate most of the commercial activity within and near the villages;
- (6) To keep the Northern Rail Line corridor open, using it for recreation purposes until it is needed again for transportation purposes;
- (7) To encourage home businesses and preserve and properly manage the town's resource base for farming and forestry;
- (8) To promote tourism in Grafton and the regions; and
- (9) To limit industrial development to light, clean industry of a type consistent with the Grafton Master Plan.

To achieve these goals and objectives, the Town of Grafton should adopt a local land use ordinance which will prevent businesses from building too close to the state highways, guide most commercial activity into the village areas and prevent unwanted polluting industries from locating in the town. In addition, the town should encourage the rehabilitation of village structures for office and retail use and encourage "bed and breakfast" facilities which will help bring more tourists into Grafton. To help maintain the town's character and environmental quality, the town must also adopt standards to protect water quality and sign regulations.

Finally, Grafton should plan jointly with other communities in the region and encourage communities such as Canaan and Enfield, which have the utilities necessary to attract light industry, to set aside areas for economic development. If the limited areas suitable for light industry are not reserved now, Grafton will see their economic potential reduced.

Appendix**Table III-15****Grafton Businesses**
1985

Maynards Country Store
Grafton General Store
Wild Meadows Auto Body Shop
Hunter Hill Boarding Kennels
Sawyers Exotic Greenhouse
Greater Northern Limousine Ltd.
Custom Crafts
Our Place Farm
Diane's Hair Styling
Ruggles Mine
Hewitts Garage
Guaraldi's Crushed Stone (Division of Bond Optics)
McDow & Sons Salvage
Ho Po Lo Gifts
Grafton Inn
John J. Sullivan & Son (General Contractor)
Snug Harbor Motel
Albert G. Belloir (General Contractor)
Ernie's Stained Glass Studio
Christopher E. Rollins, Land Surveyor
Richard K. DeL'Etoile, Professional Engineer
Windowsill Gardens

Chapter IV

COMMUNITY FACILITIES & SERVICES

IV. COMMUNITY FACILITIES & SERVICES

INTRODUCTION

This chapter of the Master Plan concerns the planning of community facilities. Grafton's community facilities are physical manifestations of services which provide local residents with meeting space, reading material, police and fire protection, road maintenance, education, waste disposal and cemeteries. Because it is a small, sparsely-settled community, Grafton's community facilities are not as extensive as some other communities. Yet, many of the community facilities represent a substantial investment by the Town of Grafton, and many private owners have, in turn, substantial investments which rely upon these facilities and services.

Facility planning is of prime importance to the pattern of future land use and also exerts a strong influence on future population growth and economic development and the type of development attracted to the community. The need for additional public facilities and services increases as the population grows, residential, commercial, industrial and institutional areas expand, old facilities become outmoded and as living standards and public expectations rise. Most of these facilities and services are funded through local property taxes; some are dependent on regional efforts.

The following chapter is divided into sections, each addressing a specific community facility or service. They are the Town Hall, Library, Police Protection, Fire Protection, Ambulance Squad, Highway Department, Solid Waste, Cemeteries and Education. Recreation facilities are discussed in a separate chapter. Recommendations are compiled at the end of the chapter.

COMMUNITY SURVEY RESULTS

In 1984, the Grafton Planning Board conducted a survey of town residents to help determine the Town's needs and preferences with respect to future planning activities. The following is a brief summary of the survey results relating to community facilities and services.

- o Strong support was expressed in the survey for many town services.
- o The Ambulance Squad, Town Clerk, Fire Protection, Tax Collector, Treasurer, Selectmen, and Town Dump were rated "excellent to good" by a majority of town residents.
- o Nearly half of the survey respondents rated road maintenance, both summer and winter, as good.
- o The Library received a rating of "good to fair" by most of those responding.
- o Schools received a rating of "good to fair" by most of those responding.
- o A majority (58%) of those surveyed stated that they never use the library, with eight percent using it weekly, and 16 percent monthly.
- o Requests for suggestions to improve the Fire Department and Police Protection yielded surprisingly few responses. The most frequent responses were to update the fire equipment (11 responses) and the need for a full-time officer (5).
- o Recycling was favored by the greatest number of respondents (42%) followed by lesser numbers for landfilling and incineration.

- o Key concerns regarding the school system include the overcrowding of the schools (17 responses); the inability of the school system to retain school teachers due to pay, location or other factors (12); and the adverse impact of the school costs on taxes (9).
- o There were few responses and little or no consensus among respondents regarding improvements they would be willing to support with more tax dollars.

TOWN HALL

The Town Hall is currently located on the Grafton Turnpike, off of Route 4 in East Grafton. The 1½ story wood frame and clapboard structure was built in 1899 and formerly functioned as a two-room district schoolhouse. A ramp at the building entrance makes the building handicapped accessible although the bathrooms inside are not.

The main floor of the Town Hall includes a large meeting room (25' X 48') with a 8' X 13' kitchen in the west corner and a Selectmen's Office (8' X 11') in the east. A small cross gabled section projects from the northeast wall containing two bathrooms (each about 5 X 7½), the furnace room, a coat area and small storage room. The meeting room can comfortably seat up to 75 persons with additional standing room and is used for a variety of functions including town meetings, elections, suppers, dances, rummage sales, showers and other private functions.

As needed, the building is heated by a forced hot air oil furnace and the walls are filled with blown-in insulation. There is no full time personnel in the building. The selectmen's clerk and town hall superintendent work out of the building on a part-time basis. A dropped ceiling has been installed in the meeting room apparently to allow the location of fluorescent lights and fans. There is currently no insulation batting between the ceiling and dropped ceiling, which would improve the energy efficiency of the room. Thought should also be given to removing the dropped ceiling altogether in order to make the room appear larger and provide easier access to the attic crawl space.

Currently parking and the viability of expanding this building are limited by its small lot (0.7 acre). Although there is a grassy level area next to the building which could prove to be a suitable parking area, during the winter months (at Town Meeting for example) this area is unplowed and therefore, unusable. If it decides to continue using this building for any purpose, the Town should consider laying out a parking area. The expansion potential of the current structure is further hindered by a steep embankment behind the building and the current unavailability of adjacent parcels for purchase by the Town.

The general consensus in Town is that the current building is inadequate. Additional space is needed for a meeting room capable of accommodating Town Meeting and other large functions; an enlarged selectmen's office, a secure repository for town records, space for the Police Department records and space for a Town Clerk and a Tax Collector's office.

One option that the Town may wish to consider is that of rehabilitating the present Town Hall for Town Offices with the present space divided, by function, with movable partitions for use by the Selectmen's Clerk, Tax Collector, Town Clerk, etc. While this would eliminate much of the present meeting space, large town meetings could perhaps be accommodated by construction of a larger fire station (which is clearly needed). Smaller meetings of town boards could continue to use the town office. The lack of an adequate large meeting space is one of the most often mentioned inadequacies of the present building, yet construction of a large meeting area, to be used to its full capacity at best several times a year, may not be effective. A new Fire Station which could house engines and which, when cleared, could effectively function as a central meeting place, may be one solution. Construction of a recreation center/town office space may be another.

TOWN LIBRARY

The Grafton Town Library is located on Library Road in Grafton Village. Financed by a Town appropriation in 1923, the single-story structure is constructed of concrete blocks, which were poured on the site in wooden molds. The 24' X 30' building has a full basement with a poured concrete floor. Since the lot extends only a few feet beyond the perimeter of the building, parking is limited to a couple of spaces on the road. The Library is not accessible to the handicapped, although a ramp could easily be installed over part of the front stair. Ideally, the construction of a ramp should be timed to coincide with repairs to the front walk.

The Library itself consists of a single open room. The building is heated by an oil fired hot air furnace. Due to its method of construction, the building is not insulated although storm windows and doors were installed several years ago. There is no running water. The attractive interior is distinguished by attractive pressed metal ceiling and wall finishes, a natural wood floor and wainscoting and period light fixtures. The room includes bookshelves along the walls, stacks in the center of the room, a librarian's desk and several tables and chairs as well as a 16mm projector and screen.

In total, the Grafton Public Library has 720 square feet of floor space with an additional 720 square feet of basement storage, and a collection size of 5 - 6,000 volumes. The need to use the tops of bookcases for shelving, which were never intended to act as shelf space, suggests that some crowding exists and additional stacks may be desirable.

Staffed by a part-time librarian, the Library is open Wednesdays from 3:00 - 4:30 p.m. and 6:30 - 8:00 p.m., with additional hours possible by request. Several years ago the Library Trustees tried opening on Saturdays, but the demand was not sufficient to continue the practice. Grafton students can also take advantage of the excellent library holdings at Canaan Elementary School and Mascoma Regional High School.

Library circulation statistics are shown in the following table. In 1985, the Town appropriated \$1,400 for the library, remaining funds came from individuals, funds and foundations.

Table IV-1**Library Circulation, Grafton, 1977 - 1985**

<u>Year</u>	<u>Adult</u>	<u>Juvenile</u>	<u>Total</u>
1977	1,254	1,034	2,288
1978	1,296	928	2,324
1979	1,255	943	2,201
1980	1,530	1,048	2,578
1981	1,064	814	1,878
1982	1,197	811	2,008
1983	1,069	750	1,819
1984	1,154	745	1,499
1985	906	762	1,668

Note: The Library does not have audio/visual materials.

Source: Mary Lou Gove, Librarian

Projected Needs

In 1986, the Grafton Public Library has 720 square feet and a total of 5 - 6,000 volumes. The American Library Association (ALA) recommends the following minimum standards:

- o floor space of 0.7 square feet per capita;
- o 3 - 5 volumes per capita;
- o one linear foot per eight volumes; and
- o one staff member per 2,000 population.

The application of these standards to Grafton's population projections yields the following projections of library needs.

Table IV-2**Projected Library Needs, Grafton, 1986 - 2000**

<u>Year</u>	<u>Projected Population</u>	<u>Area Needed Sq. Ft.</u>	<u>Staff Needed</u>	<u>Collection Size</u>	<u>Linear Shelf Space</u>
1985	800	560	<1	3,200	400
1990	860	602	<1	3,500	440
1995	920	644	<1	3,700	470
2000	970	679	<1	3,900	490

Source: OSP Population Projections and UVLSC Projections

The Grafton Public Library currently occupies 720 square feet with an additional 720 square feet of basement storage. As shown in the table, the building should be adequate well into the future. Grafton currently has a ratio of 6.25 - 7.5 books per capita and again, assuming periodic weeding and updating, the collection size should also be adequate for at least the next fifteen years.

FIRE PROTECTION

The Grafton Volunteer Fire Department was established in 1948 to provide local fire protection. Previously, Grafton had been dependent on Canaan and Danbury, located eight miles away, for protection. The Fire Station is centrally located at Grafton Village on the old Route 4 right of way with easy access to Route 4. The single-story wood frame building was constructed in 1948 with an addition in 1973 and measures 24' x 60'. It has two bays which can house up to four trucks. The building is heated by an oil hot air furnace and is partially insulated. There is no running water or bathroom facilities on the site. Firemen use a nearby river to fill the tankers.

The Volunteer Fire Department is a non-profit organization with about 28 members. The department raises most of its own funds, through donations and special events including a Forest Fire Supper, Old Home Day and Hunter's Supper. In 1986, the Town of Grafton appropriated \$3,300 for the department, \$300 of which is set aside for Forest Fire Protection. The Fire Station currently contains three fire trucks, as well as the Ambulance Squad's vehicle which is also stored at the Station. In 1985, the department purchased a used engine (No.2) from the Needham, Massachusetts Fire Department. In 1985, the town voted to establish a capital reserve fund for fire equipment. The following table provides a list of vehicles at the fire station.

Table IV-3

Inventory of Equipment
Grafton Volunteer Fire Department, 1986

<u>Name/No.</u>	<u>Year of Mfg.</u>	<u>Make/Model</u>	<u>Water Tank Cap. (gal.)</u>	<u>Pumping Capacity (gpm)</u>
Engine No. 1	1972	Chevrolet	600	350
Engine No. 2	1971	Ford	750	750
Tanker No. 1	1976	Ford	1,550	--
Ambulance	1979	Ford		

Source: Paul Gove, Chief, Grafton Volunteer Fire Department.

Table IV-4

Summary of Fire Department Calls
Grafton Volunteer Fire Department, 1972 - 1985

<u>Year</u>	<u>Structure</u>	<u>Chimney</u>	<u>Grass</u>	<u>Brush</u>	<u>Other</u>	<u>Mutual Aid*</u>	<u>Forest Fire</u>	<u>Total</u>
1972	--	1	--	2	--	--	--	3
1973	1	1	2	--	2	--	--	6
1974	3	3	--	--	--	--	--	6
1975	3	3	--	--	3	--	--	9
1976	3	2	1	--	--	--	--	6
1977	--	6	--	--	8	3	--	17
1978	4	8	--	--	4	3	--	19
1979	3	5	3	1	1	4	--	17
1980	10	10	1	--	9	2	2	34
1981	7	7	1	2	12	4	--	33
1982	6	6	--	--	8	3	--	23
1983	1	10	--	1	8	3	--	23
1984	--	4	--	1	8	--	--	13
1985	7	9	1	1	12	2	1	33

* mostly structures

Source: Grafton Volunteer Fire Department.

Grafton is fortunate to have a well-equipped fire department manned by trained volunteers on call day and night. The department is also a member of the Upper Valley Regional Emergency Services, a mutual aid organization. As in many small towns, most of the volunteers are employed out-of-town, so they are not able to respond as quickly to alarms as they might be if they worked in-town. The department also uses the Hanover Dispatch System.

The Town does not have any hydrants (wet or dry) within its limits. As there are a number of waterbodies in town, the department relies on portable pumps to draw water. A dry hydrant program should be considered to provide better fire protection.

A lack of space is currently the fire department's greatest inadequacy. Since the lot extends only a few feet beyond the perimeter of the building, parking is non-existent. Fortunately, the owner of the vacant lot fronting Route 4 allows cars to be parked on the adjacent land. Expansion of the station or the installation of a well or septic system on the site is impossible without the purchase of adjacent land.

Inside, all of the available space is occupied. There is no space for a classroom or restroom. When the department holds its monthly business meetings at the station it is often necessary to park one of the engines outside the building to free space inside for a meeting place (and meaning of course that the engine is being parked on private property). The ceiling height restricts the size of engines which can be stored in the building and the narrow width of the bays makes pulling in and out of the Station precarious. In the absence of a hose dryer or hose tower, hoses are dried along inside sidewalls.

The Town should also seriously consider adoption and enforcement of a building code which will help prevent fires, save lives and protect and enhance the Town's property tax base. Under this proposal, a part-time inspector, perhaps a retired person or someone shared with a neighboring town would inspect for faulty construction (especially electrical) practices, and ensure that new, renovated or enlarged buildings have smoke detectors or sprinkler systems, as appropriate. At least half and perhaps all of the inspector's salary could be paid through permit fees, representing a tiny portion of the construction cost. The Town may want to adopt the national 101 Life Safety Code which has been adopted by the State of New Hampshire. It applies to apartment buildings, nursing homes, commercial and industrial developments and public buildings and provides standards for means of egress, smoke detectors, fire hazards and fire resistant construction materials. Unfortunately, the State of New Hampshire does not have enough fire marshals to adequately enforce this law, so local adoption and enforcement is the only effective way to ensure that these safety standards will be met. Indicative of the good work the Fire Department is doing, in 1987 the Town's ISO rating was upgraded to a Class 9.

AMBULANCE SQUAD

The Town of Grafton is fortunate to have a very active and well-trained Fast Squad which responds to medical emergencies, fires, and accidents. Organized in 1975, the squad had 11 members in 1986, all of whom attend training sessions to stay up-to-date on emergency medical and rescue techniques. Many of the members are also members of the fire department. In 1985, the Squad responded to a total of forty calls.

The 1979 Ford ambulance is housed at the fire station where it is kept under cover in a heated building. In 1986 the town appropriated \$800 to provide vehicular insurance on the ambulance.

POLICE PROTECTION

The Town of Grafton does not have a police station; the Police Chief operates out of his house and is elected annually. Police protection is handled by three part-time officers who are on call 24 hours a day, aided by the Grafton County Dispatch out of Haverhill. In addition, the Twin Mountain State Police Dispatch Center also serves the Town of Grafton.

In 1986, the Town appropriated \$8,300 for the Police Department with an additional \$2,600 allocated for police radios and to defray school costs for the police department. The police car, a 1978 Chevrolet Caprice with 60,000 miles in 1986 is leased by the Town.

In 1985, the Police Department received 286 calls and complaints and logged 10,000 miles on the cruiser. As in any small, sparsely settled Town, a lot of time is spent checking houses and properties on back roads and dealing with dog control.

Eventually, the Town may want to consider purchasing a police cruiser and providing a small office for the police chief where police reports and records and other related materials can be kept. If the Town should decide to construct a new Town Hall, it may want to consider incorporating a Police Department into the building plan. Ideally, such a department should be centrally located, visible and easy to find. If a new building for both the Town Offices and Police Department is constructed, the uses should be as separate as possible (police entrance in rear, Town Office entrance in front, for example) to avoid conflicts between Police and Town Office activity.

HIGHWAY DEPARTMENT

The Grafton Highway Garages are located off Route 4 in Grafton Center, sharing a 4.4 acre site with the transfer station, adjacent to the B & M railroad tracks. The main wood frame garage, measuring 48' x 48' was constructed in several parts in 1946, 1968 and 1983. The building is heated by a wood stove and is not insulated, requiring 12 - 15 cords of wood a year, most of which originates from road work. The one-story wood frame building has one large door and an open interior. There are no restrooms or running water in the building.

The other garage is a 36' x 72' one-story wood frame structure constructed in 1985 at a cost of \$4,000. It has an open interior, a concrete foundation and dirt floor. Eventually it will need to be insulated to house diesel engines. Both buildings would benefit from ceiling insulation, replacement of the old manually-operated doors with insulated, electrically-operated doors and insulation of the walls where feasible.

Highway Department personnel includes the road agent and 2-3 laborers. The major pieces of Highway Department equipment are summarized in the following table.

Table IV-5

Major Pieces of Highway Department Equipment
Town of Grafton, 1986

<u>Name/Number</u>	<u>Year Mfg.</u>	<u>Make/Model</u>	<u>Capacity (yds)</u>
Dump Truck	1969	Chevrolet	6 yds
Dump Truck	1974	Ford	7 yds
Dump Truck	1980	Ford	7 yds
Dump Truck	1984	International	7 yds
Pick-up	1969	International	Flatbed
Pick-up	1986	GMC	3/4 ton
Loader	1980	John Deere 444	1 1/2 bucket
Grader	1970	John Deere 570	--
Backhoe	1986	John Deere 410	1 1/3 bucket
Grader	19??	Gallion	--

Source: John Bassett, Road Agent

Future needs as cited by the road agent include a plow and sander storage shed. Lack of a salt shed also currently limits volume purchases of salt by the Town.

In 1985, Highway Department expenses totalled \$128,500, clearly the largest Town budget item excluding schools.

SOLID WASTE

The Town of Grafton operates a transfer station located on Route 4 near the Town green, at the site of the old town dump. It is approximately 4.4 acres in size, but most of the area is used by the highway department for the town garage and equipment storage. The dump was closed in 1979 and the transfer station was put into use at that time.

The transfer station includes a 50 cubic yard tri-park container owned by Lakes Region Disposal, Inc. Lakes Region Disposal empties the compactor periodically and transports the solid waste to a privately owned and operated landfill in Rochester, N.H. Grafton is entering into the third year of a five year contract with Lakes Region Disposal, renewable each year. The hauler is affiliated with the landfill owner and is considered a priority user of the landfill. Thus, the hauler is not likely to be denied access to the landfill which is thought to have a lifetime of over twenty (20) years.

In the past, the Town sold large metal objects to a salvage company for scrap. The Town recently contracted for periodic removal. The State has required that the Town relocate the stump dump and has discontinued the disposal of demolition material at the transfer station site. There are no recycling facilities at the transfer station.

In 1985, the Town of Grafton generated between 307 and 340 tons of solid waste. In 1986, the Town appropriated \$30,000 with an additional \$5,000 to establish a dump close-out fund.

The transfer station is open Sundays 8-6, and Wednesdays 10-6. The site is supervised while open. Grafton residents must bring their trash to the transfer station; the Town does not provide household trash pickup.

CEMETERIES

Below is a listing of cemeteries in Grafton. Under the supervision of three cemetery trustees and a cemetery agent, restoration is a constant job. The cemetery budget was \$200 in 1986. Lots are sold for \$200 and plots are sold for \$50, basically to Town residents only.

Pine Grove is the only currently active local cemetery, approximately two-thirds of the cemetery is available and over one half has not yet been laid out.

Table IV-6
Grafton Cemeteries

<u>Name of Cemetery</u>	<u>Location</u>	<u>Size (acres)</u>	<u>Status</u>
Razor Hill	Razor Hill Road	1.2	full
Pine Grove	Off Route 4	3.8	active
Route 4 (center)	Route 4	2.5	full
Route 4	Route 4	0.5	full
Wild Meadow	Wild Meadow Ext.	0.5	full
Truell	Cooper Street	0.8	full
Kinsman Highway	Kinsman Highway	2.7	full
Hardy Hill Road	Hardy Hill Road	0.2	full
Little Cemetery	Blood Road	0.2	full

Source: Selectmen's Office

EDUCATION

Grafton Students attend two public school facilities: the Canaan Elementary School located on School Street in Canaan Village and the Mascoma Regional High School on Route 4 in West Canaan. A few students from Grafton, especially the Route 4A part of town, may also attend the Enfield Elementary School. Grades K-6 attend the Elementary Schools, remaining grades (7-12) attend the High School.

At one time there were thirteen school districts in town. Today, schools serving Grafton students are part of the fiscally autonomous Mascoma Valley Regional School District, a legally organized corporation with the power to appropriate funds as specified in RSA 194:3. Funds appropriated by the school district are raised through local property taxes. The Mascoma Valley Regional School District is currently a part of the Supervisory Administrative Unit #32 which also includes the Grantham, Lebanon and Plainfield school districts, however, in 1986, the Mascoma District voted to apply to the State for independent status.

During the 1984-85 school year, the average daily membership of Grafton students in attendance at the school system was 6.9 kindergarten students, 96.4 elementary school students and 37.3 high school students.

Recent enrollment figures for the Mascoma Valley Regional School District were obtained from the Superintendent of Schools and are presented in Table IV-6. The enrollment projections developed by the Superintendent's office for 1985-86 through 1989-1990 are also shown. These projections were developed using the cohort-survival method of population projection, a method preferred by most demographers because it uses both the local birth rate and migration trends to predict future school enrollment.

The table shows that elementary school enrollments at the Canaan Elementary School have shown gradual growth since 1976 (The increase shown in 1978-79 and reflected in later figures was due to the addition of a kindergarten class.) Enrollment at the elementary school is projected to remain fairly stable at a level of about 450-475 students the next two years. Constructed four years ago, after fire destroyed its predecessor, Canaan Elementary School is currently over capacity; increasing enrollment will strain the facilities. The Special Education Department is using a make shift room on the stage and the library is closed two days a week for band and chorus. Grades 2 + 3 and one class of 5 + 6 are currently combined. Art and music teachers must rove from classroom to classroom with no rooms to call their own. With a theoretical capacity of about 390 students, the Canaan Elementary School housed 427 as of June 1985.

Constructed in 1962, Mascoma Regional High School, at 540 acres is the largest public high school campus in the State. Inside however, conditions are anything but spacious. With a theoretical capacity of about 437 students, the High School presently (April 1986) contains 632. Over half of all classes in the High School are larger than permitted under State standards. Although former storage areas have been converted to classrooms, there are still about a dozen teachers with no room of their own.

Every classroom is used every period and one class must even meet in the corridor. The combination of rising enrollment and an increase in the number of credit hours required for graduation has pushed conditions at the high school to their extreme limits. Table IV-7 shows that, according to the SAU, high school enrollments are projected to decrease in 1986-87.

In December 1984, the Mascoma School District established a committee to study long-range building needs (5 years) for the district. To relieve the overutilization and overcrowding of all three district schools (the two in Canaan and the Enfield Elementary School), the Long Range Planning Committee has proposed construction of a new structure on the West Canaan campus, containing 19 classrooms and additional special purpose rooms, to house grades 5 through 8. Approval to construct this building was passed at the 1986 School District Meeting. The building will have a capacity of 475 students with more facilities capable of serving up to 600 students, providing sufficient facilities for the modest growth in enrollment projected in the next five years while providing for later expansion if it becomes necessary. Construction of this building will result in the vacating of 16 rooms in the present schools and would eliminate overcrowding and overutilization. Construction of the 2.6 million dollar complex will be completed by the fall of 1987.

Copies of the Committee Reports (June 1985, April 1986) and "Space Utilization Study" conducted by the New Hampshire Department of Education are on file at the Town Office.

Table IV-7
Student Enrollment, Mascoma Valley Regional School District

ACTUAL: 1969-70 to 1984-85

ESTIMATED: 1985-86 to 1989-90

<u>School Year</u>	<u>Canaan School K - 6</u>	<u>Enfield School K - 6</u>	<u>Total Elementary K - 6</u>	<u>High School 7 - 12</u>	<u>Total District K - 12</u>
1969-70	331	281	612	500	1112
1970-71	333	294	627	532	1159
1971-72	333	313	646	516	1162
1972-73	324	338	662	552	1214
1973-74	341	326	667	570	1237
1974-75	357	333	690	555	1245
1975-76	348	329	677	551	1228
1976-77	337	356	693	556	1249
1977-78	359	343	702	559	1261
1978-79*	406	395	801	631	1261
1979-80	433	376	809	675	1484
1980-81	428	350	778	714	1492
1981-82	421	328	749	696	1445
1982-83	408	286	694	645	1339
1983-84	408	283	691	653	1344
1984-85	418	302	720	652	1372
1985-86	442	291	733	616	1349
1986-87	472	309	781	568	1349
1987-88	481	324	805	551	1356
1988-89	491	358	849	534	1383
1989-90	502	361	863	533	1396

* Kindergarten added

Source: Memo from Nancy Brodgen, Assistant Superintendent of Schools, SAU #32, to Mascoma Valley Regional School Board, "Revised Student Enrollment Projections 1985-86 through 1989-90" (January 2, 1985).

Table IV-8

Average Daily Membership
Grafton Student Enrollment
Mascoma Valley Regional School District, 1970 - 1985

Year	Average Daily Membership
1970-71	80.3
1971-72	79.6
1972-73	89.7
1973-74	98.0
1974-75	93.8
1975-76	86.8
1976-77	87.7
1977-78	99.1
1978-79	113.8
1979-80	116.6
1980-81	110.4
1981-82	126.4
1982-83	124.2
1983-84	119.5
1984-85	140.6
1985-86	147.0

SOCIAL SERVICES

Grafton residents are served by a number of regional social service organizations. The Town appropriates funds for the Grafton County Senior Citizens Council, Mascoma Home Health Services and the Community Action Outreach Program.

In 1985, the Grafton County Senior Citizens Council provided services to 72 Grafton seniors. Operating out of the Masonic Hall in Canaan Village, the organization provides weekly meals at the center, home delivered meals, transportation and outreach services to older residents of Canaan, Enfield, Grafton, Dorchester and Orange. In 1985, the Town appropriated \$670 for the organization. In 1987, the GCSC plans to move its operations to the newly renovated Grange Hall in Canaan Village.

Mascoma Home Health Services offers Grafton residents home care services including visiting nurse, physical therapist, home health aide, homemaker, occupational therapist, and social worker specialties. By caring for the elderly, disabled and chronically ill, the agency insures that they may stay in their own homes or with family as long as possible. MHHS also sponsors disease prevention programs, well child clinics, dental clinics and blood pressure screenings. A Pediatric Nurse Practitioner is also available for children with special needs. The office and clinic space of the agency is located on Prospect Street in Enfield. Grafton residents received approximately one thousand visits in 1985.

The Community Action Outreach Program assists low income, elderly and handicapped persons with individual problems through individual and/or group self-help efforts. The group provides information referrals, guidance, organizational assistance, and individual counseling. Types of assistance include information on emergency food supplies, government surplus foods, community gardens, energy and housing improvements, money management, medicare/medicaid, job corps, emergency rides, car pools and legal assistance referrals. In 1986, the Town appropriated \$150.

GOALS

- (1) To provide community facilities and services in the most efficient manner to meet the existing and future needs of Grafton's residents and businesses.
- (2) Expand the Town's parks and recreational facilities (see Chapter VI).
- (3) Provide community services (e.g. Town Hall, Library, and Public Safety) at a level equal to or better than currently provided.

RECOMMENDATIONS

Town Hall

- o A larger and more efficient Town Hall is clearly needed. The issue of whether to build a new building or renovate the existing structure is to be decided by voters at a future town meeting.

Library

- o It is expected that public use of the library will increase as the town grows. Although this building is only approximately 60 years old, its fine detailing and integrity lend it a unique and historical significance. In the coming years, routine repairs and maintenance will be needed simply due to its age and condition.
 - (1) All building and site improvements and alterations should respect, and be compatible with, the historic and architectural qualities of the structure.
 - (2) A simple ramp should be built to accommodate wheelchairs through the double front doors.
 - (3) Eventually, a restroom with flush toilets and a sink may be needed. Repairs to the sidewalk and asbestos roof (both original to the building) will also be necessary in the coming years. Planning should begin now for these improvements.
 - (4) Consider expansion of programs.
 - (5) Better utilization of the basement space should be investigated.

Fire Department

- o The Town and the Fire Department should actively pursue purchase of parcels adjacent to the present station (especially that fronting Route 4) for expansion purposes.
- o Construction of an addition to the station (or construction of a new structure on another site if adjoining land is not available) should take into account the possibility of using the station as a primary meeting place for town functions, eliminating the expense of an additional town facility.
- o Develop a dry hydrant program. The Planning Board should require, as part of a subdivision approval, the installation of dry hydrants when recommended by the Fire Chief. It is important that all dry hydrants be maintained properly by the Fire Department to ensure effectiveness.

- o Access for emergency vehicles and fire engines should be a major consideration in evaluating the location and design of proposed subdivisions and developments.
- o Long dead-end streets should be avoided, with a general goal of ensuring two potential means of access for fire trucks and other emergency vehicles.
- o Restrict building heights to a maximum of $2\frac{1}{2}$ stories or 35 feet, thereby eliminating the need and enormous expense of purchasing a ladder truck.
- o Establish a wood stove inspection program whereby the Fire Department must inspect wood stove installations prior to use. Interior rather than exterior chimneys are also recommended. If and when a building code is adopted, chimney clean-outs should also be required.
- o Require and encourage the use of smoke and heat detectors and sprinkler systems. Wired in smoke detectors are required in new construction. Smoke and heat detectors are relatively inexpensive, easy to install and should be required in all new, renovated or enlarged buildings. Town buildings and any large new commercial or industrial buildings should have sprinkler systems.
- o Encourage the Fire Department to continue its training programs and equipment purchases which meet NFPA standards.
- o Educate homeowners as to personal fire protection in their own homes and to the services available to them.
- o Consider adoption of a building code to help prevent fires, save lives and protect and enhance the Town's tax base.
- o Establish a capital reserve fund for new fire equipment.

Ambulance Squad

- o Continue volunteer training and encourage additional training for members of the squad.
- o Consider establishing a capital reserve fund.
- o Emphasize highway safety in Town planning, including driveway regulations and other local land use controls to ensure safe road access points and maximize safe sight distances.
- o Discourage development in outer-lying areas where access is difficult.

Police

- o The Town may want to consider, or at least start planning for a small office for the police chief where police reports, records and other related materials can be kept. Such plans should be coordinated with plans for a new or renovated town building.

Highway Department

- o Consider energy-related improvements to the highway garages.
- o The Town will have to consider installing restroom facilities at the highway garage. Planning should begin now.
- o Construct a salt shed and plow and sander shed.
- o Discourage development in outer-lying areas and in areas which are served by substandard roads.
- o Require high standards for road construction. Failure to require proper road standards results in higher costs for highway department maintenance and increases the Town tax rate.

Education

- o Carefully evaluate the impact of proposed developments on the school system, including enrollments, transportation and fiscal impact.
- o Monitor the number of students living in various types of housing in Grafton to provide data which can be used to evaluate development proposed to the Planning Board.

Social Services

- o The Town of Grafton should continue to join with neighboring communities to provide certain community facilities and services when a regional approach is cost effective and reasonable.

Chapter V

PUBLIC ROADS & TRANSPORTATION

V. PUBLIC ROADS AND TRANSPORTATION

INTRODUCTION

With regional population growth, at about 2.0% per year, being approximately twice the rate occurring nationally, the need to plan a transportation network that will meet substantially greater and more diverse future needs and demands becomes evident. A strong interrelationship exists between development of the transportation system and economic growth; each will have an influence on the other. Thus it is necessary to conduct transportation planning based upon both the economic environment that is projected to occur and that which is desired.

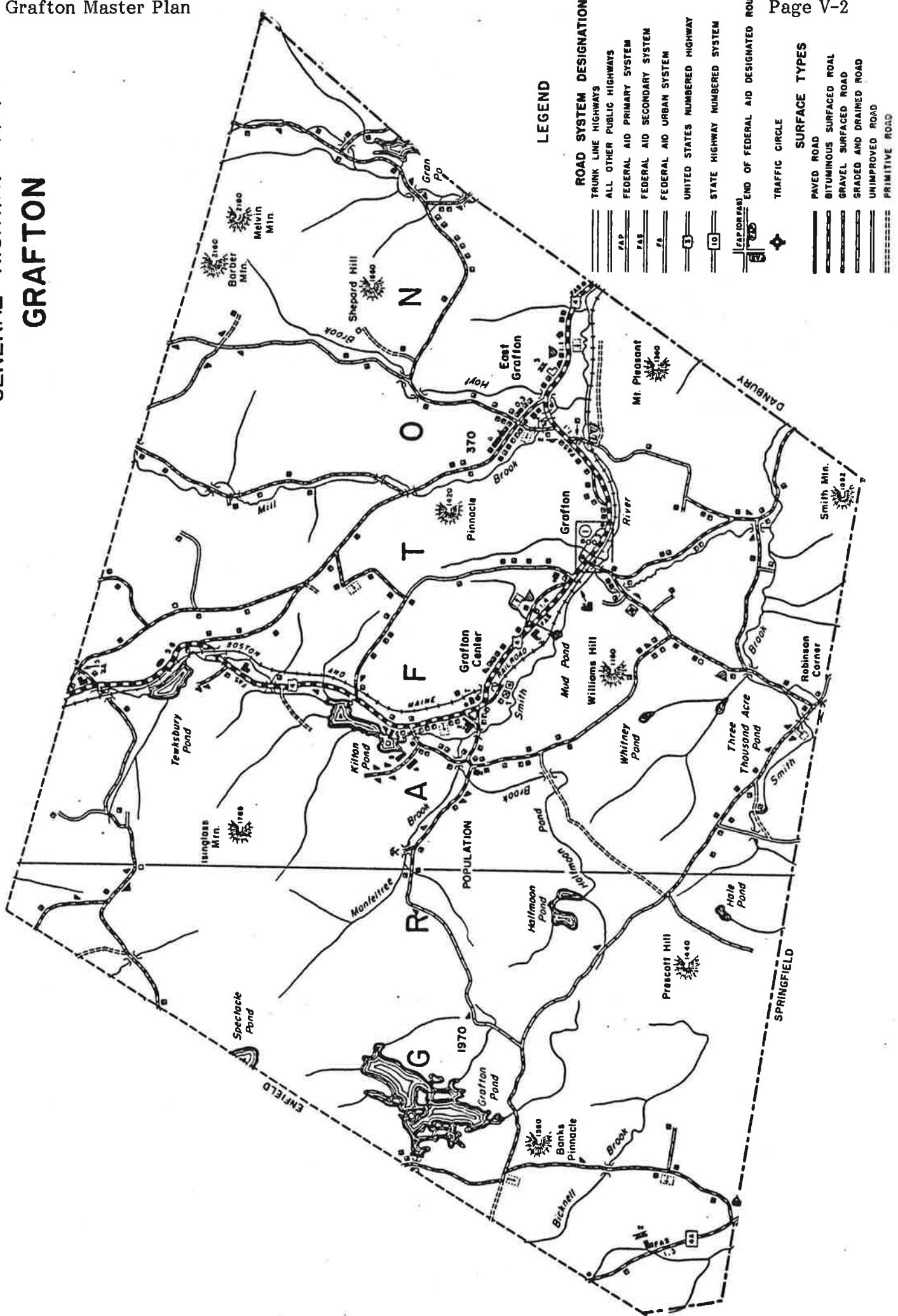
This chapter provides an overview and evaluation of Grafton's existing highway network and levels of present and projected future use, an inventory of other transportation services and needs, and recommendations for improving the present transportation system and meeting future needs.

COMMUNITY ATTITUDES

Several questions on the 1984 Grafton Community Survey dealt with roads and transportation. Responses are summarized below:

- o Forty-seven percent of respondents live along paved roads, 48% reside on unpaved roads and 3% live on private roads.
- o Road maintenance in the summer is rated as excellent by 12% of respondents, 47% said it is good, 23% replied fair, 12% rate it poor and 7% had no opinion. Winter road maintenance is considered excellent by 16% of the population, 47% said it is good, 16% consider it to be fair, 13% said poor and 9% had no opinion.
- o When asked to list the least desirable characteristics of the town, 12 persons reported poor road conditions and 7 cited the fact that public transportation is not available.

MAP V -1
GENERAL HIGHWAY MAP
GRAFTON



PUBLIC ROAD SYSTEMFunctional Classification

The New Hampshire Department of Public Works and Highways classifies all road mileage in the state according to the following system:

Class I, Primary State Highways, consist of all existing or proposed highways on the primary state highway system, excepting all portions of such highways within the compact sections of towns and cities of 7,500 inhabitants and over. The state assumes full control and pays costs of construction, maintenance and reconstruction of its sections; the portions in compact areas are controlled by the towns and cities under Class IV highways.

Class II, Secondary State Highways, consist of all existing or proposed highways on the secondary state highway system, excepting portions of such highways within the compact sections of towns and cities of 7,500 inhabitants and over, which are classified as Class IV highways.

All sections improved to the satisfaction of the highway commissioner are maintained and reconstructed by the State. All unimproved sections, where no state and local funds have been expended, must be maintained by the Town or City in which they are located until improved to the satisfaction of the commissioner.

All bridges improved to State Standards with State aid bridge funds are maintained by the State. All other bridges shall be maintained by the City or Town until such improvements are made.

Class II, Recreational Roads, consist of all such roads leading to, and within, state reservations designated by the Legislature. The State Highway Department assumes full control of reconstruction and maintenance of such roads.

Class IV, Town and City Streets, consist of all highways within the compact sections of towns and cities of 7,500 inhabitants and over. Extensions of Class I and Class II highways through these areas are included in this classification.

Class V, Rural Highways, consist of all other travelled highways which the town or city has the duty to maintain regularly.

Class VI, Unmaintained Highways, consist of all other existing public ways including highways discontinued as open highways, highways closed subject to gates and bars, and highways not maintained in suitable condition for travel for five years or more.

- The public road system in Grafton totals 67.56 miles. Table V-1 presents a breakdown of road mileage by functional classification.

Table V-1

Highway Mileage by Functional Classification in Grafton

<u>Class</u>	<u>Description</u>	<u>Mileage</u>	<u>Percent of Road Mileage</u>
I	Primary State Highways	7.75	11.5%
II	Secondary State Highways	1.75	2.6%
III	Recreational Roads	0.00	0.0%
IV	Town and City Streets	0.00	0.0%
V	Rural Highways	53.06	78.5%
VI	Unmaintained Highways	<u>5.00</u>	<u>7.4%</u>
Total		67.56	100.0%

Source: New Hampshire Dept. of Public Works and Highways, "Classified Road Mileage", January, 1985.

ROAD MAINTENANCE

In 1986, the Town of Grafton plans to devote about 38% of its total budget to road maintenance and general highway expenditures, as is indicated by Table V-2. Total expenditures have risen by nearly 60% over the five year period from 1980 to 1985, with the share of the total budget going toward highways dropping slightly from 51.5% to 46.2% over this period.

Table V-2

Highway Expenditures: Town of Grafton

<u>Year</u>	<u>Highway Expenditures</u>	<u>Percent of Total Approp.</u>
1986*	124,700	37.9%
1985	128,496	46.2%
1984	109,786	N/A
1983	105,436	41.8%
1982	82,251	N/A
1981	107,918	N/A
1980	81,000	51.5%

* budgeted.

Source: Town of Grafton

Winter maintenance of roads is becoming an increasingly substantial operation, with population and housing growth, mail routes being expanded, etc. The Road Agent and the Town has implemented an aggressive culvert maintenance program, expending \$2,500 per year to improve the capacity of existing culverts and install additional culverts.

The Town of Grafton should consider implementation of a management system for paved and unpaved roads that targets roads for maintenance and reconstruction. Benefits of such a program are improved road conditions, reduced long run costs and establishment of a permanent data base for the road network conditions. One such program, the PAVER system, has been introduced to transportation policymakers in the area and may soon be adopted by a number of communities. PAVER is a proven system of performing low-cost maintenance work before the roadway undergoes deterioration, necessitating more costly reconstruction work. Implementation of PAVER costs about \$100 per lane mile, although it is not necessary to include the entire road network in the management system. For smaller towns, it is recommended that only the more heavily travelled roads be inputted into the data base.

ACCESS TO ROADS AND HIGHWAYS

An important piece of State Legislation pertinent to roads in Grafton is "Access to Highways" (RSA 249, Section 17). The law states that anyone wishing to construct or substantially alter any driveway, entrance, exit or approach within the right-of-way of any Class I, or Class III or the state-maintained portion of a Class II highway must apply for a permit with the N.H. Department of Public Works and Highways. In Grafton, this requirement applies to any new or substantially altered access points along Routes 4 and 4A. The State's standards require that:

- o The safest possible location for access shall be selected.
- o There must be adequate drainage and grades to permit a safe and controlled approach to the highway in all seasons of the year.
- o Only one access shall be allowed per parcel of land (a commercial or industrial enterprise and a subdivision are considered a single parcel under the law) unless there is an all season safe sight distance of four hundred feet (400') in both directions along the highway.
- o No more than two (2) access points shall be allowed from any one highway to any one parcel of land unless the parcel's frontage along that highway exceeds five hundred feet (500').
- o The width of the driveway, entrance, exit or approach shall not exceed fifty feet (50'), except for normal flare at its junction with the highway.

The Access to Highways law also applies to town-maintained roads. In towns which have adopted subdivision regulations, the State Legislation confers upon town Planning Boards "The same powers concerning highways under their jurisdiction as are conferred upon the Commissioner of Public Works and Highways by paragraphs I, II, III and IV, and they shall promulgate such rules and regulations as are necessary to carry out the provisions of this section." Thus, the Grafton Planning Board has the power to regulate access to any town roads. The town should adopt standards which will ensure safe and controlled access points to all town roads in all seasons of the year. An approved permit should be required in the town's subdivision and site plan review regulations.

The following standards are recommended:

- o The safest possible location(s) for access shall be selected.

There must be adequate drainage and grades to permit a safe and controlled approach to the highway in all seasons of the year. The slope of the driveway or access point shall not exceed twelve percent (12%). Surface water runoff shall be diverted so it will not drain onto the roadway.

- o The width of the driveway, entrance, exit or approach shall not exceed fifty feet (50'). It should be noted that existing Town regulations require that where a driveway breaks the ditch, a culvert of 15 inches (or as according to the Road Agent's specifications) be constructed.
- o Only one access point shall be allowed per parcel of land (a commercial or industrial enterprise and a subdivision are considered a single parcel) unless the following all season safe sight distance in both directions along the road can be met: (1)

<u>Type of Road</u>	<u>Speed Limit or, if None, Typical Speed</u>	<u>Minimum Safe Sight Distance</u>
(a) minor roads	30 mph or lower	200 feet
(b) through roads	31 - 40 mph	275 feet
(c) through roads	41 - 50 mph	350 feet
(d) major roads	50 mph and over	400 feet

- o No more than two (2) access points shall be allowed from any one town road to any one parcel of land unless the parcel's frontage along that road exceeds five hundred feet (500'). The same ratio of two access points per 500 feet of frontage, provided the minimum safe sight distance requirements can be met, shall be used for parcels which have more than 500 feet of frontage.

Parcels on minor streets which do not carry, or have the potential for carrying, through traffic shall not have to meet the 500-foot requirements. However, the minimum safe sight distance standard should be used to select the safest possible locations for driveways along minor roads.

- (1) Distances are based on standards developed by the American Association of State Highway and Transportation Officials. The safe sight distance is defined as a line which encounters no visual obstruction between two points, each at a height 4 feet above the pavement, and so located as to represent the critical line of sight between the vehicle operator using the access and the vehicle operator approaching from either direction.

OFF-SITE ROADS

Even if the new road in a subdivision meets the town's specification, the other roads in the area may not be adequate to handle the increased traffic resulting from the subdivision. In this case the developer/subdivider should pay his proportion of the cost to upgrade these off-site roads. The extent of these improvements should bear a rational connection to the needs created by and the benefits conferred upon the subdivision. Factors to be used in determining the allocation of costs may include, but are not limited to, the following:

- o The standard to which the town presently maintains the roads;
- o The frontage of the proposed subdivision;
- o The potential traffic increase necessitated by the proposed subdivision;
- o The character and potential for development of the neighborhood serviced by these access roads;
- o The number of residences presently fronting on or normally trafficking these roads; and
- o Compliance with the town's Master Plan.

SCENIC ROADS

Another important piece of State Legislation with respect to town roads is Scenic Roads (RSA 253, Sections 17 and 18). This law allows towns to designate by town meeting vote any road (other than Class I or Class II state highways) as a Scenic Road. Abutting property owners must be notified of the proposed scenic road designation prior to the town meeting.

Once a road has been designated as a Scenic Road, any repair, maintenance, reconstruction or paving work shall not involve or include the cutting or removal of medium and large-sized trees (with a circumference of 15 inches or more at a point four feet from the ground), or the tearing down or destruction of stone walls, except with the prior written consent of the Planning Board or any other official town body designated at the town meeting to implement the law, and after a public hearing has been held.

The Scenic Law is flexible, however, in that it allows the road agent, without consent, to cut trees, shrubs, vegetation and any other natural or man-made obstructions within three feet of the road travelled way. In emergency situations, the highway superintendent may also cut and remove trees with the written consent of the Selectmen and without a public hearing.

Designation of a road as scenic does not affect the eligibility of the town to receive state construction or reconstruction aid pursuant to the provisions of RSA 241. In addition, a scenic road designation does not affect the rights of any landowner with respect to work on his own property.

The main purpose of a scenic road designation is to help protect the scenic qualities of that road. To a town engineer, road agent or highway department employee, the trees and stone walls along the road may have no meaning; to the property owners who live on or travel along that road daily, the trees and stone walls may have a great deal of meaning in terms of visual quality and the rural character of the area. The designation of a road as scenic is a declaration by the town that the road has important visual qualities which must be recognized and treated with care.

Trees can still be cut and stone walls can still be removed along scenic roads when there is good reason. Regular, routine maintenance and repairs of the road are not affected by this law. Perhaps most significantly, the designation of a road as scenic establishes a mechanism for public input before the highway department carries out its work. To property owners along the road, this opportunity is much preferred over having to react emotionally while the work is going on or after it has been completed.

There have been no scenic roads designated in Grafton. Roads that have strong potential for such designation are Wild Meadow Road, Williams Hill Road, River Road, and the Grafton Turnpike.

HIGHWAY TRAFFIC COUNTS

Table V-3 presents traffic count trends along Route 4 in Grafton at two locations. Near the Orange Town Line, there has been a substantial increase in average daily traffic over the eight year period from 1975 to 1983 - ADT has increased from 1000 to 1620, a 62% gain. At the other count location, near the Danbury Line, there has been only a modest increase, with ADT rising 11% from 900 to 1000.

Table V-4 presents an extrapolation of growth trends to the year 1995. If historical trends were to continue, ADT on Route 4 near Orange would rise to 3,334 by 1995; near the Danbury Line, volume would only increase to 1,167. However, such a differential in traffic volumes along the same highway would appear to be unlikely; the annual 6.2% increase in traffic that has occurred near Orange is a relatively high rate (traffic in the region as a whole is growing at about a 2% rate per year), thus it is very possible that the forecast of 3,334 in ten years may overestimate the change that will occur.

There are no traffic counters stationed along Route 4A in Grafton. To the east, the closest counter indicates an ADT of 300 in the center of Springfield in 1983 and to the west, at the Enfield/Lebanon line, the volume stood at 1600 per day in that year.

Table V-3

Grafton Traffic Count Trends: 1975-1983
(Average Daily Traffic)

<u>Year</u>	<u>Route 4 Orange Line</u>	<u>Route 4 Danbury Line</u>
1983	1620	1000
1982	1580	1000
1981	N/A	N/A
1980	1370	1000
1979	1230	900
1978	1300	900
1977	1200	800
1976	1200	1000
1975	1000	900
PCT CHANGE	62	11

Source: New Hampshire Dept. of Public Works and Highways

Table V-4
Grafton Traffic Counts Projected to 1995
(UVLSC Forecast of Average Daily Traffic)

<u>Year</u>	<u>Route 4 Orange Line</u>	<u>Route 4 Danbury Line</u>
1983	1620	1000
1984	1720	1013
1985	1827	1026
1986	1940	1039
1987	2060	1053
1988	2188	1066
1989	2324	1080
1990	2468	1094
1991	2621	1108
1992	2783	1123
1993	2956	1137
1994	3139	1152
1995	3334	1167

Source: UVLSC Projection.

JOURNEY-TO-WORK CHARACTERISTICS

Table V-5 provides a summary of commuting characteristics for Grafton residents. The largest portion, just over one-fifth of the town's population, work within Grafton itself, while a slightly lower proportion commute to Lebanon.

Table V-5
NUMBER AND PERCENT OF WORKERS BY PLACE OF WORK
Grafton, 1980

	<u>Number</u>	<u>Percent</u>
Total living in Grafton	275	100.0
Working in:		
Bristol	20	7.3
Grafton	60	21.8
Lebanon	51	18.5
Hanover	20	7.3
Enfield	4	1.4
Canaan	35	12.7
Merrimack County	17	6.2
Belknap County	2	0.7
Sullivan County	11	4.0
Worked elsewhere	27	9.8
Place of work not reported	28	10.2

Source: 1980 U.S. Census

OTHER TRANSPORTATION MODES

There is no regular route public transportation service operated in Grafton. Persons desiring to make trips via transit can make connections with Advance Transit in Canaan. The system operates to Lebanon, West Lebanon, Hanover, Canaan, Enfield, White River Junction, Wilder and Norwich.

In Grafton, special purpose public transportation service is operated by Advance Transit for elderly and handicapped persons on a demand-responsive basis. The system contracts with the Grafton County Senior Citizens' Council for the provision of this service. There are about ten persons in town who make use of this service.

INTERCITY TRANSPORTATION

Grafton residents have access to several private transportation services. Vermont Transit operates interstate bus service from White River Junction, with a limited number of stops in Hanover, also. Amtrak passenger rail service, operating between Montreal and New York City, continuing south to Washington, D.C. and other points, makes one stop per day in each direction in White River Junction. Passenger air service is operated from West Lebanon to New York City, Boston, Burlington, Vermont and other locations.

NORTHERN RAIL LINE

The Northern Rail Line is a 69.8 mile line running from Concord to White River Junction, Vermont, passing through the northern portion of Grafton. The line has been out of use for a number of years and is now in the process of abandonment.

According to the New Hampshire State Rail Plan, "the State of New Hampshire supports the preservation of abandoned railroad rights-of-way that have strong potential for future transportation or other public uses". Using powers granted under RSA 228 (Railroad Right-of-Way), the State has entered into an agreement with Guilford Transportation Industries (which purchased the Boston & Maine Railroad) which gives the State the right of first refusal to the rail line corridor.

The Northern Rail Line represents an important corridor that should be preserved through State acquisition. Most importantly, it should be noted that the economics of rail transportation are constantly changing. While the line may not be economically viable for rail transportation at present, this situation could change over a number of years, depending on the costs and availability of fuel, technological changes, etc. If the rail line is broken up and sold to various concerns, it will be forever lost as a potential transportation corridor. Secondly, the line offers immediate recreational opportunities, e.g. cross-country skiing, bicycle path, etc. that will provide a substantial asset to communities. Thus, the Town of Grafton should strongly support the State's appropriation of money to purchase the entire rail line.

In considering future uses of the rail line, it should also be noted that the line bisects the town and a number of properties, some with little or no access. It should be recognized that future reuse of the rail line, even for recreational purposes, might once again impose constraints upon the town and prevent good access from being developed between properties across the tracks.

BRIDGES

There are eighteen municipally owned bridges in Grafton. Like many bridges throughout New Hampshire (four-fifths of the locally owned bridges throughout the state are classified as structurally deficient or functionally obsolete), many are in need of repair. An evaluation of all municipal bridges in the town was conducted by the State Highway Department in 1983, which identifies all deficiencies. This report is available for review at the Grafton Town Hall. The Town should continue to address maintenance needs according to the priority assigned in this report.

TRANSPORTATION GOALS

- (1) To encourage a cost-effective transportation system, which includes the highway network and demand-responsive transportation for elderly, handicapped persons, and high school students which will meet, to the maximum extent possible, the mobility needs of local residents and will provide for the safe, efficient movement of goods and people within and through Grafton.
- (2) Work with the State to maintain and improve the State highway network as it affects Grafton.
- (3) Encourage development that promotes both safety and the effective flow of traffic.
- (4) Improve existing town roads.
- (5) Promote the high quality of new roads.

RECOMMENDATIONS

- (1) The Town should establish standards for public roads based upon the use of the road (i.e. primary, secondary, occasional use, etc.).
- (2) Continue to require adequate road standards for new subdivisions. By requiring that a road be constructed properly, the town can avoid unnecessary expenditures and problems. Substandard private roads have been a problem in Grafton, and this has resulted in residents along these roads wanting the Town to take them over and upgrade them to Town standards.
- (3) Speed limits should be clearly posted on Town roads, as speeding not only creates a safety hazard, but also necessitates frequent regrading of dirt roads.
- (4) Consider the effect which proposed subdivisions may have on off-site roads and in certain cases require the developer/subdivider to improve off-site roads as a condition for subdivision approval. Even if the new road in a subdivision meets the town's specifications, the other roads in the area may not be adequate to accommodate the increased traffic resulting from the development. In this case, the developer/subdivider should pay his proportion of the cost to upgrade these off-site roads.
- (5) Increase the capital reserve fund as necessary in order to continue improving and maintaining bridges and for purchase of any needed right-of-way, as well as for replacing highway equipment.
- (6) All unused roads in Grafton should be designated as Class VI roads. The status of all old roads should be verified to determine whether assumed closed roads have been legally designated as Class VI. Potential upgrading costs to the Town on roads not properly designated as closed could be substantial. This action should be implemented by the Board of Selectmen.
- (7) In general, building permits should not be issued for construction on Class VI roads, as this will necessitate future upgrading and maintenance of these roads. However, certain discontinued roads may be targeted as desirable areas for new development, in which case the Town should designate them for upgrading prior to approved development projects.

- (8) Require adequate setbacks. It is recommended that the town require a 50-foot right-of-way for all roads to allow for road maintenance (plowing, drainage, etc.) and road improvements (widening, straightening curves, improving drainage, etc.). An adequate setback is also needed for buildings, fences, etc. which would obstruct the vision of motorists and bicyclists.
- (9) Adopt driveway regulations. This will ensure curb cuts occur at safe locations with good sight distance and to protect existing town roads.
- (10) Investigate the feasibility of using the PAVER system for highway maintenance. The long run benefits in terms of improving road conditions and cost savings will far outweigh the initial expenses of program start-up.
- (11) Consider scenic road designation for Wild Meadow Road, Williams Hill Road, River Road, the Grafton Turnpike, and other appropriate rural roads.
- (12) Road improvements generate significant amounts of waste (stumps and rocks). The Town should designate a suitable location for disposing of such waste.
- (13) Continue to support Advance Transit. The operation of special purpose, door-to-door bus service is very important to a number of Grafton's elderly persons. Advance Transit has been rated as one of the finest rural bus systems by the Urban Mass Transportation Administration, and the elderly persons living in Grafton have derived substantial benefits from services provided.
- (14) Promote state acquisition of the Northern B & M Rail Line. It is essential that this rail corridor be kept intact. It has short-term potential for recreational activities and has the longer term potential for transportation. The extent to which future reuse would impede upon access to properties, however, should be considered.
- (15) Establish a good data base on roads and rights-of-way indicating status, when discontinued, etc.

Chapter VI

OPEN SPACE & RECREATION

VI. OPEN SPACE AND RECREATION

INTRODUCTION

Grafton's open space and the recreational opportunities made possible by open space constitute some of the Town's greatest potential, though currently undeveloped, assets. Both open space and recreation serve to create an identity for the Town and provide for the physical and cultural needs of its residents. All too often open space and recreational resources are given secondary status in land use planning. The affects of neglecting these important community elements never appear instantly, but rather accumulate slowly, usually after these resources are irretrievably lost.

The people of Grafton must understand the value and benefits of protecting open space for a variety of purposes, and it must understand the relationship between (and the effect of) open space and recreation and housing, education, property values, economic development (including tourism) and mental and physical health. The town should be aware of and plan for both the long-term and short-term effects of growth and must actively guide this growth in the direction that meets the town's economic and social needs without having a negative effect on its environment and the quality of life of its citizens.

COMMUNITY SURVEY RESULTS

The Community Attitudes Survey conducted in Grafton in 1984 to poll residents' needs and preferences regarding future planning activities includes several questions relating to Open Space and Recreation. Based on the survey, Open Space and Recreation emerge as important priorities to Grafton residents. The following is a summary of the applicable survey results:

- o Many town residents feel that the most desirable features of living in town relate to the town's rural (country) atmosphere, its scenic quality and natural recreational offerings.
- o Preservation of agricultural land and woodlands is favored by a majority (71%) of the town's residents.
- o The vast majority (over 90%) of Grafton residents favor woodlands and farms anywhere in town.
- o Forty-five percent feel that the town should provide additional recreational services, 26% feel the present level is adequate and 30% had no response. A basketball court, playground, baseball field, recreation hall and a beach on the Route 4A side of Grafton Pond were the most popular suggestions for additional facilities noted in an open-ended question.
- o The greatest percentage of local residents (30%) rate the Recreation Department as fair, with 21% responding good and 20% poor. Most other town services received an "excellent-good" rating.

OPEN SPACE AND NATURAL AREAS

Grafton's open spaces include forest land, open land such as cultivated land, pastures, meadows and open fields, flood plains, water bodies, wetlands and recreational land. The pattern of open spaces between structures and villages is a key element in defining the character of a town. Forest is by far the most prevalent type of open space. The benefits of open space include the following:

- o Expanses of unbroken open space embody the rural atmosphere of Grafton and mirror the archetype of traditional New Hampshire landscape.
- o Provides scenic views that contribute to the quality of life in Town and the promotion of tourism.
- o Helps to support wildlife.
- o Protects potential water supplies and existing aquifers and groundwater recharge areas.
- o Provides flood protection.
- o Protects unique natural areas.
- o Contributes to the purification of local air supplies.
- o Provides buffers from negative sights and sounds.
- o Is consistent with the preservation of agriculture and forestry.
- o Insures minimal fiscal impact upon the Town government, whereas development can have either a positive or a negative fiscal impact.

According to the 1978 land use inventory of the town prepared by the N.H. Agricultural Experiment Station at UNH, 93% of the total town land area is forested, 5% is agricultural, less than 1% is idle, developed or in other use.

Some of Grafton's undeveloped land is in current use which is a reduced assessment designed to tax land at its "current use" value rather than its "highest and best use" value which is often development. Authorized by RSA 79A, current use assessment provides for reduced assessments on parcels of field, farm, forest of ten acres or more and wetlands, natural preserves or recreation land of any size or farmland of any size generating annual revenues greater than \$2,500. Once in the program, the land cannot be developed without a penalty imposed upon the current owner.

In 1985, approximately 24% of the total land area in Grafton was listed under current use. The following table provides a summary of current use by category.

Table VI-1

Inventory of Current Use
Grafton, 1986

<u>Category</u>	<u># Acres</u>
Pine	
Hardwood	
Spruce	
Wetland	7.0
Forest	6,118.8
Wild	409.9
Pasture	22.7
Unmanaged	
Unproductive	
Recreation	
	<hr/>
TOTAL	6,558.4

Source: Grafton Town Office

Currently the Town of Grafton lacks a Conservation Commission to take an active role in directing attention, time and money to understand and protect Grafton's open space natural areas. A proposal to establish a Conservation Commission was defeated at Town Meeting in 1985.

AGRICULTURE

Agriculture is one of the most important forms of open space in a community. In addition to the production of crops and livestock, farms provide scenic vistas and help create rural character.

Farming was a major form of economic activity in Grafton during the 1800's. However, as the population migrated to the cities and more fertile lands in the midwest, many farms were abandoned, with fields and pastures growing up to bushes, sapplings and finally renewed forests. Today there are very few farms left in Grafton and many fields sit idle. The significance of farming should not be underestimated, however.

The people of New Hampshire produce only 15 percent of the food which they consume - 85 percent of New Hampshire's food is imported from out-of-state. Food prices in New Hampshire average 10 to 15 percent higher than in other regions of the nation. This is because New England is at the end of the food and transportation supply line. The state, and the New England region, are without stored food surpluses, other than supermarket stocks, which would be needed in the event of a crippling storm or natural disaster, a trucking strike or oil embargo.

Table VI-2

New Hampshire Food Production*

<u>Product</u>	<u>Percent of State Requirement</u>
Beef	19
Pork	6
Poultry	19
Eggs	116
Cereal Products	4
Non-Citrus Fruits	118
Vegetables	7
Potatoes	16
Liquid Milk	146

Source: N. H. Cooperative Extension Service

*To supply this amount of food requires the use of resources from outside New Hampshire. These resources include petroleum products, machinery, livestock, grains, etc. Approximately 250,000 tons of feed grain is imported into New Hampshire; this represents a land requirement of 100,000 acres.

New Hampshire has major climatic and agricultural resource limitations on food production. Many of the things which the state is best suited to produce are highly energy and technically-intensive, perishable and seasonal. The State of New Hampshire, and New England, is heavily dependent on imported foreign energy resources.

Even if it were practical, New Hampshire lacks sufficient agricultural land resources for a majority of its population to do much about producing a major part of their food. Both Grafton and the State as a whole have very little good agricultural land. The town needs to protect what little is available. This, coupled with the population growth that New Hampshire, the region and Grafton is experiencing, points out the need to address the food issue. As population expands, especially from immigration, the competition for available resources sharpens. Food is one of the resources, as is land. A method of allotting resources must be developed and implemented to assure at least a minimum amount for everyone's wellbeing.

Table VI-3

<u>Name</u>	<u>Active Farms, Grafton, 1986</u>	<u>Marketing</u>
John Collins & Kathy Lund	<u>Products</u>	<u>Roadside</u>
"Our Place"	Produce	stand
John Bassett	Dairy, Meat	
Madge Johnson	Hay, Silage	

Source: Grafton Town Office

In the period between 1952 and 1975, Grafton irretrievably lost 24% of its total agricultural acreage to forestry and development. Although this conversion rate is considerably less than that recorded elsewhere in the State (particularly in Hillsborough and Rockingham Counties) it still represents an attrition that must be halted. Grafton's agricultural reserves are very limited. Once converted to housing or other development, former farmland will never be reclaimed for farming. It is also expensive and difficult to revert woodlands back to agricultural land again.

Benefits of Farmland

The preservation of existing and potential farmland has several important benefits to the town. Farmland preservation:

- o Helps maintain the town's rural character, which residents identified as one of the most desirable aspects of Grafton.
- o Attracts tourists and even businesses because of a rural state image.
- o Provides open space and scenic views while making productive use of the land.
- o Provides an important habitat for wildlife - encouraging farmland is one of the best ways to encourage wildlife, especially deer, turkeys, bluebirds, sparrow hawks and woodcocks.
- o Encourages energy efficiency.
- o Provides fresh, nutritious food which is free of additives.
- o Allows residents to pay for the cost of food without paying for the cost of packaging.
- o Keeps local money in the local economy. Local farmers will hire local people and will buy local goods and services.
- o Ensures that good agricultural land will be available if and when the demand for local agricultural products increases.
- o Ensures that the land use will have a positive fiscal impact on the town, while development may have either a positive or negative fiscal impact.
- o Makes productive use of floodplains.
- o Preserves groundwater recharge and reduces surface runoff in some areas.

FORESTS

As discussed earlier, most of Grafton's open space, and indeed land area, lies under forest cover. Like many towns in Grafton County and Northern New Hampshire, Grafton's forests represent a major asset to the town as well as serving as the town's dominant land use pattern.

Grafton's extensive forests have several functions and benefits. These include: (1) to provide a permanent supply of fuelwood, lumber and other wood products, (2) to hold soil in place, especially on hillsides, where deforestation diminishes the soils ability to absorb and hold water and results in the erosion of slopes, sedimentation in streams and lakes, and more frequent and severe flooding, (3) to provide natural wildlife habitats, (4) to offer areas for outdoor recreational opportunities such as hiking, skiing, hunting and camping, (5) to act as a screen or buffer of sights, sounds and the wind, and (6) to provide natural beauty and scenic views for both residents and tourists, especially in the fall.

A number of factors suggest that there is an increased need to develop policies which specifically address land use issues relating to Grafton's forests including:

- o the region's rapid growth is placing new pressures on forest land for conversion to more intensive uses;
- o housing development on the fringes of large tracts of forested land increases the dangers of forest fires and also increases the threat to life and property should a fire occur;
- o national demand for lumber and finished wood products has driven up the price of lumber over the past decade, making timber harvesting increasingly attractive to woodlot owners;
- o high energy costs and the uncertainty of energy supplies have spurred a rapidly expanding fuelwood market, placing additional pressures on our forests as an energy resource; and
- o ownership of forest land is increasingly fragmented, complicating educational efforts directed toward forest management.

Land areas with steep slopes are especially sensitive to forest cutting due to the potential for erosion and surface water runoff. Much of the commercially marketable forest land in Grafton is located on steep slopes. All tree-cutting operations on steep slopes should be closely monitored, especially areas containing potential firewood stands which are susceptible to improper cutting practices by "non-professionals".

Surface drainage patterns and surface waters can also be affected by logging operations in that the removal of vegetative cover increases the velocity of stormwater runoff and sedimentation. Almost every stream, brook, pond and lake in Grafton could be damaged in this manner.

To address these issues the Town of Grafton should:

- o Encourage landowners to seek technical forestry expertise to develop a forest management plan for any area which will be logged. The professional forester can help the landowner develop a plan which will avoid environmental problems and ensure a long-term sustained yield. He can also inform the landowner about the quantity and market value of his forest, and, in some cases, prevent loggers from taking advantage of uninformed landowners.
- o Consider hiring a Regional Forester with some of the neighboring towns to advise landowners, develop and enforce management plans, avoid potential environmental problems and enforce the yield tax. The Town of Grafton currently received approximately \$3,500 as a yield tax in 1985. Since there is a potential for some of the yield to go unreported, enforcement of the yield tax would likely cover the cost of the town's share of a Regional Forester, thereby providing a free service to landowners and the town as a whole. Another alternative is to charge the Police Department with the responsibility of enforcement. The town could require that they stop at logging sites as they patrol the town to ensure that loggers have filed an accurate permit with the town. Some towns have used this approach successfully.
- o Adopt a steep slopes and erosion and sedimentation ordinance to prevent environmental problems which could result from forest cutting on steep slopes and in important watershed areas.

TREE FARMS

Tree farms are forest lands which are managed in a manner which will assure continuous production of commercial forest crops in accordance with forestry practices approved by the American Forest Institute.

Table VI-4

Certified Tree Farmers
Grafton, 1985

Owner

James Robert
Leonard Guaraldi
William Tucker

Source: Grafton Selectmen

WATER RESOURCES

Water bodies cover 1.4% or more than 400 acres of the Town of Grafton. Grafton's waterbodies include Grafton Pond, Kilton Pond, Tewksbury Pond, Grants Pond, Halfmoon Pond, Hale Pond and Whitney Pond, while it shares Spectacle Pond with Enfield. Along with streams and brooks, such surface water is important for its recreational, scenic, firefighting and wildlife potential. Public access points are located on Tewksbury, and Grafton Ponds.

Table VI-5**Inventory of Ponds in Grafton**Grafton Pond

Area: 235 acres
Length: 6.8 miles
muck, 20% gravel
Elevation: 1230 feet
scant
Average Depth: 22 feet
scant
Max. Depth Sounded: 66 feet
rocky

Color: light brown
Bottom: 5% rock, 75%
Emergent Vegetation:
Submerged Vegetation:
Shore: 99% wooded, 1%

Kilton Pond

Area: 68 acres
Length: 2.5 miles
Elevation: 856 feet
abundant
Average Depth: 4 feet
abundant
Max. Depth Sounded: 9 feet
swampy

Color: brown
Bottom: 100% muck
Emergent Vegetation:
Submerged Vegetation:
Shore: 80% wooded, 20%

Tewksbury Pond

Area: 46 acres
Length: 1.1 miles
Elevation: 913 feet
Average Depth: 29 feet
Max. Depth Sounded: 51 feet

Color: colorless
Bottom: 75% rock, 10% sand,
5% muck, 10% gravel
Emergent Vegetation: scant
Submerged Vegetation: scant
Shore: 80% wooded, 20% rocky

Grants Pond

Area: 30 acres
Length: 0.7 mile
Elevation: 1336 feet
Average Depth: 2 feet
Max. Depth Sounded: 5 feet

Color: brown
Bottom 100% muck
Emergent Vegetation: abundant
Submerged Vegetation: abundant
Shore: 10% wooded, 90% bog

Halfmoon Pond

Area: 20 acres
Length: 1.2 miles
Elevation: 1410 feet
Average Depth: 18 feet
Max. Depth Sounded: 47 feet

Color: light brown
Bottom: 50% muck, 50% gravel
Emergent Vegetation: common
Submerged Vegetation: common
Shore: 100% wooded

Hale Pond (Lily Pond)

Area: 18 acres
Length:
Elevation: 1570 feet
Average Depth:
Max Depth Sounded:

Color: light brown
Bottom:
Emergent Vegetation: present
Submerged Vegetation: present
Shore: 80% wooded, 20% swampy

Spectacle Pond

Area: 108 acres (11 in Grafton)
Length:
Elevation: 1183 feet
Average Depth: 10 feet
Max. Depth Sounded: 16 feet

Color: light brown
Bottom: 90% muck, 5% rock
5% sand
Emergent Vegetation: abundant
Submerged Vegetation: abundant
Shore: 70% wooded, 30% swampy

Other Ponds:

Mud Pond – Area: 2.5 acres
Whitney Pond – Area: 3.5 acres
Three Thousand Acre Pond – Large swampy area, approx. 2 acres
open water

Source: County Conservation District, "Inventory of Lakes, Ponds and Reservoirs
in Grafton County".

Grafton waterways include Mill Brook, Manfeltree Brook, Bicknell Brook and Smith River. These waterways provide storm drainage, wildlife habitat and both active and passive recreational opportunities. As protection against pollution and sedimentation, land within 75 feet of these streams should not be developed.

Located in Grafton, near Rt. 4A, are 46.2 acres of marsh, part of the 300 acre McDaniels Marsh which overlaps parts of Grafton, Enfield and Springfield. This open marsh area is bordered by a mixed hardwood and softwood forest with significant concentrations of emergent, floating and submerged marsh plants. The area receives extensive use by waterfowl. In Grafton the area is owned by the N.H. Fish and Game Department and is known as the Washburn Corner Waterfowl Area.

For a long time wetlands were considered useless but are now increasingly appreciated for the benefits associated with flood control, wildlife habitat, groundwater recharge and recreation. Wetlands include highwater table soils, marshes, bogs and floodplains. The Town should work to inventory and then protect its wetlands through a comprehensive wetlands ordinance.

SCENIC VIEWS

The varying topography of Grafton affords town residents and visitors numerous scenic views which contribute to the town's unique character. Throughout Grafton there are significant views visible from the roadside. Some of these should be considered for "pull-off" and/or picnic areas, while some may warrant the negotiation of scenic easements, development rights or outright purchase. In addition, tree-cutting practices and sign ordinances should be established which will ensure that Grafton's residents and visitors will be able to enjoy these beautiful views in the years ahead.

The visual quality of the subjects of these views should also be protected. Development on the town's hilltops would significantly alter the town's rural character and clear-cut logging operations on hillsides can turn beautiful scenes into marred landscapes overnight.

SCENIC SITES

Related to scenic views there are numerous unique and scenic areas in Grafton which merit special consideration and protection. The following table constitutes a partial inventory of these scenic sites. Emphasis should be given to preserving and enhancing both the visual quality and public access to these areas.

Table VI-6

Unique and Scenic Areas in Grafton

<u>Name with Identity of the area</u>	<u>Location</u>	<u>Present Use of the area</u>	<u>Description</u>
Ruggles Mine	Off Rt. 4	Private, Tourist Attraction	Large open pit mine with caves & rooms off to the sides - mineral collecting permitted with ticket.
Banks Pinnacle	2 mi from Rt. 4 A	Private	View of surrounding area, including all of Grafton Pond.
The Pinnacle	off Grafton Tpk.	Private	Fields now idle converting to woods northeast of mountain on Mill Brook.
Mill Brook	River Road	Private	Areas along brook with falls, pools and views.
Manfeltree Brook	Rt. 4, 1 mile Riddle Hill Rd.	Private	Pool, old site of stone quarry in stream bed.
Kilton Pond	Rt. 4	Private	Area between Rt. 4 and pond with aesthetic view.
Tewksbury Pond	Rt. 4	Private	Pond along Rt. 4 at base of mountain.
Halfmoon Pond	off Riddle Hill Rd.	Private	Natural unspoiled pond.
Grants Pond	Wild Meadow Rd.	Private	Small manmade pond. Former mill site.
Williams Waterfall	Williams Hill & Kinsman Highway on Livingston Hill Rd.	Private	Scenic waterfall in the woods.
Harry Beggs	off Kinsman Highway	Private	Old Watermill site & stone bridge.
Mildred's Blueberry Patch	Blueberry Hill Rd.	Private	View of Vermont, Enfield & Springfield.

...and many others

SCENIC ROADS (see also Scenic Roads section, Transportation Chapter)

An important piece of state legislation with respect to scenic views along town roads is Scenic Roads (RSA 253: Sections 17 and 18). This law allows towns to designate by town meeting vote any road (other than Class I or Class II state highways) as a Scenic Road. Abutting property owners must be notified of the proposed scenic road designation prior to town meeting.

Why have so many roads in New Hampshire been designated as Scenic Roads? What is gained? The main purpose of a scenic road designation is to help protect the scenic qualities of that road. To an engineer, road agent or highway department employee, the trees and stone walls along the road may have no meaning; to the property owners who live on or travel along that road daily, the trees and stone walls may have a great deal of meaning in terms of visual quality and the rural character of the area. They have personal significance. The designation of a road as scenic is a declaration by the town that the road has important visual qualities which must be recognized and treated with care.

Trees can still be cut and stone walls can still be removed along scenic roads when there is good reason. Regular, routine maintenance and repairs of the road are not affected by this law. Perhaps most significantly, the designation of a road as scenic establishes a mechanism for public input before the highway department does its work. To property owners along the road, this opportunity is much preferred over having to react emotionally while the work is going on or after it has been completed.

Although there are currently no designated scenic roads in Grafton, there are numerous which should be considered for such designation. (The Town of Tamworth designated all town roads as scenic roads.)

WILDLIFE

The purpose of this section is to discuss issues and policies relevant to the protection and encouragement of wildlife and to identify and describe significant wildlife areas in the town. Grafton has numerous fields, forests, wetlands and water bodies which serve as important wildlife habitats for the town.

In the forest in varying numbers are white-tail deer, snowshoe hare, black bear, bobcats, squirrels (gray, red and flying), raccoon, skunk, fisher, and moose. Year-round birds which live in the woods include chickadees, jays, nuthatches, woodpeckers (several kinds), crows, purple finches, ruffed grouse and loons. Every now and then a wintering hawk or owl turns up but these species are more common in the less severe seasons. Woodcock are present in the warmer half of the year, and woodland songbird summer residents include several kinds each of warblers and thrushes and the winter wren.

Equally productive as habitat are the rivers and streams, lakes and ponds, and the marshes and bogs of Grafton. In these waters, depending on whether the water is warm or cold, fast moving, slowly meandering or still, are pickerel, horn pout, bass, perch, suckers and both brook and rainbow trout. Also found in wetland habitats are frogs, toads, turtles and salamanders. Mammals include beaver and muskrat. Coming in the spring and lingering into the autumn in or around the ponds and lakes are herons, black ducks, the common loon, a threatened species in New Hampshire, and red-winged blackbirds. Migrant ospreys, Canada geese, several other kinds of ducks and sandpipers visit in the spring and fall en route north or south.

Open grasslands harbor woodchucks and red foxes as well as the smallest mammals such as voles, deer mice, chipmunks, shrews and moles. Bluebirds and several kinds of sparrows, as well as robins, depend on our fields and meadows for their food.

Transitional areas - edges and clearings - are of great importance to whip-poor-wills, as well as various kinds of warblers and other songbirds, goldfinches for example. Deer, hares and foxes benefit too, for here is found a blending of two habitats - open field and some trees.

Some of the above species are more susceptible to development and have been nearly wiped out by human activity. The following table identifies endangered and threatened species in the State of New Hampshire.

Table VI-7

Endangered and Threatened Species, New Hampshire, 1979

ENDANGERED SPECIES

Common Name

Sunapee Trout
Short-nosed Sturgeon*
Bald Eagle*
Peregrine Falcon*
Lynx
Indiana Bat*

THREATENED SPECIES

Common Loon**
Cooper's Hawk
Marsh Hawk
Red-Shouldered Hawk
Osprey
Upland Sandpiper (Plover)
Common Tern
Arctic Tern
Roseate Tern
Whip-poor-will
Purple Martin
Eastern Bluebird
Pine Marten
Piping Plover

* on federal list

**sighted on Grafton Pond

The town should make strong efforts to protect and encourage these species by protecting habitat blocks of the quality and size essential for their survival.

Every development in the town results in the loss of some wildlife habitat. As these areas are developed, parts of town are irrevocably committed to human use. At the same time, other parts of town should be irrevocably committed to wildlife.

The cumulative effect of human development over many years must be understood and considered. No development will decimate a wildlife population; wildlife diminishes gradually over a period of years. For example, the filling of a small portion (say, one-tenth) of a wetland area for human use may seem to have no significant impact on the wildlife in that wetland. If this practice were repeated every five years for fifty years, the entire wetland would be filled in and the wildlife habitat irrevocably destroyed. If someone were to propose filling in the entire wetland in the first year, the proposal would probably be denied. The town must understand the cumulative effect of many "small" decisions over time and adopt policies which will prevent this from occurring.

The detrimental impact of developing our fields and forests is very difficult to quantify. It is easier to measure adverse impact on our lakes and ponds. A pond turns green from nutrient overloading from human wastes. People see that corrective action should be taken to maintain the viability of the lake and to protect their own property, recreational and aesthetic interests. But wildlife disappears quietly, and most people don't perceive that their interests are threatened when important wildlife habitat is converted to human use.

Benefits of Wildlife

The conservation and encouragement of wildlife has several important benefits to the town. Conserving and encouraging wildlife and wildlife habitat:

- o Helps maintain the town's rural character which year-round residents and seasonal residents identified as the most desirable aspect of Grafton.
- o Provides open space and scenic views.
- o Provides areas for educational and recreational activities.
- o Helps maintain the balance of nature, which sooner or later has an effect on the human population.
- o Provides areas for hunting, trapping and fishing, all of which have positive economic and recreational benefits to the town.
- o Is consistent with the preservation and encouragement of agriculture and forestry.
- o Protects potential water supplies and existing aquifers and groundwater recharge areas.
- o Provides flood protection.
- o Protects unique and unusual natural areas in some cases.
- o Ensures a minimal fiscal impact on the town, while development may have either a large positive or negative fiscal impact.
- o Provides natural buffers from sights, sounds and the wind.

OPEN SPACE RECOMMENDATIONS

- (1) Discourage development in outer lying areas of Grafton. These undeveloped areas are characterized by forests, rugged terrain (steep slopes, ledge, etc.), natural scenic beauty, large tracts in single ownership and poor road conditions. They are also far from town facilities and services, making it both difficult and expensive for the town to provide them. Minimum lot sizes should be fairly large in outlying areas.

Forestry, agriculture, and low-density housing are appropriate uses for these areas. By encouraging these uses and discouraging development, the town will (a) help keep property taxes low, (b) encourage residents to live in areas where emergency services can be provided quickly and economically, (c) preserve areas for commercial forestry and agriculture, (d) provide areas for outdoor recreation, (e) encourage wildlife, especially those species which need to roam over large areas and (f) conserve energy.

- (2) Support the Upper Valley Community Land Trust and/or establish a Conservation-Recreation fund to buy land or the development rights to land for open space, agricultural, forestry, wildlife conservation and recreational purposes.
- (3) Require developers to reserve common areas of open space for recreational purposes in all major proposed residential developments. The land set aside for parks and playgrounds should be reserved for the common use of all property owners in the subdivision by covenant in the deed and should be of reasonable size, character and location for neighborhood playgrounds or other recreational uses. Cluster development will also help accomplish this objective.
- (4) Encourage cluster rather than tract housing developments in appropriate areas. Cluster provisions allow developers to maximize the return on their investments by clustering housing units and leaving the remaining land in permanent open space. This option is especially valuable to the town in protecting agricultural lands.
- (5) Protect and enhance some of Grafton's scenic views. The town is blessed with several spectacular views which contribute to the quality of life of year-round residents and are an economic advantage in that they make Grafton attractive for tourists and seasonal residents. Some of the views identified in this chapter should be considered for "pull-off" overlooks while others can be protected by negotiating deed restrictions with property owners to keep the views free from obstructions, or through hilltop development. Scenic roads and improved public access for scenic sites and areas should also be considered as well as cleaning up some of Grafton's unique scenic areas.

- (6) Provide additional public open space along the shoreline of ponds and rivers in the town.
- (7) Preserve and encourage agriculture, forestry and wildlife.
- (8) Create a Conservation Commission to be responsible for promoting and preserving open space natural and agricultural areas. The Conservation Commission should work with other town boards and officials, local farmers, residents, business and relevant agencies to achieve this goal.
- (9) Adopt a wetlands conservation ordinance.
- (10) Encourage deed restrictions and conservation agreements to protect agricultural land.
- (11) Guide future residential, commercial and industrial growth into locations which are on non-agricultural soils. There is ample non-agricultural land for future development.
- (12) Keep an accurate up-to-date list of existing agricultural operations, including acreages, levels of products being produced, and methods of marketing.
- (13) The town should provide a designated area (with appropriate guidelines) where local producers can sell from an automobile or a table. Minimize barriers to direct marketing and encourage marketing directly from individual farms.
- (14) Provide community garden space so that any family unable to produce food on their own property will be able to do so in a community garden.
- (15) Continue to encourage local stores and institutions to purchase local agricultural products and to make it known that they are serving or selling local products.
- (16) Support efforts to increase the penalty for taking land out of current use.
- (17) Ensure that any future zoning ordinance specifies that existing farms and future farms in rural areas will not be unduly restricted with respect to odor, light and noise.
- (18) Encourage efforts aimed at educating the public about agricultural techniques, food storage and processing, marketing and nutrition.
- (19) Encourage "soft edges", transitional areas between woodlands and open fields. Many species rely upon this type of habitat.
- (20) Enforce regulations which are designed to protect water quality.
- (21) The decline of the fish population in our lakes, ponds and streams must be stopped. The town should:
 - a) Prevent the diversion and pollution of small and large tributaries which result from development on the lakeshore and adjacent areas.

- b) Whenever possible, the town should encourage landowners to leave their shorefronts in a natural state. Rocky shorelines provide an important wildlife habitat. Changing a rocky shore to a sandy beach creates a "biological desert" which destroys the food base for both fish and small mammals such as mink and otter. In addition, grass lawns planted along the shoreline are usually fertilized, contributing to the nutrient levels in the lake and the growth of algae.
- (22) The town should actively pressure state and U. S. Senators and Representatives to support measures which will alleviate the acid rain problem. Acid rain (and snow) changes the chemistry of lakes so they are unable to support fish life, which will seriously upset the balance of nature.

RECREATION

Grafton presently has extremely limited recreation facilities. Due to the small number of residents, dispersed settlement and large amounts of open space, Grafton does not have to offer the number of man-made facilities which would be necessary in concentrated urban areas. However, recreational facilities remain an essential element of the services provided by any responsive New Hampshire community for its citizens. For Grafton, improved recreational opportunities should be a high priority.

Recreational opportunities are both passive and active and are offered publicly and commercially. The following section describes Grafton's and the region's outdoor, indoor and commercial recreational facilities and programs and recommends improvements in an effort to meet the needs of residents and visitors and to attain the town's potential.

Town-owned recreational facilities in the Town of Grafton include the recreational field and Huff Beach. The recreation field consists of 12.65 acres off of Prescott Hill Road and was made possible by donations from Mildred Braley and James and Josephine Thoreson. Currently the field includes a basketball court, horse ring, horseshoe pits. Proposed future improvements include a softball field, a parking area for 50 cars and well into the future, a tennis court. Work on the field is on-going. The Smith River acts as a northern boundary for the property, providing a scenic area which should be cleared and enhanced. The recreational area is used annually for the Fourth of July celebration, horse shows and sleigh rallies.

Huff Beach is a small (0.7 acre) sandy beach area located off of Kilton Road with frontage on Kilton Pond. Floats mark a swimming area for young children. In addition to the steeply pitched beach there are several picnic tables. Parking at the area is extremely limited and results in parking in the road and along the access way. The Town plans to cordon off the pathway to prevent cars from driving all the way to the beach area.

Nearby, also on Kilton Pond is a town-owned boat launch site. There is little space for parking and the entry is unimproved. The Town of Grafton also owns a boat launch area on the south shore of Tewksbury Pond. The ramp is in fair condition and is unpaved; parking at the site is extremely limited. The usefulness of the site is further hampered by shallow water obstructions. Just east of this is a fishing area/boat launch area owned by the State. An additional boat launch area with fishing is located on Halfmoon Pond.

Table IV-8

Recreation Facility Assessment, Grafton, 1986

Recreation standards have been developed for the region by the Upper Valley-Lake Sunapee Council, in order to assess the adequacy of local recreational facilities to meet population demands. These standards depict the level of recreational facilities which should be provided for a given level of recreation. Standards should be interpreted with caution, as they represent at best flexible, general guidelines; they may be modified to reflect Grafton's local conditions in order to provide an accurate evaluation of the Town's actual recreation demands.

<u>Recreation Facility</u>	<u>Suggested Standards for Region</u>	<u>Present Facilities</u> (population: 800*)	<u>Adequacy**</u>
Ballfields	1 per 1000 population	Recreational field	Adequate
Tennis Courts	1 per 1000 population 1 acre per 1000 population	None	Inadequate
Playgrounds	1 per school 1 per 750 population	Recreational field Town Hall	Adequate
Beaches	1 per waterbody 300' frontage per 1000 population 2 acres per 1000 population	Huff Beach Private Beaches	Inadequate
Outdoor Skating Areas	1 per 1000 population 2500 S.F. per 1000 population	Lakes and Ponds	Adequate
Gymnasiums	1 per 2000 population	None	Not currently Applicable
Recreation Centers	1 per 2000 population	None	Not currently Applicable
Parks & Picnic Areas	1 per village 10 acres per 1000 population	-	Inadequate
Town Forests	50 acres per municipality	-	Inadequate

* 1985 Population Estimate computed by the NH Office of State Planning in October, 1985.

** Adequacy based solely on UVLSC standards.

A small playyard, consisting of swings and picnic tables is located at the Town Hall. It was constructed by the Mothers Club in 1978 but unfortunately receives little use in its present location except during meetings in good weather.

The Recreation Committee has played an active role in town affairs since its establishment in 1976. In addition to its critical involvement in the ongoing planning for the recreation field, it sponsors a swimming program at Huff Beach and arts program each summer, organizes races and games at Old Home Day, a Fourth of July celebration and holds dances. In recent years, it has also sponsored Child Awareness programs and Rabies Clinics. In 1985, the Town of Grafton appropriated \$1,300 for Parks and Recreation.

The following tables describe some of the region's recreational facilities and programs available to Grafton residents.

Table VI-9

Nearby State Lands Administered by N.H. Fish and Game

<u>Facility name</u>	<u>Acres</u>	<u>Township</u>
Webster Memorial Wildlife Management	91	Canaan
Connecticut River Access #1	24.5	Lebanon
Shaker Mt. Wildlife Management	2,603.	Enfield
George Pond Dam Site	18.	Enfield
McDaniel Marsh	46.2	Grafton
Connecticut River Access #2	38.	Cornish
Controlled Environment Corp Areas	.06	Grantham
McDaniel Marsh & Dam Site	166.3	Springfield
Wendell Pond Dam Site	10	Sunapee
Sunapee Lake Wildlife Management	35	Sunapee
White Pond Access	.6	Wilmot
Cascade Marsh	137	Sutton

Source: Newport Recreation & Park Dept.

Table VI-10

Access Points to Public Water

<u>Water Body</u>	<u>Township</u>
Connecticut River	Lebanon
Mascoma Lake	Enfield
Crystal Lake	Enfield
Half Moon Pond	Grafton
Tewksbury Pond	Grafton
Long Pond	Croydon
Perkins Pond	Sunapee
Sunapee Lake #1	New London
Sunapee Lake #2	New London

Source: Newport Recreation & Park Dept.

COMMERCIAL RECREATION

In addition to Town-sponsored recreation programs and facilities, there are many recreational opportunities provided by private businesses in the area. It is important to realize the full range of recreational activities available to the people of Grafton. The following is a list of commercial recreation facilities in the Grafton area.

Table VI-11

Commercial Recreation Opportunities
in the Grafton Area, 1986

Boating/Sailing

Dartmouth Outing Club

Enfield

Camping

Mascoma Lake Campground

Lebanon

Storrs Pond Recreation Area

Hanover

Crescent Campsites

Canaan

Campers Rest

Dorchester

Pines Acres Campgrounds

Bristol

Plymouth Sands Camping

Plymouth

Golf

Eastman (18 holes)

Grantham

Carter Country Club (9 holes)

Lebanon

Hanover Country Club (18 holes)

Hanover

Lake Sunapee Country Club (18 holes)

New London

Skiing

Whaleback Ski Area

Enfield

Mt. Sunapee State Park

Mt. Sunapee

Storrs Hill

Lebanon

King Ridge

New London

Hanover Country Club (nordic)

Hanover

Snow Hill at Eastman

Grantham

LaSalette (cross-country)

Enfield

Dartmouth Skiway

Lyme

Mt. Ascutney

Brownsville, Vt

AMC Cardigan Lodge

Alexandria

Live Theatre/Music

Whitney Hall (Shoestring Players)

Enfield

Lebanon Opera House

Lebanon

Hopkins Center - Dartmouth College

Hanover

Barn Playhouse

New London

Junction Playhouse

Hartford, Vt.

Movie Theatres

Nugget Twin Cinemas

Hanover

White River Drive-in

Hartford, Vt.

Sack Cinemas

Lebanon

Regal Cinema

Franklin

Plymouth Theatre

Plymouth

Bowling

Astro Bowl

Lebanon

Roller Skating

Al's Casino

Enfield

Riding StablesHorton Farm - Boarding & Training
Countryside StablesGrantham
EnfieldTennis & RacquetballDartmouth College
Fountain of Youth
Seminary Hill & Jr. High SchoolsHanover
Hartford, Vt.
LebanonState ParksCardigan Mountain
Mt. Sunapee State Park
Wadleigh State Park
Winslow State ParkOrange
Mt. Sunapee

WilmotMuseums/AttractionsShaker Village Museum (LaSalette)
Enfield Historical Society School Houses
(Rt. 4A & Lockehaven Road)
Montshire Museum of Science
Hood Museum - Dartmouth
St. Gaudens National Historical Site
Historical Museum
Ruggles Mine
Shaker Visitor CenterEnfield

Enfield
Hanover
Hanover
Cornish
Canaan
Grafton
EnfieldRECREATION RECOMMENDATIONS

- (1) Encourage local organizations to continue to help with recreation programs and park improvement projects.
- (2) Enlarge and improve the boat launch and swimming areas.
- (3) Create more park land, open space and public access along all waterbodies.
- (4) The Town of Grafton should seek to develop additional facilities as soon as resources permit. Residents should be surveyed to determine the priority of each. Land and Water Conservation Fund grants should be used to cover 50 percent of the cost.

Chapter VII

HISTORIC RESOURCES

VII. HISTORIC RESOURCES

INTRODUCTION

A plan for the future without a look to the past is incomplete. Because Grafton's historic resources and historic quality play an important role in the overall quality of life in the community, historic resources should be evaluated and considered as part of the complete master planning process. Historic structures and sites which survive from earlier periods are the visual record of a town's history. Surviving fragments of history contribute to the individuality of each town, and lend a sense of continuity. Historic resources must be considered for what they are: but one part of our total environmental resources. Like many others, they are nonrenewable, capable of being preserved or vanishing with a single action.

Grafton's past is a colorful one and fortunately many structures and sites remain to tell us the story of the town's earlier residents. Initial community activity in Grafton centered along several spines corresponding to the Grafton Turnpike and the Mascoma Valley Highway (later Center Road and now Route 4), resulting in a number of stagecoach taverns along the well travelled routes. Elsewhere in the community farmers dedicated themselves to trying to farm the hilly Grafton terrain while others mined the rich deposits of Isinglass Mountain. Beginning in the 1840's one can imagine the smoke of the woodburning railroad engines as they made their way through Grafton, on tracks which followed the path of the Smith River. At Grafton Village the smoke must have been especially dense owing to the charcoal kilns which were located there. Naturally the demand for fuel had a major impact on the landscape as well, with Grafton providing 1,000 cords of wood per year to service the railroad. In time numerous mills established themselves along local brooks, harnessing the water power to produce a variety of goods. For Grafton the railroad era marked the height of its population, prosperity and activity. In 1850 Grafton's population numbered over 1,200, nearly double that in the year 1886. Many of Grafton's finest surviving historic structures date to this period and are marked by embellishments typical of the Greek Revival style which was popular during the 1830's-50's.

Today the railroad has been abandoned and work at the mines and mills has ceased. Many of the structures associated with the activities described above have disappeared, making those which do survive all the more precious to us today. Throughout town historic structures and sites are tangible evidence of Grafton's past.

The purpose of this chapter is to discuss existing legislation and tools available to help protect Grafton's cultural heritage. Significant local historic sites and resources are identified, with recommendations for their continued preservation. It is the responsibility of the community to plan a program of historical and cultural protection, based on local needs and desires. This chapter does not attempt to be a complete and comprehensive inventory of all local resources, but is intended as a departure point for the future.

COMMUNITY ATTITUDES

The Community Survey conducted by the Grafton Planning Board in 1984 to determine local needs and preferences with respect to future planning, asked residents to list historic sites and buildings they would like to see preserved in Grafton. The Churches, Library, Ruggles Mine, Town Hall, Grafton Inn and Schoolhouses were those most often mentioned by respondents while the Razor Hill Houses, Hazen Farm, Kilton House, the Pinnacle and Hinkson's Carding Mill were noted by a single respondent each.

IMPORTANT LOCAL HISTORIC RESOURCES*Razor Hill

Located near the center of town, Razor Hill was the scene of the first Grafton town meeting, held in the North Meetinghouse in 1778. Later the Grafton Turnpike was laid out through the thriving community. Yet, by the mid 19th century activity in town had shifted toward more accessible village centers and in 1842 the meetinghouse was moved to East Grafton.



One of Grafton's finest first period houses, the Hezekiah Bullock Tavern looks very much as it did when it was constructed c. 1790. Characteristic of the Georgian period is the house's broad facade measuring five windows across, its hip roof with central chimney and its 9/6 windows. The house features an unusual angled lintel doorframe with transom lights, a regional detail possibly with roots in Rhode Island and Connecticut. Nearby is an old Cape Cod structure which probably dates to the same period and was also a tavern, operated by Levi Martin. The Razor Hill Cemetery contains the graves of many early residents. The void in the cemetery corresponds to the original meetinghouse site.

Height of Land District

Located in the northwestern corner of Grafton, near the Canaan and Orange town lines is the area known as the Height of Land District. Containing only a few residences, this area, as its name suggests retains spectacular views and open fields as well as several historic structures. A proposed scenic road designation for this area failed at Town Meeting several years ago.

What is today known as the Bryant Home dates to the first quarter of the 19th century. Although it lost some of its original detailing during forty years of abandonment earlier in this century, it has been restored to capture much of its former glory. It may have served as a tavern on the old highway which fronted the house. Nearby is the former Height of Land School, converted for use as a private residence.

*Many thanks to Ken Cushing who provided many of the historical facts for this section.

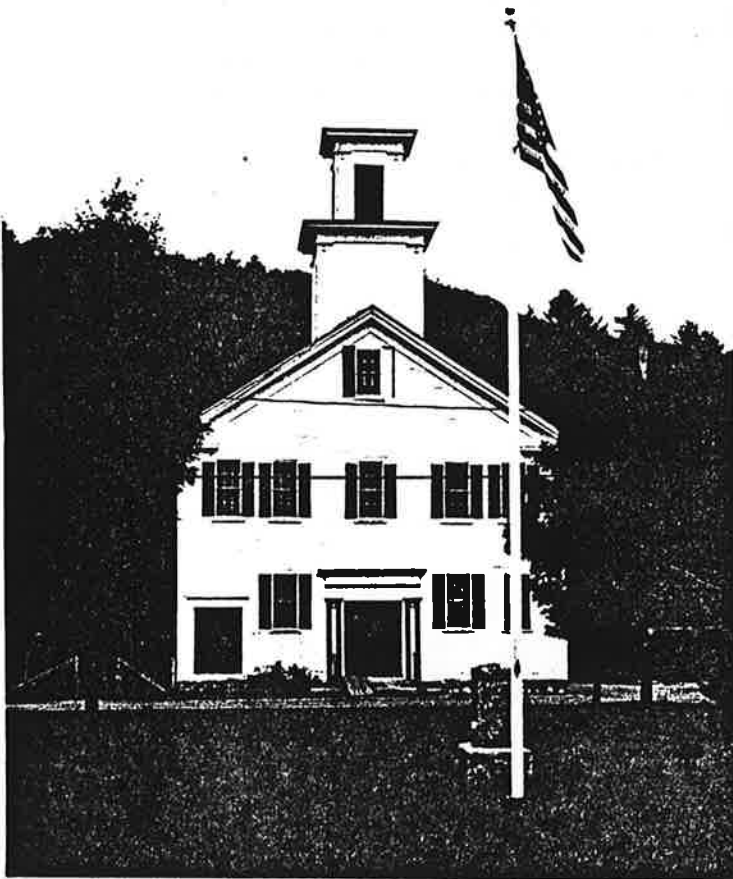


Ruggles Mine

Located in the western part of town on Isinglass Mountain is Ruggles Mine, where commercial production of mica in the United States first began in 1803 on the property of Sam Ruggles. According to local legend, Ruggles, a wealthy Boston entrepreneur, was anxious that others not learn of his wealthy mineral deposits and hid the mica he extracted under regular farm produce and hauled it at night by ox team to Portsmouth where it was shipped to England, for use in lamp chimneys and stove windows. New Hampshire was the sole producer of the mineral until 1868. In this century feldspar, garnet, quartz, beryl, uranium and zircon have also been extracted from the mine. An estimated thirty million dollars in valuable minerals have been recovered here since 1803.

Grafton Center

The village at Grafton Center historically grew around the common, meetinghouse, grist mill and streams which furnished valuable water power. The focal point of the village is the Center Meetinghouse (Grafton Congregational Church), built in 1798. As was customary, the simple meetinghouse originally served both public and religious purposes with the pews inside sold to local residents. In 1856 functions were separated with the town hall on the first floor and the sanctuary moved to the second. Many of the building's details including the entrance, cornice and returns and two stage belfry date to this period. The 22 ft. spire was added in 1983. Future plans include renovation of the sanctuary. Also of interest are several early-mid 19th century homes fronting the common.



Grafton Village

Created by the railroad, during the mid 19th century Grafton Village was a bustling village center housing the depot, as well as a hotel, charcoal kilns, a sawmill, post office and store. The railroad station and the charcoal kilns have long since disappeared and the railroad is now abandoned but the village continues to function as an important center of activity.



The Grafton Inn was constructed c. 1874 by Dearborn Clay, owner of the charcoal kilns and a local entrepreneur, to serve the railroad industry. In addition to its rooming and livery functions, the hotel acted as a base for peddlers, and community services ranging from haircuts to dental services as well as being the scene of vaudeville and other entertainment passing through town. Architecturally the building is noteworthy for its distinctive bargeboard with fancy drip brackets. The Grafton Store next door probably dates to the mid 19th century.

Nearby, the Grafton Town Library was constructed in 1923, of concrete blocks which were poured on the site in wood molds. Inside the building is distinguished by attractive pressed metal ceiling and wall finishes, a natural wood floor and wainscoting and period light fixtures.





East Grafton

Undoubtedly the most cohesive and historically intact of Grafton's village centers is East Grafton. The incorporation of the Grafton Turnpike in 1804 connecting Andover and Orford gave rise to this village, early on known as Bungtown because of the barrels made there. In time East Grafton became the town's industrial center, producing axes, bobbins, shingles, clapboards, flour, carded wool, lumber, barrels and coffins. Indicative of the village's significance locally, the North Meetinghouse (c.1778) was moved here from Razor Hill in 1842. Still an important local landmark the building was modernized in the Queen Anne style about 1890 with new windows, shingles and a bell tower.

Many of the other buildings in the village date to the 1840's, just as the Greek Revival style was gaining favor, replacing earlier broadsided houses with gablefronts, intended to be reminiscent of Greek temples. The Kimball House is an excellent example of this, with its recessed gable front porch supported by plain Doric columns.





The brick Hazen house also dates to this period and is significant for its fine intact attached barn. Built by the Whittier Family the farm was operated by Peter Kimball for many years and historically was one of the best farms in town.



"The Maples", previously a hotel/boarding house also was built about 1840 and incorporates a fine recessed doorway with sidelights and transom lights as well as a late 19th century Victorian porch. The doorway is a good clue to the building's age. Similar doorways can be seen on the Davis House and Union Church Parsonage.

Across from the Union Church the Goodwin House features a unique porch supported by granite posts above a granite foundation.



The present Grafton Town Hall was constructed in 1899 with the front addition dating to 1924. The building was originally the District No. 5 Schoolhouse and was the last schoolhouse to be used in town before Grafton joined the regional school district in 1963.

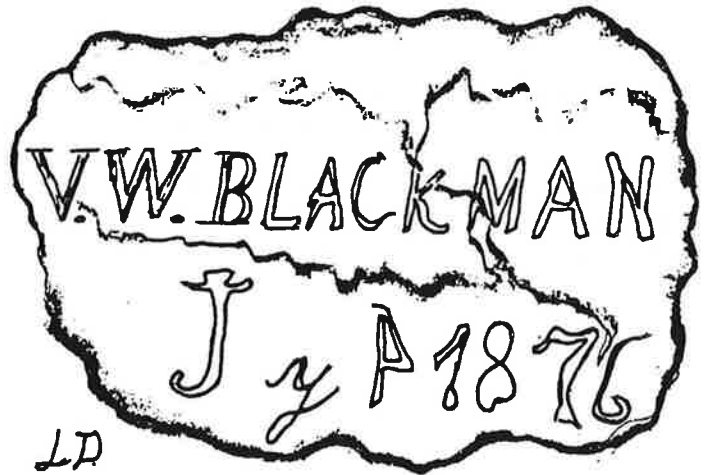


Other important landmarks in East Grafton include Folsom's Store. The present building dates to 1897 though this was probably the site of the first store and post office in town in 1835. Kimball's Sawmill, originally an ax factory, was modernized in the 1890's and also produced shingles. It was reportedly once the best on the river. Nearby are the remains of Hinkson's Carding Mill which operated here from the early 1800's until 1923.

Slab City

Probably so named because of the piles of slabs from the sawmill, Slab City at its height boasted two or three stores, numerous mills, a brick yard, and cooper-shops as well as the District No. 9 school-house. Built in 1848, the school was built of Slab City brick and was undoubtedly the finest found in any of the town's ten districts. During the 19th century school districts largely defined local neighborhoods and served as social centers as well. Twenty five families settled there in Grafton's early days. By the 1960's there were only five to six permanent homes here. Like many of the town schools this building has been converted to a private residence. Today this area is seeing new growth, although it retains some open fields, reminiscent of its early importance as a farming area.

Also of interest is the Virgil Blackman Stone, a cutting found in a ledge during the process of widening the road from Slab City over Dean Hill. Virgil Blackman, born in 1857, apparently cut this rock, bearing his name and the date July 4, 1876 to commemorate the country's centennial.



PRESERVATION ACTIVITY TO DATE

The actions of private individuals and groups have resulted in limited local preservation and historical activities over the years. Old Home Day has been a Grafton tradition for many years and in recent years has included historical lectures and exhibits. In 1977 the Town voted to appropriate \$500 to be used to relocate and preserve the Blackman Memorial Stone found on the Dean Hill Road in 1976 by the Town Road Agent. Although the funds were not expended on the stone (which is still visible on Dean Hill), the appropriated funds were set aside as a Historic Fund. In 1983 two local residents Ken Cushing and Mary Lou Gove, established themselves as a History Book Committee giving countless hours to the research and preparation of a local town history while greatly increasing local awareness of the town's vanishing historic resources.

Historically, New Englanders have continuously found new uses for older structures and Grafton residents are no exception. Many of Grafton's former ten schoolhouses today serve as private residences while the District #5 Schoolhouse functions as the Town Office. In recent years residents throughout town have independently rehabilitated many older buildings reversing decades of neglect and substantially adding to the town's quality of life and tax base. In 1983 through the cooperation of Church members and local residents the square topped belfry of the Grafton Congregational Church received a new spire, with restoration of the sanctuary scheduled to follow.

At this time there is unfortunately no local historical society, no local structures listed on the National Register of Historic Places, no local historic districts and no locally designated scenic roads in the town of Grafton.

Within Grafton, there are numerous historic structures worthy of preservation, both in private and public ownership. Respect for the Town's historic assets however, does not at this time appear to be community-wide. Cases of decay, neglect, deferred maintenance and even abandonment are unfortunately all too common and pose the most imminent threat to Grafton's historic resources. Unfortunately existing local land use regulations covering subdivision can do little to protect the town's historic resources especially if property values continue to rise and if Grafton's population climbs 40-70 percent within the next ten years as has been predicted. Nor should it be assumed that land use controls alone will be sufficient to preserve Grafton's important resources, many of which are in the hands of private individuals and under normal conditions not subject to subdivision regulations. It is the private sector which provides the fuel and support necessary to ensure that the community's cultural resources remain an integral part of everyday life. It is a partnership between levels of support which must be struck.

In order to insure that Grafton is able to retain its historic assets in the future, the various vehicles for preservation available at the private, local and federal level are discussed below and should be considered.

PRIVATE CITIZENS AND ORGANIZATIONS

Much of the responsibility for historic preservation and awareness is undertaken by private individuals and groups. According to 1980 U.S. Census figures, 38 percent of Grafton's housing units were built prior to 1940. Considering the number of older housing units in Town, pride in ownership and regular maintenance alone can be responsible for remarkable preservation results. Unfortunately, improvement work

undertaken with good intentions can often result in techniques or materials inconsistent or insensitive to an older building. As a result, the integrity of the building is compromised and work done may actually damage the building it was intended to preserve, often proving more expensive than the proper treatment. A wealth of specialized information covering topics sensitive to the needs of older buildings ranging from the pros and cons of vinyl and aluminum siding, stripping paints, window replacement to repointing brick is available from the Upper Valley - Lake Sunapee Council.

Historical societies and other citizen groups can greatly enhance the public's awareness of the importance of preserving a town's historic quality through slide shows, walking tours, pamphlets and publications. There is a wealth of information available and numerous sources of historic interest in Grafton - small mines for mineral samples, old cellar holes, walls of abandoned buildings, old town documents, the memories of older residents and, of course, existing historic structures.

HISTORIC RESOURCES SURVEY

Preservation through documentation is the most basic, essential and noncontroversial of preservation strategies. There are several advantages in undertaking an historic resource survey. In addition to providing a permanent written and photographic record of a town's architecture, a good inventory is the foundation for other preservation tools and can be used to establish historic districts or to prepare nominations for listing of historic structures in the National Register of Historic Places. Data gathered in a survey may encourage a greater appreciation of historic structures and sites by local citizens. Historic resource assessments are also necessary for accomplishing environmental reviews required in projects receiving Federal funding. As the beginning of a comprehensive historic preservation strategy, information gathered should act as a firm foundation for future decision-making, by identifying buildings suitable for and worthy of rehabilitation.

As part of a Statewide effort to identify and help preserve significant resources, matching grants are available from the New Hampshire Division of Historical Resources for historic resource surveys. Such surveys, documenting resources significant for their historical or architectural character, quality, and importance, are mandated by State and Federal law for the State Office to complete. Although not as comprehensive, in some communities tax cards which include photographs of structures may be a first step toward an historic resources survey.

NATIONAL REGISTER OF HISTORIC PLACES

The National Register of Historic Places is the official list of the Nation's cultural resources worthy of preservation. Established by the National Historic Preservation Act of 1966 and administered by the National Park Service within the Department of the Interior, the Register lists properties of local, state and/or national significance in the areas of American history, architecture, archeology, engineering and culture. Resources may be nominated individually, or in groups, as districts, or multiple resource areas and must generally be older than 50 years.

In New Hampshire, any individual may prepare a nomination application. National Register forms, maps and photographs are submitted to the New Hampshire State Historic Preservation Office for review by the State Review Board. Following approval at the State level, it is sent to Washington, D.C. for final review, approval and listing. Assistance in the preparation of any National Register nomination is available from the Upper Valley - Lake Sunapee Council.

Benefits of National Register Listing

- 1) Recognition of local, State or national significance often stimulating appreciation of local resources and encouraging pride in ownership;
- 2) Provision for review and amelioration of effects which any Federally funded, licensed or assisted project might have on the property;
- 3) Eligibility for certain Federal tax benefits (investment tax credits) for the rehabilitation of income-producing buildings and the charitable deduction for donations of easements;
- 4) Qualification for Federal preservation grants when funding is available.

Once nominated, a National Register District must have the approval of a majority of property owners, with each owner having a single vote regardless of the number of eligible properties he may own and regardless of whether the property contributes to the district's significance. For a single privately owned property with one owner, the property will not be listed if the owner objects. Listing in the Register does not interfere with a property owner's right to alter, manage, dispose of or even demolish his property unless for some reason Federal funds are involved. Nor does National Register listing require that an owner open his property to the public.

Grafton does not currently have any structures listed on the National Register although numerous buildings and sites would be eligible. Statewide there are nearly five hundred listings of which approximately fifty are districts. Over forty individual buildings or sites, and ten districts in the Upper Valley-Lake Sunapee Council region are listed on the Register. Nearby districts include the Enfield Shaker Community Village, the Canaan Street Historic District and the Colburn Park Historic District in Lebanon. Union Church in Enfield, Springfield's Town Hall and the South Danbury Christian Church are all individually listed on the Register.

National Register listing can be an important tool for identifying and planning the future of significant resources. Listing can act as a catalyst to change public perception and improve an area's image, but cannot in itself prevent major detrimental alterations or even demolition. It remains an important psychological first step toward historic awareness, respect and protection.

LOCAL HISTORIC DISTRICTS

The term "historic district" can refer either to a locally designated historic district, or as has previously been discussed, to a National Register Historic District. Both are useful preservation tools but differ in the way in which they are established and the protection they afford. An historic area may be both a locally designated historic district and a National Register District. In this area, Canaan, Dorchester, Claremont and Newport have established local historic districts.

An historic district is a geographic area of historic, cultural or aesthetic importance. The purpose of an historic district is to protect and preserve areas of outstanding architectural and historic value from inappropriate alterations and additions which might detract from an otherwise distinctive character. The controls on property development serve to assure property owners that investments made in rehabilitating significant structures will not be negated by incongruous development on neighboring properties.

The New Hampshire legislation (RSA 674:45, formerly 31:89) identifies the following purposes of historic districts:

- o Preserving an area which reflects cultural, social, economic, political and architectural history;
- o Conserving property values;
- o Fostering civic beauty,
- o Strengthening the local economy; and
- o Promoting the use of the district for the education, pleasure and welfare of community citizens.

An historic district is characterized by a grouping of structures and/or sites which physically and spatially comprise a specific environment. Buildings may represent a cross section of ages and styles but should be unified by past events or by plan or physical delineation. The primary intent is not just the preservation of structures of great antiquity or structures of outstanding antiquity or structures of outstanding architectural style and detail. Simple, honest 19th century homes, mills and stores can, and should, comprise the nucleus of a district when they create a distinctive setting. Within Grafton, Grafton Center and especially East Grafton fit this description.

The most comprehensive preservation tool available to local governments under State law is the creation and administration of a local historic district. As authorized by RSA 674:45, an historic district commission may be designated by local town meeting to prepare a suitable ordinance which establishes a framework for the commission's decisions and administration. Historic district legislation may be adopted in communities with no local zoning ordinance, planning board or building inspector. In contrast communities must have zoning and planning boards before they can adopt site plan review.

After preparing an appropriate ordinance, the commission is given authority to consider the appropriateness of any proposed construction, exterior changes or demolition of any structure within the district. In addition to the buildings, streetscape features, above ground utility structures and signs are often also regulated. Each individual ordinance must outline precisely permitted and prohibited actions and regulated activities. Expectedly, ordinances take on varying degrees of strictness. Permitted activities might include routine maintenance, painting, replacement of exterior features with similar features, rehabilitation and routine landscaping.

Prohibited uses might include artificial siding, lighted signs, mercury vapor lighting, etc. An historic district ordinance can specify the use of land as well as its appearance or aspect, though a town can limit the commission's powers so as not to include land use regulation.

It is important to emphasize that historic district commissions control noncontributing structures as well as new construction within a district. Alterations and additions within a district are individually reviewed in respect to their mass, scale and detailing in relation to surrounding structures.

For additional information on local historic districts contact the New Hampshire Association of Historic Districts in Exeter at 778-1799 or refer to: Historic Districts in New Hampshire: A Handbook for the Establishment and Administration of Historic Districts; A Guide to Delineating Edges of Historic Districts. These and other pertinent publications are available at the Upper Valley - Lake Sunapee Council Office.

HISTORIC BUILDING REHABILITATION TAX INCENTIVES

The rehabilitation of older buildings, frequently less expensive than new construction, is a cost-effective solution benefiting the tax base while filling older structures with new life. The Economic Recovery Act of 1981 provides attractive incentives in the form of Federal investment tax credits for the substantial rehabilitation of income-producing older buildings. The act was passed to support preservation by eliminating certain tax incentives which encouraged the demolition of historic structures. In order to receive the credits building owners are required to furnish detailed rehabilitation plans for review by the National Park Service for certification. Municipally owned structures are not eligible for these credits.

Currently the tax incentives take several forms. To be eligible for the largest federal tax credit, a building must be a certified historic structure, either listed individually on the National Register or contributing to a Register Historic District or certified Local District. Certified rehabilitation work must adhere to the Secretary of the Interior's Standards for Rehabilitation, a list of 10 standards developed to ensure that significant features of a building will not be compromised. In order to qualify for any of the tax credits, rehabilitation expenditures over a 24-month period must exceed \$5,000 or the adjusted basis of the property (the cost of the building excluding the value of the land less depreciation), whichever is greater.

It should be noted that recent Congressional tax proposals will change aspects of this program. For additional information about the National Register or rehabilitation tax credits, contact the New Hampshire Division of Historical Resources, PO Box 2043, Concord, N.H. 03301 (603) 271-3483 or the Upper Valley-Lake Sunapee Council.

OTHER PRESERVATION TOOLS

o Revolving Funds

Revolving funds are self-replenishing loan pools. The money in the pools is mostly composed of donations and is used to restore buildings. The fund revolves when the restored building is sold. With a revolving fund, a nonprofit organization can either acquire a deteriorating building, restore it, and then sell it, or make low interest loans available to those who need to restore their historic buildings.

The first building restored by a revolving fund should be a highly visible one, so that donors can see their money at work. A building should be endangered, well worth saving and have a high resale potential before it should be considered eligible for a revolving fund. Besides donations, an organization administering a revolving fund can solicit sources of revenue from private foundations and government subsidies, such as Community Development Block Grants.

o Easements

New Hampshire Law RSA 447:45-47 covers Conservation Preservation and Agricultural Conservation Restrictions, commonly known as easements. An easement is a partial interest in a property, a property right that can be bought or sold. It may give a person a right to do something with or on another person's property or as is more common in terms of historic preservation, it can prevent an owner from doing something on his or her property (called a negative easement).

The major advantage of easements is that the costs of such a program may be significantly lower than buying properties outright to protect valuable resources, particularly when easements can be acquired by donation.

A preservation easement is an agreement between an historic property owner and a government agency or preservation organization which gives the latter the right to review any proposed changes to the structure. In return for giving an easement, a property owner is eligible under the Tax Treatment and Extension Act of 1980 to make a deduction from its taxes. If the easement is considered a lifetime gift then the property owner could receive a deduction for up to 50% of his adjusted gross income. Once recorded, an easement usually runs with the property in perpetuity, thus binding not only on the present owner who conveys it, but all future owners as well.

Preservation easements generally take one of two forms. The first and more common type is the exterior or facade easement which protects the outside appearance of a building by controlling alterations and requiring maintenance. The second type, an interior easement, protects all or part of a building's interior. This type of easement is seldom used for it is often difficult to enforce and also to acquire.

In rural areas, conservation easements can play a vital role in preserving the lands around historic sites. Typically, a conservation easement can be donated to protect open spaces, scenic areas, waterways, wildlife and farmland.

Development of a land trust between both preservation and conservation interests would be a valuable tool to safeguard both natural and architectural features. Harrisville, New Hampshire is just one rural community which has established a program to protect both settings and buildings. An Upper Valley Land Trust has also just recently been formed. If properly administered, easements are a superior method of conserving and protecting land, water and historic resources; perhaps better and longer than zoning or locally designated historic districts.

POTENTIAL ARCHEOLOGICAL AREAS

Areas with proximity to water, such as the many ponds and brooks in the case of Grafton, logically hold great potential for prehistoric and historic archeological areas. Historically these water bodies were lined with mills seeking to harness their water power. In Grafton significant mill sites were found at East Grafton, Grafton Center, the southern part of town and western section. Throughout town, cellarholes bear silent witness to early settlers, whose houses were destroyed by fire or abandoned as the families moved. Investigation of these areas could yield much useful information relating to the lifestyles of Grafton's early settlers. The record of these ancient times is fragile and no doubt much has already been lost through vandalism, builders, farmers, road construction and the inherent acidic nature of waterfront soils. Since this report deals primarily with the town's architecture, investigation by qualified archeologists is necessary to determine the actual potential of these areas. No comprehensive survey of archeological resources has been prepared thus far. For more information contact the State Cooperative Regional Archeology Program in Concord at 271-3483.

GOAL

- (1) To protect historic sites, buildings and settings.

RECOMMENDATIONS

- (1) Investigate National Register listing for significant local structures and sites including, but not limited to, the Grafton Congregational Church and structures in East Grafton.
- (2) Explore the establishment of local historic districts in East Grafton and possibly Grafton Center.
- (3) Any building change, site improvement, or any other alterations (especially to town-owned buildings) should respect the historical qualities of the structure.
- (4) Locate and map sites and/or cellarholes of original school houses, places of business, industries, mines and homes.
- (5) Locate, identify, catalogue, preserve and protect town records, documents, manuscripts and artifacts and provide a suitable and safe repository for them.
- (6) Promote the collection, preservation and protection of early photographs and encourage picture-taking of townspeople and structures for permanent reference.
- (7) Promote the upgrading, preservation and protection of the town's graveyards and private burial grounds.
- (8) Facilitate an oral and written history of the town.
- (9) Make collected historical information (in a protected environment such as the library) accessible to town residents and future generations.
- (10) Enlist the participation and support of Grafton citizens, particularly its town officials, in these goals and objectives.
- (11) Prepare an historic resources survey with information updated periodically to indicate changes to buildings, including remodelling, fire, demolition or changes to surroundings.
- (12) Place markers at key historic sites and structures.
- (13) Establish a local historical society to promote research into and protection of Grafton's historic resources.
- (14) Encourage designation of scenic roads.

Chapter VIII

LAND USE

VIII. LAND USE

INTRODUCTION

Land use is both the determinant of and a response to the character of a community. Existing land use patterns are the physical expression of numerous public and private decisions which have been made in the past; in turn, patterns of existing land use have a substantial impact on the rate, location and type of growth which will occur in the future.

Land use considerations are closely related to virtually every other facet of town planning. All of the chapters of this Master Plan which discuss population, housing, the local economy, transportation, community facilities, human services, historic resources and energy relate in some way to land use. For example, the economic development strategy proposed for Grafton in the Economic Chapter is, in part, a land use recommendation since it recommends the allocation of land for industrial purposes. Grafton's Land Use Plan, then, is really a synthesis of land use considerations and many of the recommendations which appear elsewhere in this plan.

Much of Grafton's planning and future decision-making revolve around the proper use of our manmade and natural resources. Manmade resources include the road network, parking lots, public and private buildings, and even farms and recreation facilities. Grafton's natural resources include its forests, surface and groundwater, scenic views, clean air, wildlife, minerals and soils. They present both opportunities for and constraints to development and must be conserved or used with care so as not to preclude their continued use. Development in Grafton has shown that some areas are naturally better suited for a particular use than others. If Grafton is to protect its natural resources and provide a high quality of life for its citizens, the capability of Grafton's natural resources to accommodate development must be respected.

There are three major considerations which have governed the development of this land use analysis. They are: (1) community attitudes and goals; (2) patterns of existing land use; and (3) land capability. The narrative which follows is organized in this manner.

COMMUNITY SURVEY RESULTS

The Grafton Planning Board conducted a survey of the Town's residents in 1984 to provide community data as a framework for identifying needs and attitudes and developing future goals and policies. The following is a brief summary of the survey results relating to growth and land use issues.

- o Grafton residents do not favor rapid population growth in the next 10 years. Thirty-seven percent of the respondents stated they would like to see the town's population decrease or stay the same, 32 percent favored slight growth and 23 percent would like to see moderate growth.
- o A question regarding attitudes toward various types of development evoked the following preferences in descending order: farms (81%), home businesses (79%), personal service businesses (77%), woodland (76%), light industry (76%), and restaurants (64%). Heavy industry drew substantial criticism (56% against); opinions were divided regarding shopping centers (38% favor, 41% against). Opinion was split as to the best location for commercial development. Professional and business offices, retail shops and personal service industries were generally favored around village centers with slightly fewer responses for "along state roads" and "anywhere". The favored location for light industry was along state roads.

- o Questioned regarding their attitudes toward various housing types in Grafton, residents are nearly unanimous in favoring single-family homes (83%) with elderly housing also receiving strong support (63%). Grafton residents are also against high rise units (64%). The survey revealed a number of housing types about which there is no clear consensus. These include cluster housing (20% favor, 45% against); mobile homes (38% favor, 37% against); duplexes (45% favor, 23% against); apartments (25% favor, 38% against); and rent-subsidized housing (33% favor, 20% against). It should be noted that rather high percentages, averaging approximately a third, had no opinion on the various housing types.
- o The overwhelming majority of Grafton residents favor single-family houses anywhere in town. Opinion was mixed regarding the placement of multi-family units and apartments. Of those responding 52% and 58% did not favor any units of these types while 27% and 20% respectively, favored their placement anywhere. There was similar lack of consensus concerning the location of mobile homes in town; of those responding 51 percent favored anywhere, 40 percent nowhere. An additional 30-34 households had no response to these questions.
- o Judging from those surveyed, land use controls and regulations appear to have some support in Grafton. However, considering the large number of no opinion/no response answers to these questions (ranging from 23% to 58%) town officials will need to educate town residents and sell the concepts before such regulations will pass Town Meeting vote. Approximately 70 percent of those surveyed favor the preservation of agricultural lands and woodlands and water pollution control. A slight majority are in favor of planning boards, subdivision regulations, and master plans (again approximately 30% ventured no opinion). A large proportion of Grafton residents favor wetlands ordinances (53%) and steep slopes ordinances (38%) with a handful opposing and again, a large number apparently unclear as to the meaning of the question and thus giving no answer. Lastly, there was no clear consensus regarding building codes or zoning. Forty-seven percent favor building codes with 27 percent dissenting and 27 percent with no opinion. Zoning was favored by 38 percent while 38 percent were against and 25 percent had no opinion. Over 60% of those surveyed think that the current minimum road frontage of two hundred feet should remain unchanged.

LAND USE TRENDS

A. Historical Perspective

The first permanent settlement was made in 1772 by Capt. Joseph Hoyt of Poplin, Massachusetts. Hoyt settled along the Danbury Road. The Town was incorporated by legislative action on November 11, 1778 by petition of the inhabitants who authorized Daniel Sanders to call the first town meeting in the Meetinghouse on Razor Hill. Boundaries were established in 1781 and subsequently adjusted in 1802.

The population of Grafton showed steady growth from a base of 354 in 1786 to a high of 1,259 in 1850. Historically, farming and mining were the Town's principal industries. Ruggles Mine on Isinglass Mountain in the northwest section is the oldest mica mine in the U.S. Some parts of the mine were first worked in Revolutionary War times.

The Grafton Turnpike Road, incorporated June 21, 1804, connected Orford to the Fourth New Hampshire Turnpike in Andover. In Grafton, the Turnpike passed through the easterly part of the town giving rise to a village center, early on known as Bungtown because of the barrels made there, today known as East Grafton. Other industries in this area included an axe manufactory, grist mill, wool carding mill, sawmills, wheel wright shops and a shop in which caskets were made. Major farms were located in Wild Meadows and Barney Hill. The first church or meetinghouse which originally stood on Razor Hill, was moved to East Grafton about 1840. A second turnpike, the Fourth New Hampshire Turnpike, incorporated in 1800 and extending from Lebanon through Enfield, Grafton and Springfield to Merrimack County, had a much more negligible effect on Grafton's development. Today this is known as Route 4A and passes through the westerly corner of the Town for about a mile.

Over the years, other distinct village centers in Grafton have included Grafton Center, Grafton Village and Slab City. Grafton Center historically grew around the common, church, grist mill and streams which furnished valuable water power, while Grafton Village developed largely due to the siting of the depot and its freight yards.

Slab City, probably so-named because of the piles of slabs from the sawmills, at its height boasted two or three stores, a sawmill, brick yard and cooper shops. This area was also known as Pleasant Valley. Beginning about 1848, Slab City began a downward trend as families moved west and young people moved off farms. By the early 1960's there were only five to six permanent houses.

The advent of the Northern Railroad connecting White River Junction and Concord was to have a powerful influence on Grafton. The Northern Railroad was opened to Franklin, N.H. on December 28, 1845 with the line to Grafton opened the first of September, 1847. On the 17th of November it was opened to Lebanon and was opened to White River Junction in June, 1848. Over the years the railroad proved to be a ready source of employment for many Grafton residents.

The railroad also had a tremendous impact on the layout of the town. The existence of the railroad funnelled activity to the village centers, reinforced by highways which were laid out to Grafton Center and Grafton Village. In the late 1800's, Grafton's forested land diminished due to the railroad's demand for fuel, amounting to approximately 1,000 cords a year as well as charcoal kilns located in Grafton Village. Profit prevailed with an absence of proper land conservation methods.

Beginning in 1860 Grafton's population was marked by steady decline, from a peak of 1,259 persons in 1850 to a low of 348 in 1960. Here and throughout the State, population decline in the late 19th century was largely due to the inability of New Hampshire farms to compete against midwest farms, leaving New Hampshire hillsides and parts of Grafton a maze of stone walls, cellar holes, second growth forests and abandoned roads. School districts were consolidated, workers became diversified and employment opportunities in town became increasingly service-oriented.

Before the days of the automobile, it was common for people from the city to travel by train to find places in the country and stay for a few weeks. During the 20th century, summer residents, attracted by ponds including Grafton, Tewksbury and Kilton supplemented the local economy. Much of Grafton's recent population growth can be attributed to the conversion of summer to year-round homes and Grafton's popularity as a "bedroom community", offering an affordable, pleasant residential alternative to more expensive and densely-settled communities in the Hanover-Lebanon area.

With the preference in transportation shifting to the automobile, the land use pattern of Grafton was once again influenced by the road systems. Instead of the Fourth New Hampshire Turnpike and the Grafton Turnpike, Grafton's more recent land use pattern is affected by the importance of Routes 4 and 4A as the main transportation arteries serving the community. The resulting land use pattern which has emerged in the last few decades is strip development along the public highway system.

B. Historical Land Use Trends

The population growth experienced in Grafton and the region has resulted in land use changes. There have also been land use changes which were not influenced by growth, but rather by the decline of farming as a livelihood. The following table documenting general land use changes in Grafton from 1955 to 1970 was compiled and published by researchers at the University of New Hampshire who interpreted aerial photographs of the Town at a scale of 1:20,000. Although general in nature, the table provides an indication of land use changes over the 15-year period.

Table VIII-1

Summary of Land Use Changes, Grafton, 1955-1970

<u>Use</u>	<u>1955 Land Area</u>	<u>1955 % of Total</u>	<u>1970 Land Area</u>	<u>1970 % of Total</u>	<u>1955-70 Acreage Change</u>	<u>1955-70 Percent Change</u>
Agricult.	1,533	6.2%	1,163	4.7%	-370	-24.1%
Idle	242	1.0%	213	0.9%	-29	-12.0%
Forested	22,863	91.8%	23,234	93.3%	+371	+1.6%
Developed	112	0.5%	140	0.6%	+28	+25.0%
Other	115	0.5%	115	0.5%	-0-	-0-
Total	24,865	100.0%	24,865	100.0%	-0-	-0-

Source: Institute of Natural and Environmental Resources, UNH, 1977

Changes in area affected over this timeframe were the addition of 371 acres in forested area representing a 1.6 percent increase, the loss of 370 acres of agricultural land representing a 24.1 percent decrease, the loss of 29 acres of idle land accounting for a 12 percent reduction, and the addition of 28 acres of developed land representing a 25% increase.

Given the increase in development, the decline of farming as a livelihood and the relative ease of building on agricultural land, it is not surprising that agricultural land decreased by 24.1 percent, with a net loss of 370 acres of farmland. It should be stressed that any decrease in agricultural land signifies the nearly irrevocable destruction of an important resource. Once converted to development or left to grow into a forest, it is unlikely that the farmland ever will be reclaimed for farm purposes. This issue will probably grow in importance in the years ahead.

The decline in agricultural land also has had a significant effect on the scenic quality of the Town. Old photographs of Grafton reveal a town mostly consisting of lowland and upland open fields, offering spectacular views of the area. As unmaintained agricultural land became forested, many of these scenic views were lost. It is important that the remaining open spaces be preserved.

As shown in Table VIII-2 below, Grafton County experienced a more rapid increase in developed land (+67%) than experienced in the Town of Grafton over the same timeframe. As reflected in the Population chapter, Grafton experienced slight population growth in the 1960's and a doubling of population in the 1970's which has resulted in steady conversion of agricultural, forested or idle land to developed land.

Table VIII-2

Summary of Land Use Changes
Grafton County, 1955-1970

	<u>1955</u> <u>Land</u> <u>Area</u>	<u>1955</u> <u>% of</u> <u>Total</u>	<u>1970</u> <u>Land</u> <u>Area</u>	<u>1970</u> <u>% of</u> <u>Total</u>	<u>1955-70</u> <u>Acreage</u> <u>Change</u>	<u>1955-70</u> <u>Percent</u> <u>Change</u>
Agricultural	86,351	8.4%	73,872	7.1%	-12,479	-14.5%
Idle	9,595	0.9%	6,914	0.7%	-2,681	-27.9
Forested	924,818	89.4	930,733	90.0	-5,915	+0.6
Developed	10,807	1.0	18,054	1.7	+7,247	+67.1
Other	<u>2,727</u>	<u>0.3</u>	<u>4,725</u>	<u>0.5</u>	<u>+1,998</u>	<u>+73.3</u>
Total Land	1,034,298	100.0%	1,034,298	100.0%	----	----

Source: Institute of Natural and Environmental Resources, UNH, 1977

C. Current Land Use

An analysis of existing land use is one of the most important considerations in formulating a future land use plan. The following inventory of existing land uses was compiled using Town records, field surveys, aerial photographs and a 1977 Statewide land use survey. A summary of existing land use patterns is presented in Table VIII-3. It should be noted that the acreage figures cited in the table and in the following text represent rough estimates of the acreage devoted to each category of land use in Grafton; they nonetheless provide a good perspective of the relative land areas devoted to various uses in the Town.

Table VIII-3**Existing Land Use, Grafton, 1985**

<u>Land Use Category</u>	<u>Estimated Number of Acres</u>	<u>Percent of Land Area</u>
I. DEVELOPED LAND		
A. Residential		
1. Year-round		
a. Conventional Single-Family	345	1.4%
b. Multi-family	2	-
c. Mobile Homes	39	0.1%
2. Seasonal Homes	120	0.5%
Total Residential	506	2.0%
B. Commercial/Industrial	10	-
C. Community Facilities	4	-
D. Cemeteries	12	-
E. Public Park and Recreation Facil.	14	-
F. Roads	409	1.6%
G. Railroads	88	0.4%
Total Nonresidential	537	2.2%
Total Developed Land	1,043	4.2%
II. UNDEVELOPED LAND		
A. Agricultural Land	793	3.2%
B. Idle Land	184	0.7%
C. Conservation Land (Public)	46	0.2%
D. Forested Land (Private)	22,345	89.9%
E. Surface Waters	454	1.8%
Total Undeveloped Land	23,822	95.8%
TOTAL LAND AREA	24,865	100.0%

Source: Upper Valley- Lake Sunapee Council.

Each of Grafton's existing land use categories is described in the following narrative.

I. Developed Land

About four percent of Grafton's land area is developed. The term "developed" is defined as lands containing built structures or infrastructure such as roads, parking lots, and recreation facilities. Large conservation parcels such as the McDaniel Marsh are identified as conservation land under the category of "undeveloped land." Although agricultural practices modify the state of natural lands, they are classified as "undeveloped", since once abandoned, agricultural lands will revert to a somewhat natural state.

A. Residential

Residential development accounts for approximately 506 acres, or about 2 percent of Grafton's land area. As such, it is the single largest category of developed land in the Town.

Year-round, single-family housing continues to be the predominant form of housing in the town, representing about 55 percent of Grafton's total housing units and about 1.4 percent of the total land area.

Multi-family residential housing accounted for less than one percent of the total housing units and less than one percent of the total land area.

Mobile homes represented about 6 percent of the total housing units but only about 0.1 percent of the total land area.

Seasonal homes account for about 38 percent of the total housing supply in Grafton, but occupy only about 0.5% of the total land area.

The predominant residential land use patterns are strip development along the public road system and strip development along the lake shorefronts particularly for seasonal homes. Development along virtually all of the roads in town is characterized by a mix of single family residences, mobile homes, home businesses and commercial businesses.

B. Commercial/Industrial

Land devoted to commercial or industrial enterprises represents less than one tenth of one percent of the total land area. Inclusion of home businesses would double the land area (10 ac.), but still it would be a very small percentage of the total land area.

The commercial businesses are primarily located along Route 4. The home businesses are scattered throughout the community. As indicated previously, the commercial businesses and home occupations are both a part of the strip land use pattern along the public road system.

The small amount of land devoted to business use is consistent with the employment data in the Economic Development Chapter which showed that about 78 percent of Grafton's residents over the age of 16 who work rely on employment opportunities outside Grafton particularly in Lebanon, Hanover, and Hartford.

C. Other Developed Land Uses

Other developed land uses include community facilities, cemeteries, public park and recreation facilities which in combination represent about one-tenth of one percent of the total land area.

D. Transportation and Utilities

Grafton's public roads account for about 1.6 percent of the total land area. The Boston and Maine Railroad Line adds 0.4 percent to raise the level of this category to just 2 percent.

E. Total Developed Land

All of the developed land in Grafton accounts for 4.2 percent of the total land area. Of this total, all residential uses account for 2.0% and all non-residential uses account for 2.2%. Overall the amount of developed land is small. This is consistent with the comparative population density data presented in the table below. Compared with other communities in the region, Grafton's overall population density is low. Lebanon and Hanover have population densities seventeen and eleven times greater respectively while the population density in Orange and Dorchester is about one-half and one-third of that in Grafton. Regionally the population density and density/intensity of land use decrease with increasing travel (commuting) time from the regional employment center located in the Lebanon/Hanover/Hartford, Vt., area.

Table VIII-4

**Population Density in Selected
Upper Valley-Lake Sunapee Region Communities
1980**

<u>Community</u>	<u>Persons Per Square Mile - 1980</u>
Lebanon	303.4
Hanover	186.9
New London	132.8
Enfield	78.6
Canaan	46.4
Grantham	26.2
Lyme	23.9
Grafton	17.5
Springfield	12.3
Orange	8.2
Dorchester	5.4
Region	69.6

Source: Profile of Economic and Community Resources of the Lake Sunapee Region, Upper Valley-Lake Sunapee Council, U.S. Census.

II. Undeveloped Lands

Over 95 percent of Grafton's land area remains undeveloped. The large amount of undeveloped land is a reflection of a number of factors including natural constraints of the land that inhibit development, some large landholdings in private and public ownership, and relatively low demand for development.

A. Forests

As documented in Table VIII-3, almost ninety percent of Grafton's land area lies under forest cover. Thus, like most communities in Grafton County and for that matter, western New Hampshire, Grafton's forests represent a major natural resource asset to the town.

Grafton's extensive forest lands serve a wide range of functions and benefits: 1) offer a permanent supply of fuel, lumber and other wood supplies; 2) provide an effective natural system that stabilizes soil, particularly on steep hillsides; 3) provide natural habitats for wildlife; 4) offer areas for outdoor recreational opportunities such as hiking, camping, skiing, snowmobiling, horseback riding, hunting, as well as opportunities for education and ecological research; 5) serve as natural buffers between incompatible land uses; 6) provide purification of the air; and 7) provide scenic views for both residents and tourists.

Over the last decade, the national demand for lumber and finished wood products as well as high energy costs and the availability of wood as an abundant, alternative fuel have increased the attractiveness of timber harvesting to woodlot owners. Much of the commercially marketable forest land in Grafton is located on steep topography, posing a significant problem not only to the logistics of timber harvesting, but also the environmental stability of these lands. Steep slopes are particularly sensitive to deforestation since a) soils located on such slopes are usually

thinner and more susceptible to erosion, and b) surface runoff on such slopes increases in overland velocity, thereby proportionately increasing the scouring effect upon denuded soils. In addition, sedimentation resulting from soil erosion on steep slopes fouls downstream wetlands and water courses, killing fish and bottom aquatic life and filling in wetlands essential for stormwater detention and groundwater recharge. Drainage patterns and watersheds can be significantly altered by the insensitive development of logging roads and skidding trails, thereby increasing the potential for soil erosion and sedimentation.

All tree harvesting operations on steep slopes should be closely monitored, especially in areas containing firewood stands that are susceptible to improper cutting practices by nonprofessionals.

B. Agriculture

During the last century farming played a major role in the Grafton economy, providing foodstuffs for the local population, and wool and hides for many of the area mills. However, as the New England clothing industry waned and families moved to richer lands in the midwest or to the cities to the south, agricultural activity has declined in Grafton. This decline is revealed by examining Tables VIII-1 and VIII-3 which indicates agricultural land has declined from 6.2% of the total land area in 1955 to 3.2% in 1985. Today, farming is a minor activity in the city and acreage currently under cultivation is only a fraction of what it was in the 1800's.

Despite this decline, Table VIII-3 clearly shows that, in terms of land use, farming in Grafton consumes approximately three-fourths as much land as all existing development in the town. Therefore, although agriculture has declined from its former status in Grafton, it remains a significant land use type in the face of development pressures to convert it to urban uses.

C. Conservation Land (Public)

Conservation lands in Grafton includes one state owned property. This is the 46 acre McDaniel Marsh. This represents about .2 percent of the total land area in town.

D. Idle Lands

Idle lands refer to agricultural lands that have been taken out of production. Typically, these tracts have been abandoned for a number of years, and consequently are in the process of reverting to climax forest. Being covered with woody shrub, these lands have not grown to a mature forest stage, and at the same time, substantial improvements would be required to reactivate the lands for agricultural purposes. Less than one percent of the land area in Grafton falls in this category. By the year 2000, most of the current lands classified as "idle" will become part of the Town's forest inventory, assuming the parcels are not committed to alternative uses.

E. Surface Waters

Surface waters in Grafton represent a small, but important portion of Grafton's land area. A total of 454 acres or 1.8 percent of the total land area in Grafton is occupied by lakes or ponds. The major water bodies in Grafton include Grafton Pond (235 acres), Kilton Pond (68 acres), Tewksbury Pond (46 acres) and Grants Pond (30 acres). Surface water resources provide storm drainage retention, groundwater recharge, wildlife habitat and active or passive recreational opportunities.

F. Wetlands

Wetlands have not been listed in Table VIII-3 as a separate land use for the simple reason that these water resources are accounted for in all categories of the undeveloped lands classification. For instance, some of Grafton's wet meadows are tilled for agricultural purposes; others are located within conservation lands; while most of the remainder are wooded swamps, shrub swamps, or wetland complexes located in backwoods areas that have been incorporated into the broad category of "Forested Land." The amount of wetlands in Grafton is unknown reflecting the need for an inventory of this resource.

LAND CAPABILITY

The fundamental premise of the land capability concept is that the natural features of the environment vary in their ability to support development. Steep slopes, flood-prone areas, wetland soils and the presence of bedrock at or near the surface can serve as major constraints to development. While it is, at times, possible to overcome such natural constraints through intensive engineering, this is often a costly and elaborate process; efficient and environmentally sound planning seeks to guide growth into areas with adequate natural capacity to support development.

One of the chief factors to consider in assessing land capability is the capacity of the site to treat sewage effluent properly. Inadequate soil capability to absorb and treat septic effluent has already caused nutrient enrichment of surface water; poor site planning can also cause the contamination of private well waters by failed septic systems.

The provision of sewer lines can overcome a number of the limitations which natural conditions impose upon development. However, even with sewer lines, natural factors remain an important consideration relative to such things as road construction, foundation stability, erosion and sedimentation hazards. Further, slope, soil type and depth to bedrock affect the cost of constructing and maintaining sewer lines.

This section examines the two major conditions (soil capabilities and drainage characteristics) that determine the kind of uses a site can absorb economically without generating deleterious environmental impact. Five additional categories (wetlands, floodplains, steep slopes, aquifers, and prime agricultural lands) have been also designated as critical resources for the Town.

A. Determinants of Development Capability

1. Soil Conditions

The physical properties of each soil type in Grafton determine to a large extent the capabilities of the land to support development. A variety of physical factors are responsible for this determination: depth to bedrock, shrink-swell properties, bearing capacity, drainage, corrosivity and toxicity. Definitions of these soil properties can be located in the Soil Conservation Service's Soil Survey for Grafton, New Hampshire, available in Woodsville, New Hampshire. For the purposes of the Master Plan the soil characteristics throughout the town can be classified by a) their ability to physically support the construction and maintenance of roads, building foundations, and infrastructure; and b) ability to safely and effectively process effluent from on-site septic disposal systems.

o Suitability to Support Buildings with Foundations

According to the Soil Conservation Service, each soil type can be classified as having either slight, moderate or severe restrictions in supporting the construction of buildings with foundations. Obviously those soils identified as having slight restrictions are more than suitable for development, and can accommodate higher land-use densities or intensity, while those soils with "moderate" restrictions can support proportionately less dense and intense land-use development. Soils rated as having "severe" development constraints should be considered unsuitable for intense uses (commercial, industrial, high-moderate density residential), instead of being used for forestry, agricultural, conservation, or very low density residential uses, provided on-site investigation confirms that development is feasible given special engineering provisions.

Examination of Grafton's soils indicates that much of Grafton's land area contains soils that pose severe constraints to building development. Reflecting the Town's rugged geomorphology, these unsuitable soils consist primarily of shallow-to-bedrock, compacted glacial fill, poorly and very poorly drained soils (wetlands) in upland areas, with excessively drained seasonally flooded and high-water table glacial outwash and clay deposits in the lowland river and stream basins. Those soils that can support construction for buildings and infrastructure at a reasonable cost, can be classified primarily as non-fragipan glacial tills on gentle upland site slopes, and sand and gravel deposits from glacial terraces and outwash plains in the valleys. Grafton's soils should be mapped in detail to accurately identify those areas where the soils pose a severe constraint to building development.

o Suitability to Support Septic Systems

According to the Soil Conservation Service, each soil type can be classified as having either slight, moderate or severe restrictions in supporting septic systems. Examination of Grafton's soils indicates that much of Grafton's land area contains soils that pose severe constraints to processing septic system effluent. Again, Grafton's soils should be mapped in detail to accurately identify those areas where the soils pose a severe constraint to treating septic system effluent. This is particularly important for Grafton since none of the community is served by a municipal sewer system. In addition the town should consider adopting regulations which would determine the minimum lot size based on the soil capability to process septic system effluent.

2. Surface Drainage

The hydraulic characteristics of natural watershed and the potential impacts of surface drainage from future development are important factors in analyzing Grafton's land-use carrying capacity.

Examination of a U.S.G.S. topographic map reveals that most of the Town drains into the Smith River basin. Subsequently, any alteration to water course dynamics in the town can have consequences in the Smith River corridor. The most significant of these potential consequences is increased peak storm runoff resulting from development. New buildings, roads and parking lots decrease the amount of permeable surface that can absorb rainfall or snowmelt, thereby increasing the amount of runoff that concentrates in a watercourse during a storm. This increased concentration can consequently cause flooding that damages erosion and turbidity levels that adversely impact water quality.

Such impacts not only can adversely affect public health and safety, but the town may find itself liable for making repairs to private as well as public property damage by cumulative increased peak runoff. One way of avoiding these potential problems is to establish a town wide policy of requiring new development to release stormwater at a rate that does not exceed the existing natural condition. This "zero-peak runoff" policy would involve either detaining increased peak runoff on-site in man-made basins, and/or by injecting runoff into the ground where sand and gravel deposits are of sufficient depth to rapidly absorb the water.

Another significant factor affecting water quality from new development is the physical characteristics of a watershed basin and its associated watercourses. A small basin with a relatively undeveloped stream network and with periods of very low flow can be more susceptible to surface water contamination because of a relatively low capacity to assimilate pollutants. When septic leachate or fertilizers enter the receiving waters, they can result in periods when the water has high levels of nutrients or the potential for pathogenic contamination.

Water quality is generally highest in the undeveloped downstream areas. Sinuous drainage networks (i.e. winding streams or wetland areas) tend to improve water quality.

Basins that are long and narrow provide more opportunity for direct contamination from abutting land uses than those that are more circular. Basin boundary influence must be measured ultimately in the context of slope, soils and geological conditions.

B. Critical Resources

Certain natural resources in Grafton have been designated as "critical resources" due to the significant contribution they make to maintaining the public health and safety, environmental quality, and general welfare of the Town. These critical resources include the following:

1. Wetlands

Wetlands are defined as those areas that are inundated or saturated at a frequency and duration sufficient, to support wetland vegetation and fauna. Wetlands include swamps, marshes, bogs, and wet meadows and are commonly identified in New Hampshire by the Soil Conservation Service soil types poorly drained and very poorly drained soils.

In their natural condition, wetlands perform a number of invaluable functions that directly benefit man. Among these critical functions are: storage of floodwaters during peak overflow periods; storage and consumption of soluble nutrients that otherwise would contaminate downstream waterbodies, streams, and water supplies; discharge of water to streams and waterbodies during low flow periods; groundwater recharge; provision of prime habitat for both aquatic and terrestrial wildlife; and provision or aesthetic, recreational, and cultural opportunities for humans.

Marshes, both deep and shallow, provide a critical habitat to other species including migratory waterfowl, muskrat, reptiles and amphibians, spawning areas for pickerel, northern pike and bass. Marshes also provide open space and scenic diversity in heavily forested landscapes. Other wetlands such as wet meadows, wooded and shrub swamps also provide visual diversity, wildlife habitat, and critical floodwater retention and water purification functions, and therefore should not necessarily be considered less valuable than marsh environments. In fact, in general terms, the more extensive and more complex (i.e., the number of different wetland types), the more valuable the wetland as a multi-faceted wildlife habitat, scenic/recreational resource and water control/purification system.

Again the soils in Grafton should be mapped to identify the wetland areas, based on the Soil Conservation Service soil types poorly and very poorly drained soils. These should be accurately mapped and protected for the reasons cited above.

2. Floodplains

Floodplains are the periodically inundated flatlands adjacent to rivers and streams. Floodplains serve as storage areas for water during times of flooding and provide travel corridors for wildlife.

Due to their important ecological characteristics, development in floodplains presents some special problems, including: 1) a high probability of property damage during flooding; 2) the restriction of periodic water storage resulting in potentially greater flooding; and 3) the increased likelihood of erosion and sedimentation. The latter factor can cause increased turbidity of water in rivers and streams.

As part of the National Flood Insurance Program, flood-prone areas are mapped and rated according to their specific flood potential or hazard. Each zone is assigned one of the following flood insurance zone designations:

- o Zone A: Special Flood Hazard Areas inundated by the 100-year flood, also referred to as the "base flood". Every year there is a one percent chance that this level of flooding will occur in a given area.
- o Zone B: Areas between the Special Flood Hazard Areas (Zone A) and the limit 500-year flood, including areas of the 500-year floodplain that are protected from the 100-year flood by dike, levee or other water control structures; also areas subject to certain types of 100-year flooding from sources with drainage areas less than one mile.
- o Zone C: Areas of minimal flooding.

Development should be restricted on land delineated as Flood Hazard Areas within the 100-year floodplain in order that the inevitable flooding does not result in loss of life and causes minimal property damage. Areas within Zone B should still be subject to some development restrictions; hazardous waste storage sites and landfills, because of their longterm potential for water contamination in the event of severe flooding, are examples of inappropriate uses in Zone B areas.

Unfortunately, since floodplains are relatively level they also serve as attractive and inexpensive land to develop. Paving, mineral extraction, and urban development seriously reduce the floodplain's absorption capability, thereby intensifying downstream flooding. Structures can be torn from foundations by floodwaters, thereby creating dangerous impoundments at river bottlenecks (such as bridges) and organic and inorganic pollutants generated by urban development can seep into aquifer recharge areas contaminating important groundwater supplies.

3. Steep Slopes

Land capability analysis designates slopes having a grade of over 25 percent as a critical resource. The problems encountered by development on steep slopes entail erosion and sedimentation associated with construction, malfunctioning septic systems, difficult road construction and aesthetic disruption.

Land areas with steep slopes are subject to a higher volume and velocity of surface water runoff, increasing the likelihood of erosion problems. When development on steep slopes disturbs trees and/or necessitates the removal of topsoil and vegetative cover, runoff leads to siltation of streams, rivers and lakes. Sedimentation can affect the navigability of water bodies, destroy fish spawning grounds, choke off plant life, and have an overall deleterious effect on water quality.

Construction of roads in steep areas can be costly due to increased cut and fill requirements. Maintenance of roadways in steep areas, particularly during the winter months, is an additional constraining factor.

Another important consideration in steep slope areas relates to onsite sewage disposal. Septic systems are more difficult to design and are more likely to malfunction in steep terrain. Often the soil is shallow on steep slopes, causing leachate breakthrough and resulting in health hazards.

Finally, much of Grafton's natural beauty is found in the hilly topography of the community. Major prominences spatially define the boundaries of the town, serve as cognitive landmarks for local citizens, and provide a scenic New Hampshire backdrop to all views within the town. Poorly designed development on highly visible steep slope areas can adversely denigrate the visual character and quality of Grafton's countryside. Considering that the community's visual and cultural image is directly related to Grafton's attraction to new industry, business and residents, ridgetop development can have economic as well as environmental and visual/cultural impacts.

4. Agricultural Soils

Agricultural soils are an important natural resource which is both highly productive and limited in quantity. On the basis of soil quality, moisture supply, availability, and slope, the Soil Conservation Service has defined important farmland in three categories: 1) prime soils; 2) agricultural soils of statewide importance; and 3) agricultural soils of local (Grafton County) importance. Soil types associated with each of these three categories are found in Grafton. Important farmlands in Grafton are located primarily in 1) stream and river corridors, and b) on gentle upland slopes. Since prime agricultural soils typically have excellent development capability, they are particularly vulnerable to development pressures. Most good farmland is characterized by relatively gentle slopes and good drainage. Construction costs are further minimized by the fact that farmland does not need to be cleared and grubbed. As identified in Tables VIII-1 and VIII-3, Grafton has lost considerable agricultural land in the last 30 years.

The continued encroachment of development on agricultural soils is an important planning concern as it relates to the longterm needs of the Town. In recent years, soaring transportation costs have restored a measure of economic viability to agricultural production in New Hampshire. Despite the fact that the state suffered a net loss in cultivated acreage in the past 80 years, recent trends indicate that abandoned farmland is being reactivated. As transportation costs continue to climb and the energy crisis resurfaces by the next century, local food production is going to be increasingly important in meeting the needs of both the Town and the region. Consequently the preservation of Grafton's remaining significant agricultural soils from irrevocable change of use is prudent in light of projected future need and the expanding market potential for locally raised products.

5. Undeveloped Aquifers

Aquifers are subsurface deposits of coarse sand and gravel that, because of the depth of material and the large pore sizes between sand grains and cobbles, hold vast quantities of potable water. While the coarse texture of these deposits retains large quantities of drinking water, it also accommodates rapid and untreated percolation of surface pollutants to the groundwater reserves. Septic tank effluent, leaking underground fuel storage tanks, landfill leachate, or improperly stored hazardous wastes are potential sources of aquifer pollution. In addition, development which involves extensive amounts of impervious material cover (e.g., asphalt or cement) can reduce the productivity of aquifer areas.

According to data from a 1976 U.S. Geological Survey Study, Grafton contains several important aquifer resources. High yielding groundwater deposits are located along the Smith River from Kilton Pond eastward and around the marshy area centered on Three Thousand Acre Pond.

Nightmarish accounts of groundwater contamination from Massachusetts and southern New Hampshire clearly testify to the fragile nature of aquifer systems. Unlike open water bodies, aquifers cannot be "flushed"; consequently entering pollutants can remain in the subsurface water supply indefinitely. Wells serving individual residences need to be protected. Grafton should take measures to ensure that these groundwater resources are not contaminated by on-site septic systems, leaking underground fuel storage tanks, road salt and hazardous wastes. These groundwater resources may be needed by the Town in the future as a water supply for a potential municipal water system in addition to serving as the water supply for individual residents. The protection of these alternative, reliable groundwater resources is very important to the community to insure the availability of safe, potable water to its populace in the future.

6. Visual Resources

Visual resources, simply defined, are represented by the character of the physical environment and the perception we have of that particular environment.

Research into human perception has clearly established the fact that visual quality in the environment makes a significant contribution to a community's overall quality of life. The character and interplay between topographic features, natural and man-made landmarks, the form of open space and development, as well as historic and culturally meaningful structures and sites, creates a community identity or "a sense of place."

Incongruous elements in, or aberrations to this perceived landscape or the lack of a perceivable form and order adversely affects residents' and visitors' attitudes toward the community. As such, the erosion of the visual and cultural character of a community can have not only psychological impacts, but very real economic impacts through the loss of tourism, depreciated real estate, and failing marketability to prospective new businesses and residents.

A detailed inventory and evaluation of Grafton's visual/cultural resources is beyond the scope of this chapter and requires a separate comprehensive study. However, for the purposes of developing a town policy toward visual/cultural quality, a generalization of important elements is provided.

In descriptive terms, development in Grafton is concentrated in strip fashion along the public roads and Route 4 in particular along the Smith River Valley. Several ridges run north-south in the Town and include prominences such as Barber Mountain, Melvin Mountain, Isinglass Mountain, Prescott Hill, Smith Mountain, Mt. Pleasant, Williams Hill and Shepard Hill.

These ridgelines and prominences lend natural definition to the town as a distinct, identifiable space. They delineate the extent of vista forming an enclosed landscape that creates Grafton's "sense of place." Replacement of existing vegetation with dwellings on these visual landmarks can destroy their natural character and spatial definition, thereby undermining the basic rural character of Grafton. Just as significant, structures and rooflines that break the horizon line between the ridge and sky dramatically alter the visual character of the terrain. Even if proposed development does not break this horizon threshold, excessive scale, mass, and glaring color of structures, or block vegetational clearing and infrastructural (roads, power lines, etc.) construction that does not conform to the form and contour of the terrain can have a substantial negative impact upon the visual character of these ridgelines that define the spatial limits and rural atmosphere of Grafton. Although density and site layout are variable factors that determine visual impact, the Town would be justified in limiting development to the lower slopes of ridgelines visible to large populations of potential viewers.

The Smith River corridor represents another critical element in the Grafton landscape, for two principle reasons:

- (1) From higher elevations, this river meanders through the town providing a wide variety of visual experiences. The Smith River serves as the visual thread that links the eastern and the western ends of the Town.
- (2) The river valley contains Grafton's principle traffic corridor, upon which the highest proportion of people visually encounter the Grafton landscape.

Over the last two decades, growth has spread out along the developable river bottomland paralleling this major highway. Unfortunately, some of this expansion has taken the form of generic strip development that a) obstructs views to the rivers, and b) presents an image of an urbanized, strip community that runs contrary to Grafton's basic rural character.

Agricultural open space is especially important in Grafton to:

- o Provide cleared undeveloped open spaces in a landscape dominated by forests, or in urbanized areas;
- o Create unique edges between forests and cultivated or pastured fields;
- o Maintain the rural character that is both Grafton's visual and cultural identity;
- o Provide visual counterpoint to the urbanized image generated by strip development along Grafton's major highways.

In special reference to the last item, many of Grafton's open agricultural lands are located prominently within the viewshed of Route 4 which carries the highest populations of viewers on a daily basis.

Given the important role that these and other agricultural lands provide in contributing to Grafton's visual/cultural character, special provisions must be made to regulate how development proceeds in these visual resource areas.

Similar to agricultural lands, wetlands and watercourses provide essential open space in forested or urbanized environments. In addition to the open space and rural character issues, water resources have special inherent characteristics that have been documented as providing highly valued visual experiences. As steps must be taken to preserve the aesthetic values these water resources offer and make them accessible to the public.

Scenic Roads and Scenic Corridors

Scenic road designation, as provided in RSA 253:17,18, allows a community to regulate maintenance and construction practices of public roads so as to protect the unique visual quality of the road itself. This legislation is particularly targeted at back roads that have a particular charm in their alignment and roadside character that could be threatened by upgrading to modern highway standards.

The Town should review its roads for potential scenic road designation.

Related to the issue of scenic highways is the issue of protecting aesthetic resources from Grafton's major highways. As discussed previously, most of Grafton's major visual resources (ridgetops, agricultural lands, wetlands and watercourses, and even significant forest stands) are readily visible from State roads in the Town. Since the highest population of viewers travel these highways on a daily basis, they represent the group that could be most readily impacted by negative effects on scenic resources. It is recommended that a "scenic corridor" be designated along all State roads in the Town. These corridors would not preclude land-use changes; rather they would require that new development will conform to a special set of visual criteria. Such standards would require a visual impact analysis to be performed that would address such issues as site layout, orientation to the view, density, architecture, and landscaping.

Policies to Preserve and Enhance Visual/Cultural Quality

- (1) Adopt a Ridgetop Conservation Ordinance (as part of the Environmental Quality District regulations) designed to control development on visible ridges and prominences in the Town, in order to prevent both visual and environmental denigration of these critical areas.

- (2) Discourage further strip residential or commercial development along major highways. Strip development restricts views to surrounding terrain and may promote an image contrary to the actual character of the town.
- (3) Study, evaluate and educate the Planning Board, developers and the public about innovative land use tools such as Cluster Housing and Planned Unit Developments, as appropriate. Cluster housing conserves energy, reduces the extent of site engineering, consumes less land than traditional subdivisions, preserves more open space and hence minimizes the visual impacts of suburban sprawl.
- (4) Discourage development along the Smith River that threatens visual quality or inhibits public visibility to the water.
- (5) Discourage development in large open lands that either compromises the character of those lands or, when adequate sites are available encourage development in forested areas of the parcel.
- (6) Encourage agricultural uses.
- (7) Conduct a detailed assessment of Grafton's visual resources in order to establish a well documented data base for prioritizing critical areas for conservation and developing visual criteria for development.
- (8) Adopt the Water Resources Ordinance (as part of the Environmental Quality District Regulations) so that the visual quality of wetlands and watercourses is not compromised.
- (9) Establish a Scenic Corridor Zone on all State roads that will regulate visual/cultural impact of new development visible to the greatest number of residents and visitors.
- (10) Investigate the potential for designating eligible back roads in Grafton as scenic roads.

C. Critical Resource Protection Overlay and Composite Soils Capability Map

The critical resources identified should be mapped by the Town and can be matrixed together to produce a Critical Resource Protection Overlay. Such a protection overlay requires special regulatory treatment to insure that inappropriate development does not occur in these unique areas.

Applying the Critical Resource Protection Overlay to a Soils Capability Map will result in a composite Land Capability Map that will indicate the capacity of the land to support varying intensities of development. Those areas not delineated within the Critical Resource Protection can accommodate development based upon the capacity of the land to support the specific type of development. Proposed development in Critical Resource Protection areas, however, would have to conform to a specific set of regulations that insure protection of the resources identified in the overlay.

GRAFTON COMMUNITY SURVEY 1984

This survey is being conducted by the Grafton Planning Board as the first step in the preparation of a Master Plan to guide the future development of the Town. Your answers and opinions are valuable since a Master Plan is only worthwhile if it meets the needs and desires of Grafton's citizens. Thank you for your time and effort in answering these questions.

(Check One)

1. How long have you lived in Grafton?

- a. Part-time resident only
- b. Less than one year
- c. 1-5 years
- d. 6-9 years
- e. 10-25 years
- f. More than 25 years

a. 0.8%
 b. 3.9
 c. 22.6
 d. 28.9
 e. 25.8
 f. 15.6
 (N/R) 2.3%

2. Presently, do you:

- a. Own your house (single-family)
- b. Own your house (multi-family)
- c. Rent a house
- d. Rent an apartment
- e. Own a mobile home
- f. Rent a mobile home
- g. Other (specify) _____

a. 75.0%
 b. 1.6
 c. 5.5
 d. 0.8
 e. 11.7
 f. 0.8
 g. 2.3
 (N/R) 2.3%

3. Section in which you live:

- a. Rte. 4 side of town
- b. Rte. 4A side of town

a. 81.3%
 b. 10.9
 (N/R) 7.8%

4. Age of House (years)

a. --

5. Land (approximate acres)

a. --

6. Water Supply:

- a. Dug well
- b. Deep well
- c. Point
- d. Spring
- e. Other (specify) _____

a. 60.9%
 b. 18.0
 c. 4.7
 d. 7.0
 e. 5.5
 (N/R) 3.9%

7. Sewage:

- a. Septic Tank
- b. Cesspool
- c. Privy
- d. Composting Toilet
- e. Holding Tank
- f. Chemical

a. 83.0%
 b. 9.6
 c. 6.7
 d. 0.0
 e. 0.7
 f. 0.0

8. Energy:

	Prime Heating	Cooking	Hot Water	Supplemental Heat
a. Oil	<u>29.5%</u>	<u>1.6%</u>	<u>17.2%</u>	<u>21.1%</u>
b. Kerosene	<u>4.3</u>	<u>0.8</u>	<u>2.3</u>	<u>3.9</u>
c. Electricity	<u>4.3</u>	<u>32.0</u>	<u>50.8</u>	<u>10.2</u>
d. Bottled Gas	<u>5.8</u>	<u>52.3</u>	<u>19.5</u>	<u>13.3</u>
e. Wood	<u>51.1</u>	<u>5.5</u>	<u>7.0</u>	<u>22.6</u>
f. Solar	<u>0</u>	<u>—</u>	<u>—</u>	<u>—</u>
g. Coal	<u>4.3</u>	<u>4.7</u>	<u>—</u>	<u>1.6</u>
h. Other (specify) _____	<u>0.7</u>	<u>—</u>	<u>—</u>	<u>0.8</u>
No Response		<u>3.1</u>	<u>3.1</u>	<u>26.6</u>

9. Road Type (nearest road, not driveway)

a. Hardtop	<u>a. 47.3%</u>
b. Dirt	<u>b. 48.1%</u>
c. Private Road	<u>c. 3.1%</u>
	<u>(N/R) 1.5%</u>

10. Were you ever a seasonal resident of Grafton?

a. Yes	<u>a. 21.9%</u>
b. No	<u>b. 72.6%</u>
	<u>(N/R) 5.5%</u>

11. Resident Information:

Household Members	Age	Sex	Highest Education	Occupation (specify)		Self-Employed? yes or no	Place of Work (Town)
				Full	Part		
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

* Indicate Number 1-12; H = High School Grad.; S = Some College; A = Associate Degree; B = Bachelor's Degree; G = Graduate or Advanced Degree

ATTITUDES

12. What are the most desirable features about living in Grafton?
(Please list according to priority)

a. _____
b. _____
c. _____

13. What aspects of living in Grafton are the least desirable?

a. _____
b. _____
c. _____

14. In the next 10 years would you like to see the population of Grafton:

- a. Decrease or stay the same
b. Grow slightly
c. Grow moderately
d. Grow rapidly

a. 36.7%
b. 32.0%
c. 23.4%
d. 2.3%

(N/R) 5.5%

15. Please check the column that best describes your evaluation of the following aspects of town life in Grafton.

	Excellent	Good	Fair	Poor	No / Opinion / No Response
a. Beauty of town	<u>25.8%</u>	<u>46.1%</u>	<u>13.3%</u>	<u>3.9%</u>	<u>10.9%</u>
b. Employment opportunities	<u>0.8</u>	<u>0.8</u>	<u>5.4</u>	<u>75.0</u>	<u>18.8</u>
c. Rental housing	<u>0.8</u>	<u>1.6</u>	<u>4.7</u>	<u>44.5</u>	<u>48.4</u>
d. Recreation Department	<u>0.8</u>	<u>21.1</u>	<u>29.7</u>	<u>20.3</u>	<u>28.1</u>
e. Shopping facilities	<u>0.8</u>	<u>9.4</u>	<u>13.3</u>	<u>65.6</u>	<u>10.9</u>
f. Fire protection	<u>21.1</u>	<u>44.5</u>	<u>17.2</u>	<u>5.4</u>	<u>11.7</u>
g. Police protection	<u>10.9</u>	<u>34.4</u>	<u>18.7</u>	<u>12.5</u>	<u>23.4</u>
h. Ambulance Squad	<u>55.4</u>	<u>28.9</u>	<u>4.7</u>	<u>1.6</u>	<u>9.4</u>
i. Library	<u>10.2</u>	<u>27.3</u>	<u>21.1</u>	<u>9.4</u>	<u>32.0</u>
j. Road maintenance (summer)	<u>11.7</u>	<u>46.9</u>	<u>22.7</u>	<u>11.7</u>	<u>7.0</u>
k. Road maintenance (winter)	<u>15.6</u>	<u>46.9</u>	<u>16.4</u>	<u>12.5</u>	<u>8.6</u>
l. Youth programs	<u>0.8</u>	<u>7.8</u>	<u>10.2</u>	<u>35.9</u>	<u>46.1</u>
m. Elderly Programs	<u>1.6</u>	<u>8.6</u>	<u>8.6</u>	<u>25.8</u>	<u>55.4</u>
n. Planning Board	<u>3.9</u>	<u>14.8</u>	<u>18.8</u>	<u>3.9</u>	<u>58.6</u>
o. Selectmen	<u>7.8</u>	<u>42.2</u>	<u>24.2</u>	<u>6.3</u>	<u>19.5</u>
p. Town Clerk	<u>23.4</u>	<u>45.3</u>	<u>13.3</u>	<u>6.3</u>	<u>11.7</u>
q. Town Dump	<u>10.1</u>	<u>50.0</u>	<u>14.1</u>	<u>6.3</u>	<u>19.5</u>
r. Medical services	<u>1.6</u>	<u>15.6</u>	<u>13.3</u>	<u>46.9</u>	<u>22.6</u>
s. Dental services	<u>0.8</u>	<u>3.9</u>	<u>5.4</u>	<u>53.1</u>	<u>37.5</u>
t. Schools	<u>6.3</u>	<u>20.3</u>	<u>14.8</u>	<u>12.5</u>	<u>46.1</u>
u. Tax Collector	<u>11.7</u>	<u>44.5</u>	<u>6.3</u>	<u>0.8</u>	<u>36.7</u>
v. Treasurer	<u>13.3</u>	<u>40.6</u>	<u>6.3</u>	<u>0.8</u>	<u>39.1</u>

Comment: _____

16. What improvements in community services would you be willing to support with more tax dollars? _____

17. Please check the column that best describes your attitude toward the following:

	Strongly Favor	Favor	Against	Strongly Against	No Opinion
a. Zoning	<u>14.1%</u>	<u>23.4%</u>	<u>16.4%</u>	<u>21.1%</u>	<u>25.0%</u>
b. Subdivision Regulations	<u>20.3</u>	<u>34.4</u>	<u>8.6</u>	<u>8.6</u>	<u>28.1</u>
c. Planning Boards	<u>18.0</u>	<u>33.6</u>	<u>7.0</u>	<u>7.0</u>	<u>34.4</u>
d. Building Codes	<u>11.7</u>	<u>35.2</u>	<u>14.1</u>	<u>12.5</u>	<u>26.6</u>
e. Wetlands Ordinance	<u>25.0</u>	<u>28.1</u>	<u>3.9</u>	<u>3.9</u>	<u>39.1</u>
f. Septic Field Codes	<u>25.8</u>	<u>32.0</u>	<u>5.5</u>	<u>4.7</u>	<u>32.0</u>
g. Water Pollution Control	<u>39.1</u>	<u>29.7</u>	<u>1.6</u>	<u>1.6</u>	<u>28.1</u>
h. Preservation of Woodlands	<u>38.3</u>	<u>32.8</u>	<u>3.9</u>	<u>2.3</u>	<u>22.7</u>
i. Preservation of Agricultural lands	<u>42.2</u>	<u>28.9</u>	<u>1.6</u>	<u>1.6</u>	<u>25.8</u>
j. Steep Slopes Ordinance	<u>16.4</u>	<u>21.1</u>	<u>3.9</u>	<u>0.8</u>	<u>57.8</u>
k. Town Master Plans	<u>21.9</u>	<u>32.8</u>	<u>6.3</u>	<u>3.9</u>	<u>35.1</u>

18. Please check the column that best describes your attitude toward the following:

	Strongly Favor	Favor	Against	Strongly Against	No Opinion	/	No Response
a. Heavy Industry	<u>4.7%</u>	<u>13.3%</u>	<u>24.2%</u>	<u>31.3%</u>	<u>26.6%</u>		
b. Light Industry	<u>26.6</u>	<u>49.2</u>	<u>2.3</u>	<u>6.3</u>	<u>15.6</u>		
c. Retail Shops	<u>15.6</u>	<u>43.8</u>	<u>10.2</u>	<u>8.6</u>	<u>21.9</u>		
d. Shopping Centers	<u>10.9</u>	<u>27.3</u>	<u>20.3</u>	<u>20.3</u>	<u>21.1</u>		
e.							
f. Farms	<u>46.9</u>	<u>33.6</u>	<u>0.8</u>	<u>0.8</u>	<u>18.0</u>		
g. Motels	<u>7.0</u>	<u>43.8</u>	<u>14.1</u>	<u>7.8</u>	<u>27.3</u>		
h. Restaurants	<u>14.8</u>	<u>49.2</u>	<u>3.1</u>	<u>4.7</u>	<u>28.1</u>		
i. Personal service businesses (barbers, laundries, etc.)	<u>24.2</u>	<u>52.3</u>	<u>3.9</u>	<u>1.6</u>	<u>18.0</u>		
j. Woodland	<u>43.0</u>	<u>32.8</u>		<u>0.8</u>	<u>23.4</u>		
k. Home Business	<u>39.8</u>	<u>39.1</u>	<u>0.8</u>		<u>20.3</u>		

RECREATION

19. Should the town provide any additional recreational services or facilities?

- a. Yes
b. No

a. 44.5%
b. 25.8%
(N/R) 29.7%

If yes, please list in order of priority?

- a. _____
b. _____
c. _____

LIBRARY

20. How often do you use the Grafton Public Library?

- | | |
|------------|-----------------|
| a. Never | a. <u>57.8%</u> |
| b. Weekly | b. <u>7.8%</u> |
| c. Monthly | c. <u>15.6%</u> |
| | (N/R) 18.8% |

If never, why not? _____

21. Should the Library provide any additional services?

- | | |
|---------------|-----------------|
| a. Yes | a. <u>16.4%</u> |
| b. No | b. <u>14.8%</u> |
| c. No Opinion | c. <u>57.0%</u> |
| | (N/R) 11.7% |

If yes, please list in order of priority.

a. _____

b. _____

FIRE DEPARTMENT

22. What changes, if any, should be made to improve the Town Fire Department?
(Please list in order of priority)

a. _____

b. _____

c. _____

POLICE DEPARTMENT

23. What changes, if any, should be made to improve the Town Police Department?
(Please list in order of priority)

a. _____

b. _____

c. _____

SOLID WASTE DISPOSAL

24. What form of solid waste disposal should be actively pursued?

- | | |
|------------------------|-----------------|
| a. Incineration | a. <u>21.9%</u> |
| b. Landfill | b. <u>34.4%</u> |
| c. Recycling | c. <u>42.2%</u> |
| d. Other (combination) | <u>1.6%</u> |
| | (N/R) 7.0% |

HOUSING

25. Please check the column that best describes your opinion toward possible new housing in Grafton.

	Strongly Favor	Favor	Against	Strongly Against	No Opinion / No Response
a. Single-family homes	<u>45.3%</u>	<u>37.5%</u>			<u>17.2%</u>
b. Duplex (2-family units)	<u>6.2</u>	<u>39.1</u>	<u>17.2%</u>	<u>6.2%</u>	<u>31.3</u>
c. Apartments	<u>2.3</u>	<u>22.7</u>	<u>25.0</u>	<u>13.3</u>	<u>36.7</u>
d. High-Rise Units		<u>4.7</u>	<u>31.2</u>	<u>32.8</u>	<u>31.2</u>
e. Mobile Homes	<u>4.7</u>	<u>32.8</u>	<u>20.3</u>	<u>16.4</u>	<u>25.8</u>
f. Cluster Housing	<u>3.1</u>	<u>16.4</u>	<u>27.3</u>	<u>18.0</u>	<u>35.1</u>
g. Elderly Housing	<u>14.1</u>	<u>49.2</u>	<u>3.9</u>	<u>1.6</u>	<u>31.3</u>
h. Rent Subsidized Housing (for residents)	<u>6.2</u>	<u>26.6</u>	<u>17.2</u>	<u>3.1</u>	<u>46.9</u>
i. Other (specify)	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

26. Where in the town would you like to see the following?*

	Any Where	No Where	Around Village Centers	Within Concentrated Areas, Parks or Centers	Along State Roads	Elsewhere (specify)
a. Heavy Industry	<u>4.8%</u>	<u>68.3%</u>	<u>1.9%</u>	<u>8.6%</u>	<u>14.4%</u>	<u>1.9%</u>
b. Light Industry	<u>25.0</u>	<u>9.5</u>	<u>10.3</u>	<u>16.4</u>	<u>37.1</u>	<u>1.7</u>
c. Retail Shops	<u>20.5</u>	<u>14.3</u>	<u>38.4</u>	<u>6.2</u>	<u>19.6</u>	<u>0.9</u>
d. Shopping Centers	<u>6.5</u>	<u>45.4</u>	<u>18.5</u>	<u>9.3</u>	<u>19.4</u>	<u>0.9</u>
e. Professional & Business Offices	<u>28.3</u>	<u>15.1</u>	<u>34.9</u>	<u>5.7</u>	<u>15.1</u>	<u>1.0</u>
f. Farms	<u>92.9</u>	<u>2.0</u>	<u>1.0</u>		<u>3.0</u>	<u>1.0</u>
g. Motels	<u>15.8</u>	<u>29.5</u>	<u>17.9</u>	<u>6.3</u>	<u>30.5</u>	
h. Restaurants	<u>27.7</u>	<u>8.0</u>	<u>26.8</u>	<u>8.0</u>	<u>29.5</u>	
i. Personal Service services(barbers, laundries,etc.)	<u>27.4</u>	<u>6.5</u>	<u>46.0</u>	<u>5.6</u>	<u>13.7</u>	<u>0.8</u>
j. Woodland	<u>92.4</u>	<u>1.1</u>		<u>4.3</u>	<u>1.1</u>	<u>1.1</u>
k. Single-family homes	<u>94.0</u>	<u>2.0</u>	<u>3.0</u>		<u>1.0</u>	
l. Multi-family units	<u>27.0</u>	<u>51.7</u>	<u>9.0</u>	<u>6.7</u>	<u>3.4</u>	<u>2.2</u>
m. Apartments	<u>19.8</u>	<u>58.2</u>	<u>12.1</u>	<u>3.3</u>	<u>3.3</u>	<u>3.3</u>
n. Mobile Homes	<u>50.5</u>	<u>40.4</u>		<u>7.1</u>		<u>2.0</u>

*NOTE: Percentages calculated from those responding only.

HUMAN SERVICES

27. Not counting travel via school bus, please indicate with a check () the approximate frequency with which you travel to the below listed places. Indicate with a circle around the check where you would use public transportation if it were available:

	Daily	Weekly	Monthly	Rarely	N/R
a. Danbury	<u>5.5</u>	<u>12.5</u>	<u>14.8</u>	<u>25.8</u>	41.4
b. Orange	<u>54.7</u>	<u>10.2</u>	<u>6.2</u>	<u>47.7</u>	30.5
c. Canaan	<u>32.8</u>	<u>31.2</u>	<u>7.0</u>	<u>10.9</u>	18.0
d. Lebanon	<u>31.2</u>	<u>43.0</u>	<u>10.2</u>	<u>7.0</u>	8.6
e. Enfield	<u>20.3</u>	<u>28.1</u>	<u>9.4</u>	<u>19.5</u>	22.7
f. Concord	<u>2.3</u>	<u>7.8</u>	<u>19.5</u>	<u>50.8</u>	19.5
g. Manchester	<u>0.8</u>	<u>1.6</u>	<u>12.5</u>	<u>50.0</u>	35.1
h. Boston	<u>0.8</u>	<u>0.8</u>	<u>10.1</u>	<u>62.8</u>	26.5
i. White River jct.	<u>6.2</u>	<u>9.4</u>	<u>22.7</u>	<u>42.2</u>	19.5
j. New London	<u>0.8</u>	<u>2.3</u>	<u>10.2</u>	<u>61.7</u>	25.0
k. Laconia	<u>0.8</u>	<u>1.6</u>	<u>4.7</u>	<u>65.6</u>	27.3
l. Hanover	<u>14.8</u>	<u>7.8</u>	<u>25.8</u>	<u>26.6</u>	25.0

MARKET INFORMATION:

28. What newspapers do you read?

Multiple Responses

- a. Valley News
b. Manchester Union Leader
c. N.H. Times
d. Boston Papers
e. Mascoma Valley Messenger
f. Other (specify) _____

a. _____ 74.2%
b. _____ 28.2
c. _____ 17.2
d. _____ 23.4
e. _____ 73.4
f. _____ 14.1

29. Where do you go most often for the following goods and services and entertainment?

	Canaan	Enfield	Lebanon	Hanover	White River	Danbury/ Bristol	Franklin	Laconia	Concord/ Manchester	Boston	Other
a. Weekly Food	6.0	2.2	7.0	5.2	0.8	8.0	2.2	8.2	0.8	1.5	
b. Clothes	0.8	6.7	5.1	0.7	0.7	0.7	3.0	14	5.3	2.3	
c. Furniture	1.0	17	56	1.0	1.0	3.1	3.1	3.1	11	2.1	2.1
d. Appliances	2.9	2.9	74	1.9	1.9	3.9	9.7		2.9		
e. Hardware	37	6.5	42	0.8	4.3	1.4	1.4	0.8	5.0		
f. Building Supplies	14	1.9	50	1.0	11	1.9			21.0		
g. Doctor	18	15	22	34	5.9	0.7	0.7		2.2	2.2	
h. Dentist	5.7	59	18	6.6	2.8	2.8	1.9	0.9	0.9	1.9	
i. Prescription Drugs	0.8	20	63	4.1	2.5	0.8	2.5	1.7	1.7	0.8	2.5
j. Banking	33	15	34	6	40	62	5	3.2	1.3	3.2	1.3
k. Auto Purchases	7	5	43	3.2	8.6	2.2	3.2	6.5	17	3.2	5.4
l. Auto Repairs	5.3	25	30	1	04	2	2.1	1	2.1	2.1	27.4
m. Dining	0.8	3.3	57	15	3.3	5.7	0.8	3.3	4.9	4.1	1.6
n. Movies	2.0	57	24	8.2			2.0	5.1	1.0	1.0	
o. Favorite Sport (specify)	17	22	5.6	28		11.1			5.6	11.1	
p. Dancing	7.9		47	2.6	16		2.6	10.5	7.9	5.2	
q. Concerts	4.3	2.2	13	61	2.2			2.2	13	2.2	
r. Art Exhibits	2.3	4.6	72	2.3				2.3	11.6	4.6	
s. Farm & Garden Supplies	16	9.7	51	9	7.7	4.8	1	2	2	4	
t. Realtors	31	4	37	4	19				2	4	
u. Insurance	35	5	27	4	3	11	1	1	5	1	7

Percentages calculated only from these responses.

30. List the goods and services that are now unavailable in Grafton, but you wish to see in the future (in order of importance).

a. _____

b. _____

c. _____

SCHOOLS

31. What do you consider to be the three biggest problems of the school system (please list in order of priority)?

a. _____

b. _____

c. _____

32. Please check the column that best describes your opinion of the following aspects of the school system:

	Canaan Elem.					Mascoma H.S.				
	Excel.	Good	Fair	Poor	No Opinion	Excel.	Good	Fair	Poor	No Opinion
a. Buildings	20	28	5	2	44%	9	20	13	7	52%
b. Class Size	8	23	13	5	51	4	13	12	13	58
c. Teachers	5	25	14	5	51	4	11	17	7	61
d. Administration	2	22	17	7	52	2	12	15	11	60
e. Curriculum	4	25	16	4	52	2	14	15	8	61
f. Discipline	2	19	12	13	55	2	9	12	13	66
g. Drug/Alcohol Control	4	16	12	5	64	2	9	9	17	63
h. Extra Curricular	2	18	16	6	58	4	14	13	11	58
i. Handicapped Education	4	14	9	4	69	4	14	5	9	68
j. Vocational Education	1	8	6	9	77	3	10	9	10	68
k. Adult Education		5	3	13	79		3	2	15	80
l. Transportation	11	28	7	4	50	4	23	9	5	60

HISTORIC SITES AND BUILDINGS

33. Where and what historic sites and buildings would you like to see preserved in Grafton (list in order of priority)?

a. _____

b. _____

c. _____

LAND USE REGULATIONS & ORDINANCES

34. The current Town Ordinance calls for a minimum size of residential lots, said lots to be two acres and have a minimum road frontage of two hundred (200) feet. Please indicate your preference for minimum standards:

	Unchanged	Increase	Decrease	No
		to	to	Response
a. Size (acres)	<u>60.9%</u>	<u>2.3%</u>	<u>1.6%</u>	<u>35.1%</u>
b. Frontage (road - ft.)	<u>62.5%</u>	<u> </u>	<u>1.6%</u>	<u>35.9%</u>

35. Are you in favor of the current Grafton Subdivision Regulations?

a. Yes	<u>a. 26.6%</u>
b. No	<u>b. 6.2%</u>
c. No Opinion	<u>c. 30.5%</u>
	(N/R) 36.7%

Have we forgotten something? Please use the space below or enclose a separate piece of paper to state your opinion on any matter affecting the Master Plan for Grafton that you think is important but which the survey doesn't cover, or to expand any of your answers.

Chapter IX

**FUTURE LAND USE
PLAN**

IX. FUTURE LAND USE PLAN

INTRODUCTION

The Future Land Use Plan is the most important element of the comprehensive planning process. It is a synthesis of all of the Master Plan chapters, which are based on the opinions expressed in the Community Attitude Survey and on an inventory and analysis of trends, existing conditions, and future needs with respect to land use, natural resources, population, housing, economic development, transportation, utilities, open space and recreation, community facilities and services, and historic resources.

The Future Land Use Plan is a comprehensive policy statement of desired land use which can be used as a guide for future growth and development of the Town. Future land use decisions and local ordinances, regulations and policies should be generally consistent with the land use plan. To implement this plan, existing ordinances and regulations need to be changed and new ones need to be created.

PROJECTED FUTURE LAND USE NEEDS

As indicated in the Population Chapter of the Grafton Master Plan Grafton's population is expected to grow at a moderate rate over the next 15 years; to rise from its estimated 1985 population level of 842 residents to about 1,252 residents in the year 2000.

Residential development will account for the major share of growth in developed land over this period. Assuming continuation of the 1980 figure of 2.85 persons per housing unit, this projected growth in population will result in 144 additional housing units in Grafton by the year 2000 or an average of 10 dwelling units per year. Assuming an average lot size of one acre per dwelling unit, a total of 10 acres per year or 150 acres over the 15 year period would be consumed by residential development.

It is much more difficult to project commercial and industrial development, due to a number of factors. First, businesses vary in size from a small convenience store to a major shopping center or manufacturing plant. Secondly, commercial and industrial development is much more susceptible to outside forces, such as overseas trade, government contracts, and the cost of electricity. It is anticipated that commercial and industrial uses will grow slowly over the next fifteen years.

1. Population Growth

Grafton's population has increased by 472 people since 1970 for a 128 percent increase over that fifteen year period. About ninety-nine percent (99%) of the population growth between 1970 and 1980 was due to in-migration with the remaining one percent occurring as a result of natural increase (excess of births over deaths).

From 1970 to 1980, Grafton's population density nearly doubled, although Grafton remains one of the more sparsely settled communities in the region. Grafton's population more than doubles during the summer months with the influx of seasonal residents. All age groups in Grafton increased in numbers during the 1970s. It is expected that the elderly age group will increase significantly as a segment of the Grafton population over the next two decades. An average of the alternative population projections indicates that an additional 410 persons will reside in Grafton by the year 2000.

According to the 1985 Community Attitude Survey, the greatest proportion of Grafton residents (37%) would like to see the town's population decrease or stay the same over the next 10 years; 32 percent favor slight growth and 23 percent want moderate growth. Thus, 92 percent indicated that they desire slight, moderate or no growth over the next decade. Grafton's residents do not want rapid growth and a majority are in favor of master planning and local land use controls to guide the future growth and development of Grafton.

Population Goals

- (1) Grafton should allow for slight to moderate growth, but the Town must be careful to ensure that this growth is orderly and reasonably timed to allow for gradual expansion and improvement of community facilities and services to accommodate this growth.
- (2) Grafton's Master Plan and local land use regulations should be designed to create a desirable land use pattern which protect the natural, environmental, cultural, historic and social qualities of Grafton.
- (3) Accommodate a reasonable share of the region's population growth.

Policies and Recommendations

- (1) Grafton must consider the cumulative impacts of growth, particularly with respect to the Town's natural resources, community facilities, finances, visual and aesthetic character, and the social implications associated with the growth.
- (2) Growth should be directed away from the town's critical natural resources and toward land which is suitable for development.
- (3) Since the elderly age group will grow significantly as a segment of Grafton's population, the special needs of the elderly population should be a major consideration in future planning and development and the provision of community facilities and services.
- (4) Grafton should require impact studies for all major or "problem" developments.
- (5) Developers should be required, as a condition of approval, to pay a reasonable portion of the municipal improvements and costs associated with the proposed development.

2. Housing

The housing stock in Grafton grew by 240 units between 1970 and 1980 for an 86 percent increase. About 60 percent of these additional dwellings were year round units with the remaining 40 percent being seasonal homes. Of the growth in year-round units, 86 percent were single family dwellings and 11 percent were mobile homes. Almost half of the town's housing stock has been built since 1960, indicative of the recent population growth. Also Grafton has a high percentage of older homes (38 percent predate 1940) which may need renovation and may have historical significance. Based on the projected population growth it is estimated that 144 additional housing units will be added in the next fifteen years for an average of about 10 units per year.

The following summarizes the feedback from the Community Attitude Survey with regards to housing-related issues:

- o Virtually every resident prefers single-family homes over other types of new housing in Grafton.
- o The overwhelming majority of Grafton residents favor single-family homes anywhere in town.
- o Most town residents favor retaining the current minimum residential lot size of two acres.
- o Fifty-six percent are in favor of subdivision regulations; only 16 percent are against.
- o Opinion was mixed regarding the placement of multi-family units and apartments; approximately 40 percent did not favor any units of this type while approximately 30 percent made no response and about 15 percent stated "anywhere".
- o A large portion of Grafton's residents, 54 percent of those surveyed, rated rental housing in town as "poor".

The Community Survey revealed a number of issues about which there is no clear consensus. They include:

- o a building code (45% favor, 36% against);
- o zoning (46% favor, 42% against);
- o Grafton's current subdivision regulations (29% favor, 6% against, 65% no response or opinion);
- o cluster housing (28% favor, 47% against, 34% no opinion);
- o mobile homes (38% favor, 35% against, 27% no opinion);
- o duplexes (44% favor, 24% against, 32% no opinion);
- o apartments (23% favor, 39% against, 38% no opinion);
- o rent subsidized housing (35% favor, 17% against, 46% no opinion);
- o the location of mobile homes in town (40% anywhere, 31% nowhere).

Housing Goals

- (1) To encourage a range of adequate and affordable housing opportunities for all segments of the population, including the elderly and the handicapped;
- (2) To promote a safe, sanitary and well constructed housing stock through new construction and renovation of existing structures;
- (3) To encourage a safe and desirable neighborhood environment.
- (4) Encourage high quality residential development which maintain and enhance the natural character of the land, promoting the enjoyment and safety of their residents.
- (5) Maintain Grafton as a town of predominantly single-family houses, while accommodating a fair share of the region's need for housing low income, disadvantaged, and elderly people.
- (6) Encourage the location of mobile homes in pleasing environments, augmenting both the aesthetic quality and the level of housing opportunity in Grafton.
- (7) Promote an awareness of energy conservation and alternative energy sources in building design and construction.

Policies and Recommendations

- (1) Promote decent, affordable, attractive housing. The job of insuring an adequate supply of housing units in Grafton over the next two decades will best be met by a combination of new construction and rehabilitation of existing units. Conversion of large, old single-family homes to more economical multi-family housing should be encouraged in appropriate areas. It is expected that the conversion of seasonal homes to year-round use will fill some of the housing supply. Additions to the housing supply, where possible, should be made incrementally over the next several years, concurrent with the projected and expected gradual increase in population. The Community Survey indicates general support for a mixture of housing opportunities in most of the areas in town.

In order to accomplish the goal of providing affordable, decent housing in Grafton over the next two decades, the town could also encourage the location of small-scale elderly housing complexes, including congregate living facilities in the village areas; and allow the conversion of large, old, single-family houses into more economical multi-family dwellings, consistent with town regulations.

- (2) Encourage a residential land use pattern which has the medium-density housing in close proximity to the village centers and the lower density housing in the outer-lying areas of town. By allowing medium-density (1 unit/acre) new housing in the villages, the town can offer a housing alternative to meet the future needs of its residents and help reduce the pressure to convert the rural landscape along the roads in Grafton. New housing in these areas can also help local commercial activity, minimize costs for municipal services, and conserve energy.

Since the town does not have a public water or sewer system, it is crucial that any land being developed should be capable of supporting the water and sewer needs of the use being proposed. The historic character of these areas is another important consideration. However, if good siting and design principles are followed, and the town has adequate regulations to ensure that they will be followed, the new developments can be harmonious with the traditional rural qualities of Grafton.

Housing development in remote areas results in higher municipal service costs, longer response times for emergency services, and higher transportation costs. Large lot sizes should be required to ensure lower densities in outlying areas.

- (3) Carefully control the conversion of large old houses into apartments or condominiums. While in many cases it is both practical and desirable to convert these homes into multi-family dwellings, the issues of parking, sewage disposal, structural and landscaping alterations, density, and compatibility with adjacent land uses should be reviewed by the Planning Board.
- (4) Adopting building and housing codes. Adoption of a building code affects only new construction, ensures safe buildings (particularly safe from fire), and protects property values. A building code only affects existing structures when the owner of an existing structure remodels or constructs an addition. The building code considers only the area under construction, not the entire building. Existing structures are also affected by the code if they pose a serious public safety threat.

The BOCA (Building Officials and Code Administrators) Basic Building Code has been adopted by many New Hampshire communities. The building code will protect public safety and the consumer from faulty construction practices.

A housing code affects only rental property, requiring minimum plumbing, electric, and safety standards. A housing code minimizes the risk of fires and ensures safe and sanitary housing for tenants. It is usually involved in severe cases, where the health and safety of the tenant and public are at risk. The town should also enforce two statewide codes, the 101 Life Safety Code and the State Energy Code, which are already in effect.

- (5) Adopt a building permit system. Adoption of a building permit system can be an effective way for a community to monitor safety and health issues inherent in construction and renovation. As opposed to the structural concerns which a building code addresses, a building permit system can ensure proper septic system operation, address floodplain concerns and access to town or state roads. It can also serve as a useful indicator of assessments which should be increased. Although a system of this nature would require a part-time building permit officer, most of this person's salary could be paid through building permit fees and fines.
- (6) Protect buildings of historic and architectural merit. The historic character of homes in Grafton is a significant asset. Already some buildings in Grafton of architectural and historical merit have been altered so as to obscure or destroy the original characteristics of the structure. With proper guidance and education, building owners can be encouraged to make changes which will increase their property values and often improve the image of the town.

- (7) Discourage commercial and industrial intrusion into residential neighborhoods. These uses can lead to safety and health problems, as well as noise and visual pollution, thereby decreasing the quality of residential life and reducing property values.
- (8) Carefully control the conversion of seasonal homes to year-round homes. Seasonal homes have inadequate septic systems for year-round use and road access is sometimes difficult. Local control over these conversions will help protect public health and safety and ensure that Grafton's seasonal homes remain an asset and prevent them from becoming a liability. Consider adopting an ordinance which deals with the conversion of seasonal homes to year-round use.
- (9) Require environmental and fiscal impact studies for all large-scale residential development proposals.
- (10) Establish a shoreline buffer zone along all waterbodies in the town. This will protect the waterbodies and increase property values throughout Grafton.
- (11) Employ land use regulations to discourage development on prominent hills and especially in those areas where (a) the slope (greater than 15 percent) renders development and maintenance of town services expensive; (b) seepage and erosion damage are more severe; and (c) undue visual impact would detract from the character of the town.
- (12) Restrict residential development from critical resource areas such as wetlands, steep slopes, floodplains and prime agricultural land. Housing is not a wise or appropriate land use in these areas.
- (13) Study, evaluate and educate the Planning Board, developers and the public about innovative land use tools such as Cluster Housing and Planned Unit Developments. These may be appropriate in certain situations to preserve open space, maintain the rural character of the town, and minimize road and infrastructure installation and maintenance costs.
- (14) Encourage rehabilitation of the town's older housing stock, using Community Development Block Grants and other available funds.
- (15) Accommodate mobile homes where single family residences are allowed. Mobile home parks and subdivisions should be strictly controlled, especially in terms of water, seepage, landscape buffering, access, and density.
- (16) Encourage energy-efficient subdivision and site plan design. East/west streets, south-oriented lots and cluster development should be encouraged to promote energy alternatives, as appropriate.

3. Economic Development

About eight out of ten of Grafton's residents over the age of 16 who work, rely on employment opportunities in other communities especially Lebanon, Canaan, and Bristol. A large percentage of Grafton's residents have jobs in the service sector. Most of the service sector jobs are in either health or educational services, which is a reflection of employment at Dartmouth College, the Cardigan Mountain School and regional medical facilities. Grafton has a fairly typical mix of occupations, although the percentage of managerial, professional jobs and technical/sales administration support jobs is somewhat low and the percentage of operators/fabricators/laborer jobs and precision production, craft and repair occupations is somewhat high.

Grafton's income levels are lower than the County and State levels. Compared with other communities, the percentage of persons below poverty level in Grafton is high.

The following summarizes the feedback from the Community Attitude Survey with regards to economic development related issues:

- o When asked to express their attitude toward various types of businesses, residents indicate that they favor most forms of business activity in Grafton except heavy industry and shopping centers.
- o Most consider shopping and employment opportunities in Grafton to be poor.
- o Residents appear to be in favor of most local regulations and environmental land use controls, but are evenly split about the need for zoning.
- o When asked to indicate where they would like to see businesses located in Grafton, the results were as follows:
 - o heavy industry - nowhere (68%) or along state roads (14%).
 - o light industry - along state roads (37%), anywhere (25%) or within concentrated areas (16%).
 - o retail shops - around village centers (38%), anywhere (20%) or along state roads (20%).
 - o shopping centers - nowhere (45%) or around village centers (19%).
 - o professional and business offices - around village centers (35%), anywhere (28%), along state roads (15%), or nowhere (15%).
 - o farms - anywhere (92%).
 - o motels - along state roads (31%), nowhere (30%), around village centers (18%) or anywhere (16%).
 - o restaurants - along state roads (30%), anywhere (28%), around village centers (27%).
 - o personal services businesses - around village centers (46%), anywhere (27%), or along state roads (14%).

ECONOMIC DEVELOPMENT GOALS

- (1) To encourage and provide for selected economic growth and diversification of those economic activities which will increase wage rates and income levels, provide employment and shopping opportunities for Grafton residents and increase the town's net tax base without degrading our natural, scenic and cultural resources and quality of life in general.
- (2) Encourage small, non-polluting (light) industries and commercial establishments to locate on well-planned sites where they will not create a potential for land use or traffic conflicts.

Policies and Recommendations

- (1) To maintain the town's rural residential character.
- (2) To attract small-scale, clean businesses which respect the town's character and provide employment opportunities closer to home.
- (3) To enhance the scenic and historical resources of the town.
- (4) To prevent strip development along our state highways.
- (5) To concentrate most of the commercial activity within the villages.
- (6) To keep the Northern Rail Line corridor open, using it for recreation purposes until it is needed again for transportation purposes.
- (7) To encourage home businesses and preserve and properly manage the town's resource base for farming and forestry.
- (8) To promote tourism in Grafton and the region.
- (9) To limit industrial development to light, clean industry of a type consistent with the Grafton Master Plan.
- (10) To achieve these goals and objectives, the Town of Grafton should adopt a local land use ordinance which will prevent businesses from building too close to the state highways, guide most commercial activity into the village areas and prevent unwanted polluting industries from locating in the town. In addition, the town should encourage the rehabilitation of village structures for office and retail use and encourage "bed and breakfast" facilities which will help bring more tourists into Grafton. To help maintain the town's character and environmental quality, the town must also adopt sign regulations and standards to protect water quality.
- (11) Finally, Grafton should plan jointly with other communities in the region and encourage communities such as Canaan and Enfield, which have the utilities necessary to attract light industry, to set aside areas for economic development. If the limited areas suitable for light industry are not reserved now, Grafton will see their economic potential reduced.

4. Community Facilities and Services

The provision of public services is an important element in promoting the health, safety and general welfare of the community. The need for additional public facilities and services increases as the population grows, residential areas expand, old facilities become outmoded, and as living standards and public expectations rise.

The Town Hall, located on the Grafton Turnpike off of Route 4 in East Grafton, is considered to have inadequate space. A Building Committee, established at the 1986 Town Meeting, is evaluating alternatives to provide more space.

The Grafton Town Library located on Library Road in Grafton Village has adequate space and books for the needs projected over the next fifteen years.

The Fire Station, centrally located in Grafton Village, needs additional space for a classroom/meeting room, bathroom, and hose dryer or hose tower. Additional exterior lot area is needed for a well, septic system, parking and possible building expansion. The Fire Station also houses the Ambulance Squad.

The Town of Grafton does not have a police station; the Police Chief operates out of his house. If a new Town Hall is constructed, then consideration should be given to incorporating a small office for the Police Department into the plans.

The Grafton Highway Garages, consisting of two buildings are located off Route 4 in Grafton Center. In addition to insulating these buildings future needs include a plow, sander, storage shed and a salt shed.

The Town of Grafton operates a solid waste transfer station located off Route 4 in Grafton Center with disposal at a landfill in Rochester, New Hampshire.

In 1986, a capital reserve fund was established and funded with \$5,000 per year to be used for closure of the old landfill at the transfer station site.

Nine cemeteries are located in town with the 3.8 acre Pine Grove cemetery being the only active cemetery, with two-thirds of the cemetery still available.

The following summarizes the input from the Community Attitude Survey pertaining to community facilities and services:

- o Strong support was expressed in the survey for many town services.
- o The Ambulance Squad, Town Clerk, Fire Protection, Tax Collector, Treasurer, Selectmen, and Town Dump were rated "excellent to good" by a majority of town residents.
- o Nearly half of the survey respondents rated road maintenance, both summer and winter, as good.
- o The Library received a rating of "good to fair" by most of those responding.
- o Schools received a rating of "good to fair" by most of those responding.

- o A majority (58%) of those surveyed stated that they never use the library, with eight percent using it weekly, and 16 percent monthly.
- o Requests for suggestions to improve the Fire Department and Police Protection yielded surprisingly few responses. The most frequent responses were to update the fire equipment (11 responses) and the need for a full-time officer(5).
- o Recycling was favored by the greatest number of respondents (42%) followed by lesser numbers for landfilling and incineration.
- o Key concerns regarding the school system include the overcrowding of the schools (17 responses); the inability of the school system to retain school teachers due to pay (this has been addressed since the survey), location or other factors (12); and the adverse impact of the school costs on taxes (9).
- o There were few responses and little or no consensus among respondents regarding improvements they would be willing to support with more tax dollars.

Community Facility Goals

- (1) To provide community facilities and services in the most efficient manner to meet the existing and future needs of Grafton's residents and businesses.
- (2) Expand the Town's parks and recreational facilities (see Chapter VI).
- (3) Provide community services (e.g. Town Hall, Library, and Public Safety) at a level equal to or better than currently provided.

Policies and Recommendations

Town Hall

A larger and more efficient Town Hall is clearly needed. The issue of whether to build a new building or renovate the existing structure is to be decided by voters at a future town meeting.

Library

- (1) All building and site improvements and alterations should respect, and be compatible with, the historic and architectural qualities of the structure.
- (2) A simple ramp should be built to accommodate wheelchairs through the double front doors.
- (3) Eventually, a restroom with flush toilets and a sink may be needed. Repairs to the sidewalk and asbestos roof (both original to the building) will also be necessary in the coming years. Planning should begin now for these improvements.

Fire Department

- (1) The Town and the Fire Department should actively pursue purchase of parcels adjacent to the present station (especially that fronting Route 4) for expansion purposes.

- (2) Construction of an addition to the station (or construction of a new structure on another site if adjoining land is not available) should take into account the possibility of using the station as a primary meeting place for town functions, eliminating the expense of an additional town facility.
- (3) Develop a dry hydrant program. The Planning Board should require, as part of a subdivision approval, the installation of dry hydrants when recommended by the Fire Chief. It is important that all dry hydrants be maintained properly by the Fire Department to ensure effectiveness.
- (4) Access for emergency vehicles and fire engines should be a major consideration in evaluating the location and design of proposed subdivisions and developments.
- (5) Long dead-end streets should be avoided, with a general goal of ensuring two potential means of access for fire trucks and other emergency vehicles.
- (6) Restrict building heights to a maximum of $2\frac{1}{2}$ stories or 35 feet, thereby eliminating the need and enormous expense of purchasing a ladder truck.
- (7) Establish a wood stove inspection program whereby the Fire Department must inspect wood stove installations prior to use.
- (8) Require and encourage the use of smoke and heat detectors and sprinkler systems. Smoke and heat detectors are relatively inexpensive, easy to install and should be required in all new, renovated or enlarged buildings. Town buildings and any large new commercial or industrial buildings should ideally have sprinkler systems.
- (9) Encourage the Fire Department to continue its training programs and equipment purchases which meet NFPA standards.
- (10) Educate homeowners as to personal fire protection in their own homes and to the services available to them.
- (11) Consider adoption of a building code to help prevent fires, save lives and protect and enhance the Town's tax base.
- (12) Establish a capital reserve fund for new fire equipment.

Ambulance Squad

- (1) Continue volunteer training and encourage additional training for members of the squad.
- (2) Consider establishing a capital reserve fund.
- (3) Emphasize highway safety in Town planning, including driveway regulations and other local land use controls to ensure safe road access points and maximize safe sight distances.
- (4) Discourage development in outer-lying areas where access is difficult.

Police

- (1) The Town may want to consider, or at least start planning for a small office for the police chief where police reports, records and other related materials can be kept. Such plans should be coordinated with plans for a new or renovated town building.

Highway Department

- (1) Consider energy-related improvements to the highway garage. Planning should begin now.
- (3) Construct a salt shed and plow and sander shed.
- (4) Discourage development in outer-lying areas and in areas which are served by substandard roads.
- (5) Require high standards for road construction. Failure to require proper road standards results in higher costs for highway department maintenance and increases the Town tax rate.

Education

- (1) Carefully evaluate the impact of proposed developments on the school system, including enrollments, transportation and fiscal impact.
- (2) Monitor the number of students living in various types of housing in Grafton to provide data which can be used to evaluate development proposed to the Planning Board.

Social Services

- (1) The Town of Grafton should continue to join with neighboring communities to provide certain community facilities and services when a regional approach is cost effective and reasonable.

5. Public Roads and Transportation

Grafton has experienced steady growth in traffic volumes throughout the community. The key transportation corridor is Route 4 which serves as the principal commuter route into the Lebanon/Hanover employment center to the west and to Bristol to the east. A sixty-two percent increase in traffic volume has occurred on Route 4 at the Orange Town Line between 1975 and 1983. At the Danbury Town Line on Route 4, an eleven percent increase has occurred over the same period. By 1995 a 106 percent increase is projected on Route 4 at the Orange line and a 17 percent increase at the Danbury line.

As the Town continues to attract new development, increasing pressures will be imposed upon its existing public road system. Ensuring that the town's highways are able to accommodate rising traffic volumes in the future will necessitate a strategy that combines the following measures: 1) identifying low-cost, easily implementable transportation system management measures that can increase

the operational capacity of highways, including car pools, mass transit, etc.; 2) capital improvements to the transportation system; (e.g., widening and signalization); and 3) restricting traffic-intensive development projects where highway improvements cannot be feasibly implemented.

Feedback from the Community Attitude Survey pertaining to public roads and transportation are summarized as follows:

- o Forty-seven percent of respondents live along paved roads, 48% reside on unpaved roads and 3% live on private roads.
- o Road maintenance in the summer is rated as excellent by 12% of respondents, 47% said it is good, 23% replied fair, 12% rate it poor and 7% had no opinion. Winter road maintenance is considered excellent by 16% of the population, 47% said it is good, 16% consider it to be fair, 13% said poor and 9% had no opinion.
- o When asked to list the least desirable characteristics of the town, 12 persons reported poor road conditions and 7 cited the fact that public transportation is not available.

Transportation Goals

- (1) To encourage a cost-effective transportation system, which includes the highway network and demand-responsive transportation for elderly and handicapped persons, which will meet, to the maximum extent possible, the mobility needs of local residents and will provide for the safe, efficient movement of goods and people within and through Grafton.
- (2) Work with the State to maintain and improve the State highway network as it affects Grafton.
- (3) Encourage development that promotes both safety and the effective flow of traffic.
- (4) Improve existing town roads.
- (5) Promote the high quality of new roads.

Policies and Recommendations

- (1) The Town should establish standards for public roads based upon the use of the road (i.e. primary, secondary, occasional use, etc.).
- (2) Continue to require adequate road standards for new subdivisions. By requiring that a road be constructed properly, the town can avoid unnecessary expenditures and problems. Substandard private roads have been a problem in Grafton and this has resulted in residents along these roads wanting the Town to take them over and upgrade them to Town standards.
- (3) Speed limits should be clearly posted on Town roads, as speeding not only creates a safety hazard, but also necessitates frequent regrading of dirt roads.
- (4) Consider the effect which proposed subdivisions may have on off-site roads and in certain cases require the developer/subdivider to improve off-site

roads as a condition for subdivision approval. Even if the new road in a subdivision meets the town's specifications, the other roads in the area may not be adequate to accommodate the increased traffic resulting from the development. In this case, the developer/subdivider should pay his proportion of the cost to upgrade these off-site roads.

- (5) Increase the capital reserve fund as necessary in order to continue improving and maintaining bridges and for purchase of any needed right-of-way, as well as for replacing highway equipment.
- (6) All unused roads in Grafton should be designated as Class VI roads. Designation and status for all old roads should be verified to determine whether assumed closed roads have been legally designated as Class VI. Potential upgrading costs to the town on roads not properly designated as closed could be substantial. This action should be implemented by the Board of Selectmen.
- (7) In general, building permits should not be issued for construction on Class VI roads, as this will necessitate future upgrading and maintenance of these roads. However, certain discontinued roads may be targeted as desirable areas for new development, in which case the Town should designate them for upgrading prior to approved development projects.
- (8) Require adequate setbacks. It is recommended that the town require a 50-foot right-of-way for all roads to allow for road maintenance (plowing, drainage, etc.) and road improvements (widening, straightening curves, improving drainage, etc.) An adequate set back is also needed for buildings, fences, etc. which would obstruct the vision of motorists and bicyclists.
- (9) Adopt driveway regulations. This will ensure curb cuts occur at safe locations with good sight distance and to protect existing town roads.
- (10) Investigate the feasibility of using the PAVER system for highway maintenance. The long run benefits in terms of improving road conditions and cost savings will far outweigh the initial expenses of program start-up.
- (11) Consider scenic road designation for some of Grafton's rural roads.
- (12) Road improvements generate significant amounts of waste (stumps and rocks). The Town should designate a suitable location for disposing of such waste.
- (13) Continue to support Advance Transit. The operation of special purpose, door-to-door bus service is very important to a number of Grafton's elderly persons. Advance Transit has been rated as one of the finest rural bus systems by the Urban Mass Transportation Administration, and the elderly persons living in Grafton have derived substantial benefits from services provided.

- (14) Promote state acquisition of the Northern B & M Rail Line. It is essential that this rail corridor be kept intact. It has short-term potential for recreational activities and has the longer term potential for transportation. The extent to which future reuse would impede access to properties, however, should be considered.
- (15) Establish a good data base on roads and rights-of-way indicating status, when discontinued, etc.

6. Open Space and Recreation

Grafton has extensive open space existing within the community. The combination of agricultural land, idle land, conservation land, forested land, and surface waters accounted for 96 percent of the total land area in Grafton. Forested land covering 78 percent of the town accounted for the bulk of the open space.

Recreational facilities in Grafton presently are limited. Huff Beach on Kilton Pond and a recreational field off Prescott Hill Road are the primary recreational facilities available to residents.

The following is a synopsis of the input from the Community Attitude Survey pertaining to open space and recreation:

- o Many town residents feel that the most desirable features of living in town relate to the town's rural (country) atmosphere, its scenic quality and natural recreational offerings.
- o Preservation of agricultural land and woodlands is favored by a majority (71%) of the town's residents.
- o The vast majority (over 90%) of Grafton residents favor woodlands and farms anywhere in town.
- o Forty-five percent felt that the town should provide additional recreational services, 26% feel the present level is adequate and 30% had no response. A basketball court, playground, baseball field, recreation hall and a beach on the Route 4A side of Grafton Pond were the most popular suggestions for additional facilities noted in an open-ended question.
- o The greatest percentage of local residents (30%) rate the Recreation Department as fair, with 21% responding good and 20% poor. Most other town services received an "excellent-good" rating.

Open Space and Recreation Goals

- (1) To provide and encourage park and recreation facilities which will meet the recreational and psychological needs of Grafton's residents.
- (2) To provide and encourage active and passive recreation programs for all segments of the population.
- (3) To expand the Town's parks and recreational facilities.

Policies and Recommendations

- (1) Discourage development in outer lying, remote areas of Grafton. These undeveloped areas are characterized by forests, rugged terrain (steep slopes, ledge, etc.) natural scenic beauty, large tracts in single ownership and poor road conditions. They are also far from town facilities and services, making it both difficult and expensive for the town to provide them. Minimum lot sizes should be fairly large in outlying areas.

Forestry, agriculture, and low-density housing are appropriate uses for these areas. By encouraging these uses and discouraging development, the town will (a) help keep property taxes low, (b) encourage residents to live in areas where emergency services can be provided quickly and economically, (c) preserve areas for commercial forestry and agriculture, (d) provide areas for outdoor recreation, (e) encourage wildlife, especially those species which need to roam over large areas and (f) conserve energy.

- (2) Support the Upper Valley Community Land Trust and/or establish a Conservation- Recreation fund to buy land or the development rights to land for open space, agricultural, forestry, wildlife conservation and recreational purposes.
- (3) Require developers to reserve common areas of open space for recreational purposes in all major proposed residential developments. The land set aside for parks and playgrounds should be reserved for the common use of all property owners in the subdivision by covenant in the deed and should be of reasonable size, character and location for neighborhood playgrounds or other recreational uses. Cluster development will also help accomplish this objective.
- (4) Encourage cluster rather than tract housing developments in appropriate areas. Cluster provisions allow developers to maximize the return on their investments by clustering housing units and leaving the remaining land in permanent open space. This option is especially valuable to the town in protecting agricultural lands.
- (5) Protect and enhance some of Grafton's scenic views. The town is blessed with several spectacular views which contribute to the quality of life of year-round residents and are an economic advantage in that they make Grafton attractive for tourists and seasonal residents. Some of the views identified in this chapter should be considered for "pull-off" overlooks while others can be protected by negotiating deed restrictions with property owners to keep the views free from obstructions, or through hilltop development. Scenic roads and improved public access for scenic sites and areas should also be considered as well as cleaning up some of Grafton's unique scenic areas.

- (6) Provide additional public open space along the shoreline of ponds and rivers in the town.
- (7) Preserve and encourage agriculture, forestry and wildlife.
- (8) Create a Conservation Commission to be responsible for promoting and preserving open space, natural and agricultural areas. The Conservation Commission should work with other town boards and officials, local farmers, residents, businesses and relevant agencies to achieve this goal.
- (9) Adopt a wetlands conservation ordinance.
- (10) Encourage deed restrictions and conservation agreements to protect agricultural land.
- (11) Guide future residential, commercial and industrial growth into locations which are on non-agricultural soils. There is ample non-agricultural land for future development.
- (12) Keep an accurate up-to-date list of existing agricultural operations, including acreages, levels of products being produced, and methods of marketing.
- (13) The town should provide a designated area (with appropriate guidelines) where local producers can sell from an automobile or a table. Minimize barriers to direct marketing and encourage marketing directly from individual farms.
- (14) Provide community garden space so that any family unable to produce food on their own property will be able to do so in a community garden.
- (15) Continue to encourage local stores and institutions to purchase local agricultural products and to make it known that they are serving or selling local products.
- (16) Support efforts to increase the penalty for taking land out of current use.
- (17) Ensure that any future zoning ordinance specifies that existing farms and future farms in rural areas will not be unduly restricted with respect to odor, light and noise.
- (18) Encourage efforts aimed at educating the public about agricultural techniques, food storage and processing, marketing and nutrition.
- (19) Encourage "soft edges", transitional areas between woodlands and open fields. Many species rely upon this type of habitat.
- (20) Enforce regulations which are designed to protect water quality.
- (21) The decline of the fish population in our lakes, ponds and streams must be stopped. The town should:
 - a) Prevent the diversion and pollution of small and large tributaries which result from development on the lakeshore and adjacent areas.

- b) Whenever possible, the town should encourage landowners to leave their shorefronts in a natural state. Rocky shorelines provide an important wildlife habitat. Changing a rocky shore to a sandy beach creates a "biological desert" which destroys the food base for both fish and small mammals such as mink and otter. In addition, grass lawns planted along the shoreline are usually fertilized, contributing to the nutrient levels in the lake and the growth of algae.
- (22) The town should actively pressure state and U.S. Senators and Representatives to support measures which will alleviate the acid rain problem. Acid rain (and snow) changes the chemistry of lakes so they are unable to support fish life, which will seriously upset the balance of nature.
- (23) Encourage local organizations to continue to help with recreation programs and park improvement projects.
- (24) Enlarge and improve the boat launch and swimming areas.
- (25) Create more park land, open space and public access along all water bodies.
- (26) The Town of Grafton should seek to develop additional facilities as soon as resources permit. Residents should be surveyed to determine the priority of each. Land and Water Conservation Fund grants should be used to cover 50 percent of the cost.

7. Historic Resources

Grafton's historic resources and historic quality play an important, yet often underestimated role in the overall quality of life in the community. According to the 1980 U.S. Census 38% of the housing units in Grafton were constructed before 1940, as compared to 39% statewide. Throughout the town early cemeteries, railroad structures, village centers and the modest one and two story frame dwellings sporadically dotting the landscape should be recognized as important surviving fragments of Grafton history and merit study and protection.

Considering the high proportion of older housing units in town, pride in ownership and regular maintenance alone can be responsible for remarkable preservation results. Unfortunately, improvement work undertaken with good intentions can often result in techniques or materials inconsistent or insensitive to an older building, and may actually damage the building it was intended to preserve. Cases of decay, neglect, and deferred maintenance are evident throughout Grafton and pose the most imminent threat to local historic resources.

To date, the continued protection of Grafton's historic resources has been accomplished largely by the actions of individual owners. Existing local land use regulations covering subdivision can do nothing to protect historic resources in town.

There are a number of other tools available to Grafton in preserving its historic resources. These include public education efforts, historic resource surveys, scenic road designations, easement programs, revolving funds and the National Register of Historic Places.

While listing in the Register does not interfere with a property owner's right to alter his property and thus cannot prevent major detrimental alterations or demolition, it remains an important psychological first step toward historic awareness, respect, and protection. The listing of significant eligible structures in the town should be encouraged. Income-producing older buildings undergoing substantial rehabilitation may also be eligible for federal investment tax credits. Use of these tax incentives to date has been minimal in the area and should be utilized to a greater degree.

Historic Resources Goal

- (1) To protect historic sites, buildings and settings.

Policies and Recommendations

- (1) Investigate National Register listing for significant local structures and sites including, but not limited to, the Grafton Congregational Church and structures in East Grafton.
- (2) Explore the establishment of local historic districts in East Grafton and possibly Grafton Center.
- (3) Make collected historical information (in a protected environment such as the library) accessible to town residents and future generations.
- (4) Enlist the participation and support of Grafton citizens, particularly its town officials, in these goals and objectives.
- (5) Prepare an historic resources survey with information updated periodically to indicate changes to buildings, including remodelling, fire, demolition or changes to surroundings.
- (6) Place markers at key historic sites and structures.
- (7) Establish a local historical society to promote research into and protection of Grafton's historic resources.
- (8) Encourage designation of scenic roads.
- (9) Any building change, site improvement, or any other alterations (especially to town-owned buildings) should respect the historical qualities of the structure.
- (10) Locate and map sites and/or cellarholes of original school houses, places of business, industries and homes.
- (11) Locate, identify, catalogue, preserve and protect town records, documents, manuscripts and artifacts and provide a suitable and safe repository for them.

- (12) Promote the collection, preservation and protection of early photographs and encourage picture-taking of townspeople and structures for permanent reference.
- (13) Promote the upgrading, preservation and protection of the town's graveyards and private burial grounds.
- (14) Facilitate an oral and written history of the town.

8. Land Use

Much of Grafton's planning and future decision making revolves around the proper use of our man-made and natural resources, which present both opportunities for and constraints to development. If Grafton is to protect its natural resources and provide a high quality of life for its citizens, the capability of Grafton's resources must be respected. The future land use plan has been designed to achieve the many goals, objectives, and recommendations stated throughout the various elements of the Master Plan. Grafton's land use plan, then, is really a synthesis of land use considerations contained in each Master Plan chapter.

The community survey results with respect to population, housing, economic development, community facilities and services, open space and recreation, transportation, and historic resources have been reported in the previous sections. With respect to land use specifically, the following results are presented again.

- o Grafton residents do not favor rapid population growth in the next 10 years. Thirty-seven percent of the respondents stated they would like to see the town's population decrease or stay the same, 32 percent favored slight growth and 23 percent would like to see moderate growth.
- o A question regarding attitudes toward various types of development evoked the following preferences in descending order: farms, (81%), home businesses (79%), personal service businesses (77%), woodland (76%), light industry (76%), and restaurants (64%). Heavy industry drew substantial criticism (56% against); opinions were divided regarding shopping centers (38% favor, 41% against). Opinion was split as to the best location for commercial development. Professional and business offices, retail shops and personal service industries were generally favored around village centers with slightly fewer responses for "along state roads" and "anywhere". The favored location for light industry was along state roads.
- o Questions regarding their attitudes toward various housing types in Grafton, residents are nearly unanimous in favoring single-family homes (83%) with elderly housing also receiving strong support (63%). Grafton residents are also against high rise units (64%). The survey revealed a number of housing types about which there is no clear consensus. These include cluster housing (20% favor, 45% against, 35% no opinion); mobile homes (38% favor, 37% against, 25% no opinion); duplexes (45% favor, 23% against, 32% no opinion). It should be noted that rather high percentages, averaging approximately a third, had no opinion on the various housing types.

- o The overwhelming majority of Grafton residents favor single-family houses anywhere in town. Opinion was mixed regarding the placement of multi-family houses anywhere in town. Of those responding 52% and 58% did not favor any units of these types while 27% and 20% respectively, favored their placement anywhere. There was a similar lack of consensus concerning the location of mobile homes in town; of those responding 51 percent favored anywhere, 40 percent nowhere. An additional 30-34 households had no response to these questions.
- o Judging from those surveyed, land use controls and regulations appear to have some support in Grafton. However, considering the large number of no opinion/no response answers to these questions (ranging from 23% to 58%) town officials will need to educate the town residents and sell the concepts before such regulations will pass Town Meeting vote. Approximately 70 percent of those surveyed favor the preservation of agricultural lands and woodlands and water pollution control. A slight majority are in favor of planning boards, subdivision regulations, and master plans (again approximately 30% ventured no opinion). A large proportion of Grafton residents favor wetlands ordinances (53%) and steep slopes ordinances (38%) with a handful opposing and again, a large number apparently unclear as to the meaning of the question and thus giving no answer. Lastly, there was no clear consensus regarding building codes or zoning. Forty-seven percent favor building codes with 27 percent dissenting and 27 percent with no opinion. Zoning was favored by 38 percent while 38 percent were against and 25 percent had no opinion.

As of 1985, about 4 percent of Grafton's land area is developed. About 49 percent of the developed land is occupied by residential and associated uses. The remaining 51 percent of the developed land consists of commercial and industrial uses, community facilities, cemeteries, public park and recreational facilities, roads and railroads.

The housing stock in Grafton grew by 240 units in the 1970's. Sixty percent of that growth was in year round dwellings with the remaining 40 percent consisting of seasonal housing. Economic development in Grafton during the 1970's consisted of the addition of a few businesses particularly along Route 4. The primary pattern of development has been strip development along the public road system.

About 96 percent of Grafton's land area is undeveloped as of 1985. Most of the undeveloped land is private forested land (90 percent of the total land area) with the remainder consisting of idle land conservation land and surface waters.

It would initially appear that the Town would have no problem accommodating substantially more growth than projected over the next fifteen years with 96 percent of Grafton's land area currently undeveloped. However, when the remaining undeveloped area is analyzed based on the capability of the land to accommodate development, much less land is available which is capable of supporting development. Environmental limitations such as steep slopes, floodplains, wetlands, shallow-to-bedrock soils, areas with soils having severe limitations to support septic systems and areas with soils having severe limitations to support building and road construction consume much of the remaining undeveloped areas. Therefore as Grafton continues to grow it is likely that limited reserves of good buildable land will be consumed first diverting growth pressures

onto marginal and environmentally sensitive lands. Already the Town has experienced the loss of prime agricultural lands, dangerous construction in floodplain areas, and filling of vital wetlands. Town taxpayers will not only be subjected to the hazards to health, safety, and a denegation of the quality of life, but will have to bear the financial burden of correcting the effects of building in inappropriate areas. Controls must be established and enforced that accommodate more intense and efficient development patterns on the limited buildable land resources, while strongly curtailing intense uses of marginal and unsuitable lands. The recommended strategy for implementing such a land use policy is outlined in the following Goals and Policy statements.

Land Use Goals

- (1) Maintain the Town's rural and village character and scenic beauty.
- (2) Encourage continued use of the town's best farm lands and to discourage the use of this land for other purposes.
- (3) Recognize the developmental limits on wetlands, steep slopes and floodplains.
- (4) Protect the quantity and quality of the town's water resources.
- (5) Protect historic sites, buildings and settings.
- (6) Provide a well-balanced land use pattern capable of meeting present and future of community needs in an efficient environmentally sound, economical, equitable and aesthetically pleasing manner.

Policies and Recommendations

- (1) Encourage a land use pattern which has the more intensive and higher density land use development in close proximity to the village centers and the lower density/intensity land use development in the outer-lying areas of town.
- (2) Outside of village centers, discourage development other than low density residential uses.
- (3) Accommodate the location of mobile homes on individual lots throughout the community.
- (4) Discourage the intrusion of commercial and industrial uses in residential neighborhoods.
- (5) Base future land-use decision-making upon the natural capability of the land and other resources to sustain varying types and intensities of development.

- (6) Take positive steps to identify and protect and increase appreciation of critical natural resources that contribute to the health, safety, and well-being of Grafton residents.
- (7) Encourage types of development that minimize consumption of valuable agricultural soils that can be used to augment Grafton's existing and future food and fiber needs.
- (8) Prevent air and water pollution.
- (9) Encourage contiguous, staged, and compact patterns of growth around existing village settlements so as to provide economic and timely provision and extension of public facilities and services and to conserve finite energy resources.
- (10) Promote land-use patterns that facilitate a safe, economical, and energy-conserving transportation system in Grafton.
- (11) Discourage continuance of urban sprawl or strip development.
- (12) Encourage planned unit development and cluster development in certain undeveloped areas where development is desirable and meets the goals, policies and recommendations of this master plan.
- (13) Encourage development of the type and in such locations as required to achieve a diversified and stable economy in the town.
- (14) Promote, protect and enhance Grafton's visual/cultural resources at both the community-wide scale as well as on a site-by-site basis.
- (15) Promote the renewal of existing village areas in order to reinforce these areas as the social, cultural, economic, and governmental centers of the community; in order to maximize use of existing public and private investments in facilities and services; and to accommodate future growth.
- (16) Rehabilitation/adaptive use of underutilized historic structures should be encouraged using any and all available tools including Rehabilitation Tax Credits, Community Development Block Grant funding, etc.
- (17) Encourage the use of Community Development Block Grant Funds for rehabilitation of Grafton's older housing stock.
- (18) Designation of scenic roads should be encouraged.
- (19) Conserve and protect some undeveloped land for open space and recreation purposes, especially lake, pond and river shore frontage for public access.
- (20) Adopt and/or enforce regulations and codes dealing with water pollution control, septic systems, signs, site plan and zoning regulations for the health, safety and general welfare of Grafton's citizens.
- (21) Encourage energy efficiency in subdivision, site plan and building design.
- (22) Encourage efforts to preserve and enhance significant architectural and historical resources in the Town.

RECOMMENDATIONS

(1) Concentrate intensive land use development in or adjacent to Village Centers

The village centers provides goods, services, places of employment and recreation and social opportunities which can function as the nucleus for future land development. More intensive land use development such as higher density residential housing (multi-family residential and mobile home parks), commercial and light industrial uses should be directed in or adjacent to the existing town centers. With a contiguous, staged and compact pattern of growth around these existing settlements, public facilities and services can be provided in a cost effective and timely fashion, finite energy resources can be conserved and redevelopment/rehabilitation efforts will be reinforced within this existing developed area. Care should be taken to ensure that these more intensive uses are located such that they are compatible with neighboring uses, adequate access is available, adequate water supply is available for domestic use and fire protection, and adequate sewage disposal is available.

Outside of these more intensive nodes of development, the only type of urban development which should occur is low density residential development and even this should be discouraged from the more remote areas of the Town due to potential high cost impacts on school transportation, road repair and maintenance, fire and police services, and greater consumption of finite energy resources due to greater distances traveled for goods, services and employment opportunities.

(2) Discourage strip development along the public road system.

The pattern of strip development along the public road system and Route 4 in particular should be discouraged. Strip development along the major transportation corridors:

- a. transforms scenic, visually pleasing roads into a potentially ugly line of commercial and mixed uses adversely affecting the image of the community and making it less appealing to residents, tourists and businesses;
- b. creates traffic congestion and safety hazards due to the numerous points of access and decreases the carrying capacity of commuter corridors such as Route 4;
- c. draws activity away from the village center.

(3) Adopt additional land use management tools.

The Town of Grafton currently uses Subdivision Regulations to manage land use development in the community. Serious consideration should be given to strengthening these tools as well as adopting additional tools outlined below to manage the inevitable future growth which the town will experience.

a. Building Code and Building Permit System

Adoption of a building code affects only new construction, ensures safe buildings (particularly safe from fire), and protects property values. A building code only affects existing structures when the owner of an existing structure remodels or constructs an addition. The building code considers only the area under construction, not the entire building. Existing structures are also affected by the code if it poses a serious public safety threat.

The BOCA (Building Officials and Code Administrators) Basic Building Code has been adopted by many New Hampshire communities. The building code will protect public safety and the consumer from faulty construction practices.

Adoption of a building permit system can be an effective way for a community to monitor safety and health issues inherent in construction and renovation. As opposed to the structural concerns which a building code addresses, a building permit system can ensure proper septic system operation, address floodplain concerns and access to town or state roads. It can also serve as a useful indicator of assessments which should be increased. Although a system of this nature would require a part-time building permit officer, most of this person's salary could be paid through building permit fees and fines.

b. Zoning Ordinance

The Town of Grafton should adopt a relatively simple zoning ordinance, consisting of the following districts:

- o Village District;
- o Rural District; and
- o Conservation (Overlay) District.

The Village District should include the existing villages. The purpose of this district is to maintain these areas in their largely developed uses. Most of the structures in these villages are old and land uses are mixed.

Commercial, light industrial and high-density residential growth should be guided into this area. However, the historic, small-town character of this village must be carefully maintained.

The creation of the village district will have a number of positive benefits for the Town as a whole. By permitting substantially higher village residential densities than in the remainder of the Town, Grafton can guide much of the Town's new residential growth into the village centers, preserving open space in rural areas, while reinforcing village character. Residents will be able to walk to community facilities and village shops, decreasing reliance on automobiles. A greater number of residents in village centers will foster the development of small-scale retail activity promoting greater independence from commercial centers such as Lebanon. Smaller lot sizes will make housing more affordable to the young, bringing vitality and diversity to Grafton. By making provisions for greater residential densities, the housing needs of elderly and low-income people can be better accommodated. Local tax advantages also accrue from the village system: by limiting the sprawl of new development across the entire town, the costs of providing road maintenance, school bus service and other local services will be minimized. Almost all uses, with the exception of heavy industry should be allowed in the Village District.

The Rural District should cover the entire Town with the exception of the Village District and areas superceded by the Conservation Overlay District. The primary purpose of this district is to provide for low-density housing, home businesses, agriculture, forestry, and wildlife. Several other uses can be listed as "special exceptions", which means that certain uses are forbidden except under special conditions which are set forth in the ordinance itself. If the proposed use is listed as a special exception and meets the conditions of the ordinance, the Zoning Board of Adjustment can grant a "special exception." Conditions generally ensure that the particular use will not be detrimental or injurious to the neighborhood. Examples of possible special exceptions include cluster housing, retail stores, public uses, schools, service businesses, restaurants, lodging houses, recreation facilities, sawmills, offices, gas stations and auto repair shops. The Planning Board should determine the exact list of permitted uses and special exceptions after further study, and it should define each use.

The Conservation Overlay District should include the following environmental protection districts:

- (1) Wetlands Conservation District - Wetlands are extremely important to the Town as they provide areas for floodwater storage, wildlife habitat and groundwater recharge. No building development or septic systems should be allowed in the wetland district. Permitted uses should include agriculture, forestry and recreation uses not requiring alteration of the wetland. Septic systems should be set back no less than 100 feet from the edge of the wetland. Water impoundments and driveways should be listed as special exceptions.
- (2) Steep Slopes District - The Town should adopt a steep slopes district as an overlay district to (1) protect the health, safety and general welfare of the community;(2) reduce damage to streams and lakes from erosion, runoff of stormwater caused by improper or excessive construction, or effluent from improperly sited sewage disposal systems; (3) preserve vegetative cover and wildlife habitat, preserve scenic views, protect unique and unusual natural areas and maintain ecological balance; and (4) permit those uses which can be harmoniously, appropriately and safely located on steep slopes. Development should not be allowed on slopes exceeding 25 percent, while lots with a 15-25 percent slope should be at least 6 acres in size.

- (3) Aquifer Protection District - An aquifer is essentially an underground bed or zone, usually consisting of porous sand and gravel, that contains water or has the potential of producing potable water. It is important in the long run that these groundwater sources be protected from contamination or pollution resulting from uncontrolled development or adverse land use practices. Some of the practices that may adversely affect an aquifer include landfills and dumps, intensive development and improper storage of hazardous materials or liquids.
- (4) Floodplain District - Development occurring in floodplain areas may cause property damage and pose safety risks to residents of housing located within floodplain boundaries. No development should be allowed within the boundaries of the Zone A Flood Hazard Areas as delineated on Grafton's Flood Insurance rate Map (FIRM).
- c. Site Plan Review Regulations
Following adoption of a Zoning Ordinance, the Planning Board should consider adopting Site Plan Review Regulations to manage site development for multi-family residential, commercial and industrial uses.
- d. Capital Improvements Plan
The concept of programming and budgeting for vehicle replacement currently in use by the Town should be expanded to cover all capital improvements needed by the community. The Plan should cover road and bridge improvements, park and recreation facilities, improvements to community facility needs such as Town Offices and a Police station, and public school facility needs projected by the school district. By planning and budgeting these needed capital improvements, tremendous increases and fluctuations in the tax rate can be avoided.
- e. Housing Code
A housing code affects only rental property, requiring minimum plumbing, electric, and safety standards. A housing code minimizes the risk of fires and ensures the health and safety of the tenant and public are at risk. The town should also enforce two statewide codes, the 101 Life Safety Code and the State Energy Code, which are already in effect.
4. Consider the effect which proposed subdivision may have on off-site roads and in certain cases require the developer/subdivider to improve off-site roads as a condition for subdivision approval.

Even if the new road in a subdivision meets the town's specifications, the other roads in the area may not be adequate to handle the increased traffic resulting from the subdivision. In this case the developer/subdivider should pay his proportion of the cost to upgrade these off-site roads. The extent of these improvements should bear a rational connection to the needs created by and the benefits conferred upon the subdivision. Factors to be used in determining the allocation of costs may include, but are not limited to the following: the standard to which the town presently maintains the roads, the frontage of the proposed subdivision, the potential traffic increase necessitated by the proposed subdivision, the character and potential for development of the neighborhood served by these access roads, the number of residences presently fronting on or normally trafficking these roads and compliance with the Town Plan.

5. Maintain the minimum road frontage of 200 feet.

This requirement is important for a number of reasons. First, a wider lot will provide the developer/homeowner with more land area (and therefore more options) close to the house for the installation/replacement of septic systems. Second, it allows greater flexibility for the location of the home itself. Third, it gives the developer more options for the location of driveways. This is an important point when one considers the many narrow, winding roads in the Town of Grafton. A wider minimum frontage means that driveways can generally be located in safer locations. Finally, the 200 foot frontage will help maintain the rural, small-town character of Grafton.

6. Adopt off-street parking regulations which vary according to the related use.

Adoption of these regulations will allow for full use of Grafton's roads and sidewalks, reduce the potential for accidents and damage to parked cars, allow for efficient snow clearing and removal, enhance the attractiveness of streets and prevent parking shortages.

7. Require adequate access points on roads and highways.

The town should ensure that all subdivided lots will have access points (driveways, parking lot entrance, roads, etc.) which have proper grades, drainage and safe sight distances.

8. Require a minimum setback of 125 feet between a septic system leachfield and a body of water.

Studies have shown that septic system effluent can travel distances greater than the state's 75 foot setback. A 125-foot setback is considered reasonable to prevent water pollution and has been upheld in Court. (A 100' setback should be included in the Wetlands Ordinance, however, due to the filtering ability of wetlands). The Planning Board recognizes that the administration and enforcement of this restriction could be difficult.

9. Adopt minimum lot size requirements to base minimum lot sizes on soil and slope conditions.

Grafton should require that minimum lot sizes be based on soil and slope conditions and publish a table of this "sliding scale" in the subdivision regulations.

10. Limit the height of structures to two and one-half stories or 35 feet.

High-rise structures are neither desired nor appropriate in the town of Grafton. In addition to being incompatible with existing buildings, ruining scenic views and detracting from Grafton's small-town character, high-rise structures are well beyond the fire-fighting capacity of the Town's volunteer fire department.

11. Require adequate setbacks for buildings, fences and other man-made obstructions along roads in Grafton.

This will allow for proper road maintenance (plowing, drainage, etc.) without damaging private property and help prevent objects which would obstruct

the vision of motorists and bicyclists entering or traveling along the road. Setbacks on state and major local roads should be even greater to minimize the cost of road-widening projects.

12. Require side and rear setbacks

Side and rear setbacks are needed to ensure fire safety, prevent nuisance situations, allow adequate light and air, provide yard areas for recreation ensure solar access and to protect property values.

13. Discourage the use of pavement for parking lots, unless necessary.

Pavement is expensive to install and maintain, impervious to water and not necessarily in keeping with the rural character of the town. The town should instead require a specific type and thickness of stone for parking areas. The town should retain the option to require pavement when appropriate

14. Provide incentives to encourage cluster development.

Cluster housing reduces housing costs, conserves land, concentrates population, and provides common facilities for residents. This type of development is especially applicable in areas containing or contiguous to sensitive lands such as agricultural soils, or critical natural resources (steep hillsides, wildlife areas, wetlands, etc.). In order to encourage this efficient type of development, it is recommended that developers be allowed to increase densities, in suitable areas, in exchange for a clustered layout.

15. The Planning Board should adopt and enforce Earth Excavation Regulations

According to RSA 155E, local Planning Boards are required to regulate, through a permit process, commercial sand, gravel, rock, soil and construction aggregate removal operations. The purpose of this act is "to grant municipalities the authority to cope with the recognized safety hazards which open excavations create; to safeguard the public health and welfare; to preserve our natural assets of soil, water, forests and wildlife; to maintain aesthetic features of our environments; to prevent land and water pollution; and to promote soil stabilization." The law stipulates minimum requirements relative to information to be contained in the application for a permit; conditions under which a permit shall not be issued; minimum standards for site restoration; and provisions for a public hearing and appeals. The Planning Board is charged with enforcement of these regulations. The law states that only new excavations must be regulated by this permit process. However, existing pits are subject to the restoration requirements. The Planning Board should survey existing pits and existing pit owners will be required to submit a restoration plan by a date set by the Planning Board.

16. Ground and Surface Water Protection

The 1986 Legislative Session passed House Bill 193 establishing a Water Protection Assistance Program. Following development of criteria for water protection by the Office of State Planning, the town should prepare and adopt as a component of this Master Plan a local water resources management and protection plan which is consistent with the criteria developed by the State.

17. Forest Management

The town should encourage management of the forest resources for properties, both publically and privately owned. The forests need to be properly managed like agricultural crops although the level of attention is not as intensive as needed to grow food crops. The Soil Conservation Service can provide assistance to property owners who desire to prepare and implement a forest management plan. The scenic qualities of the forests need to be respected and protected particularly along the public roads.

18. Adopt a Road Frontage Standard

Adopt a minimum road frontage requirement for residential lots of 100' and preferably 200'. This requirement is important for a number of reasons. First, a wide lot will provide the developer/homeowner with more land area (and therefore more options) close to the house for the installation or replacement of septic systems. Second, it allows greater flexibility for the location of the home itself. Third, it gives the developer more options for the location of driveways. This is an important point when one considers the many narrow, winding roads in the Town of Grafton. A wide minimum frontage means that driveways can generally be located in safer locations. Finally, the 100 to 200 foot frontage will help maintain the rural, small-town character of Grafton.

19. Participate in Regional Planning

Grafton should continue to participate in regional planning efforts since growth in neighboring communities has a significant impact on Grafton's community facilities and services (especially roads, police, schools and solid waste).

SUMMARY OF THE GRAFTON MASTER PLAN SURVEY RESULTS

March, 1986

METHODOLOGY

The Grafton Community Survey was developed by the Grafton Planning Board with assistance from the Upper Valley - Lake Sunapee Council. Approximately 190 surveys were distributed door-to-door by members of the Planning Board during October 1985, who then collected the surveys one to two weeks later. One hundred twenty-eight surveys were collected for a return rate of 67 percent.

The discussion and analysis which follows is intended to report responses to individual questions and to provide direction for deriving a set of needs and goals for the town's Master Plan. A tabulation of responses is detailed in the Appendix. It should be noted that the following is only a summary of survey highlights. A complete statistical report of the survey, indicating the responses to each question, is on file at the Town Office and Library.

RESPONDENTS

All but one of the survey respondents were year-round residents of Grafton. It appears that the survey was successful in reaching residents throughout the town. Eighty-one percent were from the Route 4 side of town and 11 percent reported they live on the Route 4A side of town.

Judging from those responding to the questionnaire, those who have just recently moved to town seem to be just as concerned with Grafton's future as longtime residents. Twenty-seven percent of the sampling have moved to Grafton within the last five years, 56 percent of those responding have lived here less than 10 years and 16 percent have lived in Grafton more than 25 years.

It is interesting to note that 22 percent of those responding were previously seasonal residents in town. It is assumed that the conversion of seasonal homes to year-round use probably absorbed some of the population growth. The conversion of seasonal units is an issue of which town officials should be aware, as this trend has the potential to greatly increase the demand for community facilities without construction of a single new housing unit.

Seventy-five percent of the households surveyed live in a single-family house which they own; an additional 12 percent own their mobile home, and six percent rent a house. A total of 88 percent own their home and 9 percent indicated they rent.

The majority of those surveyed (61%) depend upon a dug well for their water supply while 18 percent use a deep well and five percent a point. Six percent lack running water and are dependent on a spring. Septic tanks are the primary method of sewage disposal in town, followed by cesspools. In terms of substandard housing conditions, it is significant to note that seven households or six percent of those surveyed still use privies.

Wood is the primary heating source for Grafton residents. Over half of those surveyed use wood as their chief heating source, while nearly an additional quarter use wood as a supplement. As would be expected, oil is the second most popular heating source. Bottled gas and electricity are favored sources of energy for cooking and hot water. About seven percent of those surveyed use wood for cooking and hot water. The number of residences on paved and dirt roads is evenly divided.

ATTITUDES TOWARD GRAFTON

To better understand and identify Grafton's most important qualities, residents were asked in open ended questions what they felt were the most and least desirable features of living in town.

Grafton's "quiet community" quality was cited as a favorable feature by 40 households. Survey results also indicate that Grafton's residents may be one of its greatest resources as was suggested by 33 responses. Other frequent responses included the town's rural (country) atmosphere, its scenic quality, and natural recreational offerings.

Grafton's greatest problems can be grouped into several recurring categories: distance to work and services (45 responses); high taxes (28); and poor road conditions (12).

In a related question, residents were asked to evaluate various aspects of town life. The beauty of town was rated as excellent to good by 22 percent of those responding. The major complaints voiced by residents in the open-ended question, a lack of employment and shopping facilities, were rated as fair or poor by 80 and 79 percent of those responding.

ATTITUDES TOWARD GROWTH AND DEVELOPMENT

Grafton residents do not favor rapid population growth in the next 10 years. Thirty-seven percent of the respondents stated they would like to see the town's population decrease or stay the same, 32 percent favored slight growth and 23 percent would like to see moderate growth.

A question regarding attitudes toward various types of development evoked the following preferences in descending order: farms (81%), home businesses (79%), personal service businesses (77%), woodland (76%), light industry (76%), and restaurants (64%). Heavy industry drew substantial criticism (56% against); opinions were divided regarding shopping centers (38% favor, 41% against). Opinion was split as to the best location for commercial development. Professional and business offices, retail shops and personal service industries were generally favored around village centers with slightly fewer responses for "along state roads" and "anywhere". The favored location for light industry was along state roads.

Questions regarding their attitudes toward various housing types in Grafton, residents are nearly unanimous in favoring single-family homes (83%) with elderly housing also receiving strong support (63%). Grafton residents are also against high rise units (64%). The survey revealed a number of housing types about which there is no clear consensus. These include cluster housing (20% favor, 45% against); mobile homes (38% favor, 37% against); duplexes (45% favor, 23% against); apartments (25% favor, 38% against); and rent-subsidized housing (33% favor, 20 percent against). It should be noted that rather high percentages, averaging approximately a third, had no opinion on the various housing types.

The overwhelming majority of Grafton residents favor single-family houses anywhere in town. Opinion was mixed regarding the placement of multi-family units and apartments. Of those responding 52% and 58% did not favor any units of these types while 27% and 20% respectively, favored their placement anywhere. There was a similar lack of consensus concerning the location of mobile homes in town; of those responding 51 percent favored anywhere, 40 percent nowhere. An additional 30-34 households had no response to these questions.

TOWN SERVICES

Analyzing attitudes toward public services can yield subjective results that may or may not correspond to other measures of evaluation, such as personnel efficiency or cost effectiveness. Perceptions can, however, point out legitimate problems that need attention. As would be expected in any town, town services, collectively and individually, are mentioned throughout the survey as both the town's greatest assets and problems.

Strong support was expressed in the survey for many town services. The following received an "excellent to good" rating from a majority of town residents: Ambulance Squad, Town Clerk, Fire Protection, Tax Collector, Treasurer, Selectmen, and Town Dump. Nearly half rated road maintenance (both summer and winter) as good. The Library received a rating of "good to fair" by most of those responding; schools received an evaluation of "good to fair" from 49 percent with an additional 19 percent evaluating them as poor. Over a third rated the Recreation Department as "fair" with an additional quarter each responding "good" or "poor".

Opinion is mixed regarding the sufficiency of recreational services or facilities provided by the town. Forty-five percent feel the town should provide additional services while 26 percent feel the present level of recreation is adequate. A basketball court, playground, baseball field, recreation hall and a beach on the Route 4A side of Grafton Pond were the most popular suggestions for additional facilities.

Survey results portray the Grafton Public Library as an underutilized resource. A majority (58%) of those surveyed stated they never use the library, with eight percent using it weekly, and 16 percent monthly. Of those who never use the library facilities, 16 households noted it was too far to travel, ten cited that the library was not open enough hours and four persons responded they didn't even know there was a library. Suggested improvements to the library included greater book selections, lending out tapes and records, and additional hours of service.

Requests for suggestions to improve the Fire Department and Police Department yielded surprisingly few responses. For the Fire Department, the most common recommendation, of updating equipment, was noted by 11 persons. Suggestions regarding improvements to the Police Department were even more sparse and mainly centered on issues of coverage and dispatch service. The greatest number of responses (5) addressed the need for a full-time officer.

Concerning solid waste disposal, recycling was favored by the greatest number (42%) of respondents followed by lesser number for landfilling and incineration.

There were few responses and little or no consensus among respondents regarding improvements they would be willing to support with more tax dollars, suggesting either general satisfaction with existing services or evidence that the tax burden residents feel is already at its limit. Twenty-six areas of improvement were noted; fire and police led the pack with four responses each.

SCHOOLS

When asked for the three biggest problems facing the school system, several key concerns emerged from the respondents. The overcrowding of the schools was the most frequently cited answer (17 responses). The inability of the school system to retain school teachers, due to pay, location, or other factors, was noted by 12 of those surveyed. The adverse impact of the school costs on taxes was noted by 9 respondents. Other responses indicated some degree of discontent concerning management and SAU 32.

Respondents were asked to rate various aspects of the Canaan Elementary and Mascoma Regional High School. The quality of the school buildings and transportation received high ratings. In general, on internal matters including teachers, administration, curriculum, etc., most respondents gave the Elementary School a "good" rating. Ratings for the high school were generally spread across the board from good to poor. Discipline and adult education received more "poor" ratings than any other characteristic.

HISTORIC SITES AND BUILDINGS

The Church, Library, Ruggles Mine, the Town Hall, Grafton Inn, and Schoolhouses were the historic sites and buildings in town most often mentioned by respondents as worthy of preservation. Structures noted by a single respondent include Razor Hill Houses, Hazen Farm, Kilton House, the Pinnacle, Hinkson's Carding Mill, and several local stores.

HUMAN SERVICES

Obviously, Grafton residents rely heavily on retail establishments and services provided in other towns. Based on survey results, Lebanon captures the vast majority of Grafton's business, followed by Enfield, Canaan, and Hanover, and to a lesser degree, Concord. For those interested in starting a business in town, medical facilities, a large food store, a hardware store and a restaurant were the services respondents would most like to see established in Grafton in the future. If you want to capture the attention of readers in Grafton, either the Valley News or Mascoma Valley Messenger is a good bet. Seventy-four percent of those responding read both of these papers, followed by a distant 28 percent who read the Manchester Union Leader.

LAND USE AND LOCAL REGULATIONS

Judging from those surveyed, land use controls and regulations appear to have some support in Grafton. However, considering the large number of no opinion/no response answers to these question (ranging from 23% to 58%) town officials will need to educate town residents and sell the concepts before such regulations will pass Town Meeting vote. Approximately 70 percent of those surveyed favor the preservation of agricultural lands and woodlands and water pollution control. A slight majority are in favor of planning boards, subdivision regulation, and master plans (again approximately 30% ventured no opinion). A large proportion of Grafton residents favor wetlands ordinances (53%) and steep slopes ordinances (38%) with a handful opposing and again, a large number apparently unclear as to the meaning of the question and thus giving no answer. Lastly, there was no clear consensus regarding building codes or zoning. Forty-seven percent favor building codes with 27 percent dissenting and 27 percent with no opinion. Zoning was favored by 38 percent while 38 percent were against and 25 percent had no opinion. Over 60% of those surveyed think that the current minimum road frontage of two hundred feet should remain unchanged.

GRAFTON MASTER PLAN SURVEY RESULTS **RESPONSES TO OPEN ENDED QUESTIONS**

WHAT ARE THE MOST DESIRABLE FEATURES ABOUT LIVING IN GRAFTON?

Clean Air	8
Quiet Community	40
No Noise pollution	2
No Zoning	4
Small population	2
Rural location	18
Cost Effective	1
People	33
Country Atmosphere	12
Low Taxes	2
Dirt Roads have small traffic flow	2
Away from Cities	1
Scenery	16
Freedom from town control	3
Privacy	12
Lower Property values	1
Driving time to Hanover	1
Nice place to live	1
Quaintness	1
Grafton Pond	3
General Area	1
Open Spaces	3
Sports - hunting, fishing	3
Not over-developed	1
Police, Fire & Ambulance	2
Nice Place to raise a family	3
Clean Water	2
Good Schools	2
Good Road Agent	1
No Neighbors	1
Wilderness	2
Isolation yet accessibility	2
Inexpensive Housing	1
Pride of people in the community	1
Land	1
Pace of Life	1
Good services	1
Low crime	1
Freedom & independence	1

WHAT ASPECTS OF LIVING IN GRAFTON ARE THE LEAST DESIRABLE?

Distance too far to and from work	17
No fire and police depts.	4
High Taxes, get nothing from them	28
No Central Town Offices with regular hours	3
Distance to supermarkets, stores etc.	28
Fear of widespread growth due to Upper Valley	2

Costs too much to buy goods here	2
No public transportation	7
Tough Winters	4
Poor Road Conditions	12
Poor Schools	4
Real Estate values too low	1
Everybody knows your business	2
Distance to banks	2
No restrictions on mobile homes	2
Isolation	2
Too many trailers	1
Influx of people who came here to get away from it all and instead brought it with them to infect us all	1
Some homes having lots of clutter, garbage in their yards	5
No Trash removal	2
Distance to Schools	7
No Jobs	2
Speeding vehicles	1
People	1
No Zoning and Planning	3
Poor Town Government	2
No Community Spirit	3
No Recreation programs	1
Distance from major city or highway	1
Insects (Black flies, etc)	2
Mud Season	2
Having the dump open only 2 days	1
The recycling bins at the dump	1
People could be more outgoing especially to new neighbors	1
Proximity to Florida	1
Cost of electricity	1
Limited dependability of electricity	3
No Cultural activities	1
Lack of Tax Base	1
Few Services	1
No Restaurants	1

WHAT IMPROVEMENTS IN COMMUNITY SERVICES WOULD YOU BE WILLING TO SUPPORT WITH MORE TAX DOLLARS?

Taxes already too high	3
Do not desire an increase	2
Youth Programs	2
Better Police—more police	4
Better highway equipment	1
Elderly center	2
Better road conditions	1
Trash pick up	2
Trash pick up around Grafton Pond	1
More Services	1
Road Maintenance	2
School	3
Town Hall	2
Fire Department	5
Swimming lessons for children	1
More Recreational programs	2
Transportation for Kindergarten	2

More electricity	1
Laundry	1
Banks	1
Doctors	1
Grafton's own school	2
Medical Center	1
Communications	1
Recreation	1
More on Route 4A	1

SHOULD THE TOWN PROVIDE ANY ADDITIONAL RECREATIONAL SERVICES OR FACILITIES?

Centralized, chaperoned rec. hall for kids	7
Finish rec. field	1
Improve facilities for <u>all</u> not just for special groups	1
Baseball field	10
Basketball field	1
Playground for young children	9
More Adult rec.	2
Fix a beach for residents on 4A side of Grafton Pond	5
Summer day camp for children	1
Picnic areas	1
Bicycle tracks and trails	1
Ice skating on common	1
Swimming lessons for children	1
Arts & Crafts program for children	2
First aid course for children	1
Bandstand	1
Tennis Courts	2
Golf course	1
Small Senior Center	2
Slide & diving board at the beach	1
YMCA programs	1
Bus for after school activities	1
Music facility	1
Soccer Field	1
Supervision	1
Develop existing facilities	1
Town park	1
Nonprofessional ski slope	1

WHY DON'T YOU EVER USE THE GRAFTON LIBRARY?

Too far to travel	16
Hours are too few or inconvenient	10
Does not have current books	1
Lives closer to Canaan Library	2
No transportation	1
Been there a long time ago, it is a good library	2
Have own library of books	2
Not enough variety or research	2
Didn't know there was one	4
Use Hanover's	1
Eyes are bad	1
Use school library	1
Not handicapped assessable	1

SHOULD THE LIBRARY PROVIDE ANY ADDITIONAL SERVICES?

A Book Mobile	1
Story Hour for children	2
Tapes and records to lend out	5
More books	4
Should stay open more	5
A bathroom	1
Services to home ridden individuals	1
More true stories and biographies	1
A photocopies	2

FIRE DEPARTMENT

No Change	1
Improve east to west road so people on other side of Grafton receive the facilities they pay for, otherwise perfect	1
Correct chimney cleaning equipment	1
Enlarge the fire house	2
Update equipment	11
Excellent	2
Have one man at the station at all times	2
More Water	1
A membership drive to attract more people	3
Some public education on fire safety	1
Too far away	1
Who do we call on the 4A side?	1
Need more hydrants	1
More training needed	4
One of the best in area/state	2
Even a permanent fire dept. couldn't do better	1
Maintenance equipment & training	1
Larger pump to help reduce insurance costs	1

POLICE DEPARTMENT

Leave Police protection up to the State Police	1
Appoint rather than elect	2
One full time man	5
Provide a building for the Police	1
Have a telephone system into a Central Dispatch like Fire & Ambulance	1
"What Police"?! They show up about 2 to 3 times a year	2
They do a fine job	2
Need a New Chief	1
A Chief that is available more	2
Take time to talk to the people of the town	1
Should provide education for theft protection	1
More coverage to 4A side	2
Purchase our own cruiser	1
Full time dispatcher	1
Don't need it - go back to constable system	1
More patrols	1
Canine Control Officer	1
We do not have a crime problem that cannot be controlled by the existing department	1

LIST THE GOODS AND SERVICES THAT ARE NOT AVAILABLE IN GRAFTON BUT YOU WISH TO SEE IN THE FUTURE

Clothing stores	6
Hardware & Building supplies stores	13
Doctors, Dentists	17
Large food store	13
Better shopping facilities	5
Banking, including machines	5
Hair services	1
Small general merchandise store	2
A laundry service	6
A restaurant	11
Movies	2
Bus service/public transportation	5
Lawyer	1
Factories	1
Entertainment	1
Drug Store	1
Fire & Police	1
Rec. Center	1
Bakery	1
Deli	1
Day Care Center in Town	1
Shopping Center	1

SCHOOLS

Overcrowded for size of school	17
Not enough skills	4
Classes too crowded for proper teaching	2
Teachers change too often	9
Dan Whittaker	5
Poor Management	2
Disorganization	1
Non-support	1
Lack of drug & alcohol Education and denial of officials	1
Costs/taxes	9
No discipline	8
No student teachers	1
Distance	6
Administration Cost	1
Need to get money other than from taxes	2
Need more supplies	1
Too preoccupied with extras	1
Not enough money	5
Lack of Community Support	2
No Prayer	1
Low Pay for teachers	3
Junior-Senior should be separated	2
Too many half days	1
SAU 32	2
Teachers look like slobs and poor quality	2
Lack of transportation for after school activities	2
Lack of kindergarten bus	1
Money not raised right	1

No local grade school	1
Assessment Formula	1
Parents showing no interest	2
Raise Academic Standards	1
Too far to travel	1
Drugs	1
Lack of Morals	1
Mandated but unfunded state programs	1
Poor attitude - our schools accept mediocrity as normal	1
Spend too much on buildings	1
Spend too little on quality of education	1
Teachers need to spend more time teaching	1

OTHER COMMENTS

We feel that the taxes we pay each year are way too high for what we have on 4-A. I must go out of town for everything but boarding our pets, if we did such a thing! There is no reason to pay such high taxes for nothing!

You do not receive anything from the tax dollars.

Should have a Town school for grades 1 - 8.

Taxes are too high (2)

Better roads!

Should move forward and act like a Town!

The Town should publish a Yearly flier to all residents informing them of the laws, etc. (3)

A minimum lot size should be determined. Ordinance should be made against "Junk Yard" homes. (2)

Should be some zoning (2)

Fix up Grafton Pond

Mow sides of the road on the 4A side of Town.

Selectmen should address more Federal and State aid.

I would like to see some kind of dust control, especially near homes.

We all live in Grafton, NH because we have chosen to, not because we have to. Our little corner of the world shares a uniqueness with few other communities in New England. We breathe clean air, free of political pollutions, racial pollution, criminal pollution and the smog of stress that comes with overcrowding and a total dependency on government. Let's keep Grafton free and clean for as long as we can, let's live under as few rules as we can. Let's preserve the things that our fathers taught us and try to pass them on to our children so that our way of life may continue.