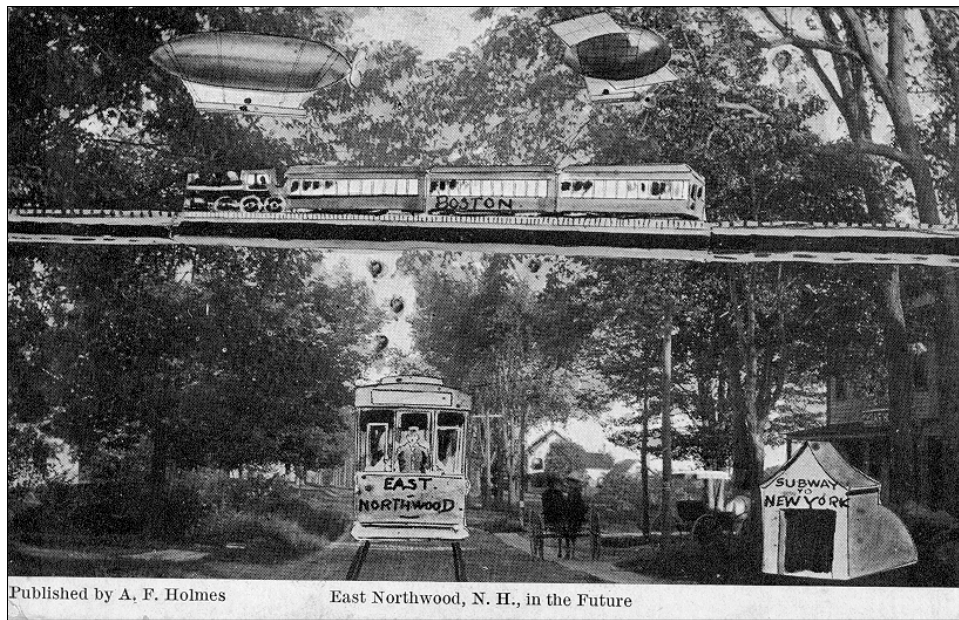


1998 Master Plan Update Northwood, N.H.



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East Northwood, N. H., in the Future

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Northwood Master Plan Committee

The Planning Board expresses its appreciation to the members of the Northwood Master Plan Committee. Each of these volunteers spent many hours discussing community issues, reading drafts and developing this plan. Their efforts have produced a great Master Plan Update which will serve the community very well in the years to come. Thank you!

Elaine Planchet, Chair

Joann Bailey

Rick Blackburn

Bob Clark

Janet Clark

Jim Hadley

Marion Knox

Scott Martin

Donna Trapp

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Signature Page

In accordance with RSA 675:6, this plan shall take effect upon completion of a duly noticed public hearing and certification of a majority of members below:

Scott Martin, Chairman(Date)

Introduction

This is the third Master Plan for the town of Northwood. The Planning Board completed its first Master Plan in 1979 and its second in 1987. Not completely independent from the 1987 Master Plan, this document is an update of that plan and must be used in conjunction with the 1987 Master Plan.

The 1987 Master Plan was a thorough, comprehensive planning document. It addressed the entire range of issues traditionally addressed in a master plan, and did so in great detail. It suffers in two respects, however. First, it is now out of date. Second, it lacks strong, practical implementation policies in areas beyond basic planning. In this light, it makes sense to take advantage of the strengths of this earlier planning effort, to update it as needed, and to supplement the plan to help correct for its weaknesses.

From a broader perspective, each major plan update should bring a community to an enhanced level of planning. Once the basic issues are addressed, refinements can be added in reasonable increments. This is a natural progression in community planning. Based on input, this plan focuses on several of the core planning issues facing Northwood: protecting regionally significant areas of natural lands; promoting quality growth which will benefit the town; living with Route 4; and planning for major capital expenses. These are the primary planning challenges described in this plan and are more clearly and strongly addressed than in the past.

Additionally, mapping technology has taken a quantum leap in the past decade. This update utilizes state of the art geographic information system (GIS) mapping and analysis in lieu of the hand drawn maps and poor quality photocopies of the 1987 Master Plan. A set of wall maps accompany this plan and are hereby incorporated by reference. The first is an updated base map of the town. All other maps are called out in the relevant section of the plan. All are listed on the List of Maps at the front of this document.

This plan is composed of three basic parts: Northwood Today; Northwood Tomorrow; and Revised Master Plan Policies. Northwood Today is the update on existing conditions, intended to bring the data portion of the master plan up to date. Northwood Tomorrow is the analysis of four key planning issues selected by participants in the planning process, and in this section key policy statements are shown in **bold** text. Revised Master Plan Policies are a comprehensive update of all master plan policies including future land use recommendations. Together, these three pieces form the update to the 1987 Master Plan. Capital planning issues are addressed separately as a Capital Improvements Program.

Northwood Today: An Update On Existing Conditions

This chapter provides a succinct update on conditions in Northwood, including natural resources, existing land use, population, housing, economic resources, transportation, community facilities and services, and historic resources. By understanding these attributes of the community we hope to better understand the issues and problems facing our town so that we can make informed decisions and plans regarding the future of the community.

Natural Resources

Northwood is a hill town at the headwaters of the Lamprey, Isinglass and Merrimack river watersheds. There are many wonderful lakes and ponds. Saddleback Mountain and other smaller hills offer a scenic backdrop for much of the wooded landscape throughout town. Elevations range from 310 to 1,184 feet above sea level at the summit of Saddleback Mountain.

Northwood is unusual in this part of the state because it does not lie downstream from any other community in any of its watersheds. Because the town is hilly and located at the headwaters of several watersheds, there are many sensitive areas and resources in need of protection. Further, the natural resource limitations impose significant constraints with respect to the possible growth and development of the town. Areas of steep slopes, erodible soils and wetlands are extensive, and the general configuration of these constraints severely limit expanses of easily developable land. In many respects, the natural resource issues in Northwood are more similar to those of communities in the White Mountains than in the communities towards the seacoast or the Merrimack River Valley. Watershed boundaries are shown on the map entitled, "Watershed Boundaries," and land suitability for development is shown on the map entitled, "Soils Suitability."

One significant occurrence since 1987 is the federal designation of the lower Lamprey River as a National Wild and Scenic River. The Betty Meadows area of Northwood is the headwaters of the Lamprey River. While the designation at this time applies only to the river from the Epping/Lee town border downstream to the tidal reaches in Newmarket, this locally initiated federal action has raised public awareness of the importance of conserving this valuable resource; Northwood has a role to play in this effort. There will also be an effort by the downstream communities to work with all communities in the watershed to work cooperatively in the management of the river.

Natural resource issues are extensively addressed in the 1987 Master Plan. Aside from the designation of the Lamprey River, little has changed in the past decade to warrant exhaustive coverage in this update.

Existing Land Use

The pattern of existing land use in Northwood is shown on the map labeled, “Existing Land Use.” Of the total land area in Northwood, approximately 82% is undeveloped and 18% is developed. (See Table 1)

Table 1: Existing Land Use Classification

<u>Classification</u>	<u>Acres</u>	<u>% of Land Area</u>
Developed Land	3,165	18%
Residential	1,891	11%
Commercial	117	1%
Industrial	40	0%
Mining (Gravel)	14	0%
Institutional	88	0%
Trans./Utilities	171	1%
Outdoor Recreation	844	5%
Undeveloped Land	14,812	82%
Forest	13,742	76%
Agriculture/Cleared	949	5%
Brush/Transition	121	1%
Total Land Area	17,977	100%
Water Area	1,378	
Total Area of Town	19,355	

Almost 3,200 acres of land (18% of the total land area) are developed and are comprised of residential, commercial, industrial, institutional, transportation/communication/utility, and outdoor cultural/recreation/assembly uses. Residential land accounts for almost 60% of all developed land. The second largest portion of the developed land is the outdoor cultural/recreation/assembly use, reflecting the significant size of parks and camps in town. All other types of developed land uses comprise a small percentage of the total developed land area. It should be noted that the breakout of types of developed land is rough and therefore should be viewed cautiously. Figures are taken from the Existing Land Use map referenced earlier in this section. At the scale of this map it is not possible to clearly distinguish between a home and a home with a business in it, such as an antique shop.

The pattern of developed land is primarily low density residential along the road network, with pockets of more intense development near some of the ponds and lakes. Non-residential and mixed use areas are located primarily along Route 4. There is a nice village pattern evident in Northwood Narrows.

Just over 14,800 acres of land (82% of the total land area) are undeveloped and are comprised of forest, brush, and agricultural lands. Over 90% of the undeveloped land is forested. Some of the undeveloped land area has been set aside as permanent open space as shown on the map entitled, "Conservation Lands and Wetlands." There are approximately 2,284 acres of conservation lands in Northwood. These lands are protected from development through conservation easements, restrictions, or outright ownership by an organization or agency. Town owned conservation land, shown below in **bold** print, totals about 400 acres. All other conservation lands are owned and managed by Coe-Brown Academy or the state: Department of Resource Economics and Development (DRED); Fish and Game (F&G); and University of New Hampshire (UNH).

Parsonage Lot - Town Forest (188 acres)

Deslaurier Lot - Town Forest (26 acres)

Giles Lot - Town Forest (30 acres)

School Lot - Town Forest (137 acres)

Town Land (18 acres)

DRED - Northwood Meadows State Park (664 acres)

F&G - Forest Peters Wildlife Management Area (456)

F&G - Woodman Marsh Wildlife Management Area (57 acres)

DRED - Woodman State Forest (146 acres)

F&G - Dole Marsh Wildlife Management Area (25 acres)

UNH - Saddleback Mountain (278 acres)

Coe-Brown Academy - Forestry Lots (259 acres)

Population

The 1996 population estimate for Northwood is 3,228 year-round residents (NH Office of State Planning). The year-round population of Northwood continues to grow, though at a much slower rate than in the past and at a lower rate than surrounding communities. Through the 1960s through the 1980s, Northwood's population grew between 43% and 48% per decade. These rates were far in excess of the state, and Rockingham, Strafford and Merrimack counties, but were typical or even a bit low when compared to the surrounding communities. At 3% total population growth so far in the 1990s, Northwood's rate is much lower than historical rates from the past three decades, and is also growing at a lower rate than the state, counties and all the surrounding towns. (See Tables 2 and 3)

Table 2: Northwood Area Population

	1960	1970	1980	1990	1996
Barrington	1,036	1,865	4,404	6,164	6,748
Deerfield	714	1,178	1,978	3,124	3,339
Epsom	1,002	1,469	2,743	3,591	3,834
Northwood	1,034	1,526	2,175	3,124	3,228
Nottingham	623	952	1,952	2,939	3,132
Pittsfield	2,419	2,517	2,889	3,701	3,916
Strafford	722	965	1,663	2,965	3,228
Merrimack County	67,785	80,925	98,302	120,240	125,927
Rockingham County	99,029	138,951	190,345	245,845	258,775
Strafford County	59,799	70,431	85,408	104,233	109,135
State of NH	606,921	737,579	920,475	1,109,117	1,162,000

Source: US Census and NH Office of State Planning 1996 Population Estimate

Table 3: Northwood Area Population Growth

	'60-'70	'70-'80	'80-'90	'90-'96	'60-'96
Barrington	80%	136%	40%	9%	551%
Deerfield	65%	68%	58%	7%	368%
Epsom	47%	87%	31%	7%	283%
Northwood	48%	43%	44%	3%	212%
Nottingham	53%	105%	51%	7%	403%
Pittsfield	4%	15%	28%	6%	62%
Strafford	34%	72%	78%	9%	347%
Merrimack County	19%	21%	22%	5%	86%
Rockingham County	40%	37%	29%	5%	161%
Strafford County	18%	21%	22%	5%	83%
State of NH	22%	25%	20%	5%	91%

Source: US Census and NH Office of State Planning

The age distribution of residents continues to change. This reflects natural trends in the demographic structure of our country and is not unique to Northwood. The aging of the baby boomers is clearly evident. The implications are important for planning purposes because age structure influences community facilities and services needs, especially schools. (See Table 4)

Table 4: Change in Age Distribution

Age Group	1970	%	1980	%	1990	%
5 and under	198	13%	175	8%	306	10%
6 to 17	372	24%	464	21%	537	17%
18 to 64	773	51%	1,257	58%	1,975	63%
65 and over	183	12%	279	13%	306	10%
Total	1,526	100%	2,175	100%	3,124	100%

Source: US Census

The educational attainment of residents improved modestly between 1980 and 1990. Adults without high school diplomas or equivalency declined as a percent of the total but actually increased in total. Adults with any level of college education increased in both total and in percent, from 38% to 51%. This is more impressive because the total number of people 25 years old and older grew by 50%. (See Table 5)

Table 5: Educational Attainment, People 25+ Years Old

	1980	%	1990	%
No High School Diploma	337	25%	372	18%
High School Diploma	504	37%	619	31%
1 to 3 Years of College	278	21%	589	29%
4+ Years of College	223	17%	442	22%

Source: US Census

Incomes of residents are rising, but per capita and household incomes are lower than the surrounding counties and the state. Northwood's 1990 median household income was \$31,768, and per capita income was \$12,562. Northwood income figures appear to be more closely related to the trends in Strafford County than Rockingham or Merrimack counties (see Table 6).

Table 6: Income

	1989 Median Household Income	1989 Per Capita Income	1995 Per Capita Income
Barrington	\$36,951	\$14,033	\$16,296
Deerfield	\$44,000	\$15,424	\$17,721
Epsom	\$37,432	\$14,415	\$16,125
Northwood	\$31,768	\$12,562	\$14,661
Nottingham	\$44,566	\$15,708	\$19,759
Pittsfield	\$31,384	\$11,360	\$12,270
Strafford	\$41,131	\$13,771	\$16,542
Merrimack County	\$35,801	\$16,057	not calculated
Rockingham County	\$41,881	\$17,694	not calculated
Strafford County	\$32,812	\$13,999	not calculated
State of NH	\$36,329	\$15,959	\$18,770

Source: US Census and NH Division of Revenue Administration

Housing

There was a 7% increase in housing units between 1990 and 1996. This is an increase of 118 units. It is interesting to note that population increased only 3% during this same interval, most likely indicating that the occupancy rate is higher than it was in 1990. With respect to housing types, 76% are single family units, 7% are multi-family units, and 17% are manufactured housing. (See Table 7)

Table 7: Housing Composition

	Census 1990	Permits '90-'96	Total Units
Single Family	1,354	83	1,437
Multi-Family	144	(2)	142
Mfg. Housing	293	34	327
Total	1,791	115	1,906

Source: 1990 US Census and municipal records

The 1990 census also includes data on owner versus renter occupied housing. Of 1,791 housing units in 1990, only 11% were rental units. (See Table 8)

Table 8: Housing Unit Composition by Tenure

Type of Home	Owner Occupied	Renter Occupied	Vacant/seasonal	Total
Single Family	737	83	534	1,354
Multi-Family	28	81	35	144
Manufactured Housing	188	31	74	293
Total	953	195	643	1,791

Source: 1990 US Census

According to the town tax rolls, 440 housing units in Northwood are considered seasonal as of July 1997. The majority of seasonal homes are located around our lakes. They are typically small homes on small lots (1/4 acre or less) and used only during the summer months. (See Table 9)

Table 9: Seasonal and Year-round Housing Units

Type of Unit	1970	1980	1990	1996	% Change '70 - '96
Seasonal Units	624	538	538	440	-29%
Year Round Units	500	874	1,253	1,466	193%
Total Units	1,124	1,412	1,791	1,906	70%

Source: 1970, 1980 and 1990 US Census and municipal records

In 1970 there were 624 seasonal housing units, which represented 56 % of the total housing units. In 1980, that percentage dropped to 38%; in 1990 the percentage was 30%, and in 1997 the percentage of seasonal housing has dropped to 23% of the total housing. This indicates on-going conversions of seasonal camps to year round housing units.

Economic Resources

Northwood has a stable economic base composed primarily of about 130 small scale and home-based businesses. The three largest employers combined employ about 100 people, while the vast majority of others employ just a few people each. The results of a recent Northwood Chamber of Commerce survey of local employers are shown in Appendix A.

Employment. The labor force in Northwood was 1,948 people in 1996, or approximately 1% of the Rockingham County labor force. Of the 1,948 people able to work, 96% were employed (1,864 people), and 4% were unemployed (84 people). These numbers change monthly but are a good representation of current conditions. The recent unemployment figures in Northwood closely mirror those of the county and state, as is expected given the high degree of mobility of the work force.

In 1990 the distribution of employment by occupation for Northwood's labor force was even and not dominated by any single profession. The only professional sector with minimal representation in Northwood is the farming/forestry/fishing sector. Except for farming/fishing/forestry, all employment sectors increased in total between 1980 and 1990. As to changes in the relative distribution, managerial/professional and technical/sales/administrative support showed increases while there were corresponding declines in precision production/craft/repair and operators/fabricators/laborers. (See Table 10)

Table 10: Distribution of Occupation, People 16+ Years Old

	1980	%	1990	%
Managerial, Professional	198	21%	384	25%
Technical, Sales, Administrative Support	246	26%	508	33%
Service Occupations	116	12%	173	11%
Farming, Forestry, Fishing	30	3%	13	1%
Precision Production, Craft, Repair	159	17%	210	14%
Operators, Fabricators, Laborers	189	20%	238	16%

Source: US Census

Of the 1990 labor force in Northwood, 77% commuted out of town to work. About 1/5th commuted to Concord, and over 1/3rd commuted to the I-93 corridor in general. Another group commuted to the Portsmouth-Dover-Rochester urbanized area to the east, but this area attracted less than the city of Concord alone. About 11% commuted out of state. The remainder worked in nearby towns throughout the region.

The 1990 Census reports that there were 555 people working in Northwood. Of these, 345 workers lived in Northwood. Workers commuting to Northwood came in from a wide range of towns, evenly distributed around Northwood. The Northwood Chamber of Commerce 1997 survey of employers accounts for only about 208 employees, but there are 65 employers with an unspecified number of employees.

Property Taxes. Concern about property taxes is one of the driving forces behind current efforts to encourage economic development. The full-value tax rate is useful to allow comparison among communities. Northwood's 1996 full-value tax rate was 63rd highest in the state out of 241 communities. Compared to communities around Northwood, the town's full value tax rate is the 2nd highest of the seven communities, and is higher than any of the nearby counties and the state (see Table 11).

Table 11: Full Value Property Tax Rates

	1990	1996	% Change
Barrington	\$21.65	\$28.41	31%
Deerfield	\$20.20	\$30.73	52%
Epsom	\$18.65	\$28.51	53%
Northwood	\$19.90	\$31.86	60%
Nottingham	\$19.76	\$26.95	36%
Pittsfield	\$26.58	\$32.59	23%
Strafford	\$22.60	\$28.24	25%
Merrimack County	\$20.85	\$30.38	46%
Rockingham County	\$15.67	\$22.63	44%
Strafford County	\$22.99	\$30.44	32%
State of NH	\$18.02	\$26.38	46%

Source: NH Division of Revenue Administration

The table also shows the changes in full-value tax rates from 1990 to 1996. Northwood's rate increased sharply at 60% over this time period, but several other towns experienced rates of growth in this magnitude, and Merrimack and Rockingham counties and the state overall also experienced high growth rates.

A more meaningful view of the property tax issue is derived when the relative values of properties in each of the communities is factored in to the comparison. In the seven community area, Northwood's median value home tax bill went from the fifth highest to the second highest during this seven year period. (See Table 12)

Table 12: Property Tax Bills

	1990 Median Home Value	1990 Tax Bill on 1990 Median Value Home	Rank	1996 Tax Bill on 1990 Median Value Home	Rank
Barrington	\$121,400	\$2,628	3	\$3,449	5
Deerfield	\$139,400	\$2,816	1	\$4,284	1
Epsom	\$115,100	\$2,147	6	\$3,282	6
Northwood	\$117,600	\$2,340	5	\$3,747	2
Nottingham	\$128,500	\$2,539	4	\$3,463	3
Pittsfield	\$71,100	\$1,890	7	\$2,317	7
Strafford	\$122,500	\$2,769	2	\$3,459	4

Source: 1990 US Census and tax rate data

The substantive property tax issue related to community planning is that of the relationship between land use growth and changing property taxes. To date there is no empirical evidence that there is a consistent relationship between growth and property taxes. Growth is not homogenous so it is very difficult to make and prove general statements that growth is good or bad, or will increase or reduce property taxes. It will be important for Northwood to evaluate each growth opportunity on its individual merits, consider the proposed development and its impact, and make decisions based on clearly defined facts rather than broad generalizations. Further, it is important to remember that community planning can help achieve a multitude of public objectives and that the desire to control property taxes should not be allowed to become the overwhelming force in making land use decisions.

Transportation

The transportation situation in Northwood has gone through a great deal of public turmoil over the past decade, but the net result has been very little change. Transportation in Northwood is still dominated by US Route 4. There is still no rail or transit service to or through town. There are still no significant pedestrian or bicycle transportation facilities in town. The East-West Highway study came and went without being finalized. The NH Department of Transportation (NHDOT) is currently working on two intersection design changes on Route 4: one at the intersections with Routes 9/202 and 43; and the other at the intersection of Bow Lake Road. All in all, though, very little change has occurred.

The amount of roads as classified by NH RSA 229:5 has changed little since 1987. According to the New Hampshire Department of Transportation (NH DOT), Northwood is responsible for the maintenance of approximately 28 miles of roadway (see Table 13).

Table 13: Miles of Road by Statutory Class

Road Classification	Miles
Class I - primary state highways (Routes 4, 9/202)	9.81
Class II - secondary state highways (Routes 107, Main Street, 43, 202A, Lake Shore Drive)	6.85
Class III - recreational roads to/within a state reservation	0.00
Class III-a - recreational roads subject to gates and bars	0.00
Class IV - roads within urban compact areas	0.00
Class V - Town owned and maintained roads	28.32
Class VI - all other Town owned public ways	6.38
Unclassified	0.60
Total Mileage in State classification	51.96

Source: NHDOT

Traffic volume data is collected regularly on the eastern end of Route 4 in Northwood, but traffic counts on the remaining roads have been sporadic. The NHDOT has a permanent traffic counter on Route 4 at the Northwood/Nottingham town line. Results from 1980 through 1986 were presented in the 1987 Master Plan. In addition, data from 1988 through 1996 at this same count station show a continuing increase in traffic volumes on Route 4. Average annual daily traffic at this point on Route 4 grew 94% between 1980 and 1996. It is quite reasonable to assume that traffic volumes along Route 4 have been growing at roughly the same rate over this period (see Table 14).

Table 14: Traffic on Route 4 at the Northwood/Nottingham Town Line

	Sunday Average	Weekday Average	Saturday Average	Adjusted ADT
1980	4,864	4,648	4,646	4,679
1987	6,904	6,909	7,052	6,928
1988	7,344	7,554	7,653	7,538
1989	7,694	7,831	8,104	7,850
1990	7,517	7,805	7,976	7,788
1991	7,509	7,695	7,817	7,668
1992	7,631	7,665	7,669	7,661
1993	7,814	8,133	8,061	8,067
1994	8,299	8,572	8,626	8,541
1995	8,369	8,921	8,716	8,811
1996	8,928	9,099	9,173	9,085
change: '87-'96	29%	32%	30%	31%
change: '80-'96	84%	96%	97%	94%

Source: NHDOT.

There is strong seasonal variation in traffic on Route 4 in Northwood, as shown in Figure 7-1 in the 1987 Master Plan. The 1996 data from the permanent traffic recorder demonstrate a continuation of this trend of average daily summer traffic being about 4,000 vehicles per day higher than in January.

Traffic on Route 4 increases significantly to the west of the intersections of Routes 43 and 9/202. A 1997 summer weekday count west of these intersections and east of Bow Lake Road indicates an average daily weekday traffic volume of just over 15,000. This is about 4,000 vehicles above the August 1996 count at the Northwood/Nottingham town line. (Note: the August 1997 data from the permanent counter were unusable and will not be published by NHDOT.)

Other counts in Northwood are scarce. SRPC placed traffic counters at four locations in Northwood during the first week of August 1997. Two counters were located on Route 4 and two on Route 43 (see Table 15). Unfortunately, no volume counts from the past three years are available from most of the roads in Northwood, including major roads such as Route 9/202. The general pattern is high volumes on Route 4 and low volumes elsewhere. Route 43 has average

daily traffic of several thousand vehicles, and Route 107 and Route 202A have even less. Route 9/202 likely has more, but no current data are available.

Table 15: August 1997 Traffic Counts

Location	Average Daily Volume
Route 4/NH202/NH9 at the Epsom Town Line	15,098
Route 4/NH9 East of Bow Lake Road	15,368
NH 43 at the Deerfield Town Line	2,188
NH 43 South of Lucas Pond Road	2,527

Source: SRPC traffic volume counts

It is interesting to note that roadway maintenance and improvements are taking up a growing portion of the municipal budget. From 1990 to 1996, Northwood's total town expenditures rose 21%. Roadway expenses, which include summer and winter maintenance and roadway construction, rose 48% in this same period. Roadway expenditures increased from 15% to 19% of the total municipal expenditures. State and federal roadway subsidies have generally increased, but at a much slower rate than the town's total roadway expenditures (see Table 16).

Table 16: Highway Expenditures 1990-1996

Year	Total Town Expenditures	Total Roadway Expenditures	Roadway Expenditures as a % of Total Expenditures	State & Federal Roadway Related Revenue Sharing	State & Fed. Revenues as % of Roadway Expenditures
1990	\$1,233,480	\$190,397	15%	\$43,351	23%
1991	\$1,199,541	\$154,302	13%	\$42,892	28%
1992	\$1,218,577	\$167,133	14%	\$45,833	27%
1993	\$1,285,583	\$222,031	17%	\$53,285	24%
1994	\$1,418,169	\$248,107	17%	\$52,878	21%
1995	\$1,434,496	\$241,070	17%	\$55,502	23%
1996	\$1,498,555	\$282,071	19%	\$54,500	19%

Source: Town Reports

Community Facilities and Services

Community facilities and services are an important consideration in the growth and development of Northwood. Private development tends to follow the location and quantity of public services, therefore, planning for community facilities and services should be coordinated with economic development, housing, transportation, conservation and other land use objectives. The 1987 Master Plan, Chapter VIII, is a detailed section on Community Facilities and Services; the annual Town and School Reports give details on facilities and services as well. The following changes to civic facilities have occurred since 1987:

- the Northwood Narrows Fire Station addition was completed in 1987;
- the Ann Strout Memorial Information Center was constructed along Route 4;
- the Northwood Teen Center is under construction;
- Coe-Brown Academy added a new building;
- the Chesley Memorial Library finished the basement of the new wing which is now a children's room;
- the Northwood Historical Society Museum opened in the Bryant Library in 1993;
- the Brookside School reopened in 1987 for elementary grades, then closed in 1989 when the Elementary School addition opened in 1989;
- the Community Center in the Narrows has closed;
- the Catholic Church added its Parish Hall;
- the Northwood Ridge Water District was created to provide municipal water supply to structures on Northwood Ridge; and
- Northwood Meadows State Park opened in 1995.

Historic Resources

While there is no question that Northwood's historic resources are of great importance, there has been little change since the 1987 Master Plan. Additional information and analysis has occurred as a result of the environmental impact study associated with the aborted Concord-to-Spaulding Turnpike Study, but the nature of this resource has remained largely unchanged.

Northwood Tomorrow: Focus on Key Issues

As this update was designed, only those policy issues identified as the top priorities are studied in any great detail. At a meeting on October 7, 1997, the priority issues were selected: resource conservation and preservation; transportation; economic development; and capital facilities planning. The future land use section is included because it is needed to maintain the legality of the town Zoning Ordinance. A Capital Improvements Program is being prepared as a separate document to implement some of the master plan policies.

Resource Conservation and Preservation

Conservation Areas. As Northwood grows, it will not grow into a homogenous mass of developed land. Different parts of town will develop differently because of land ownership patterns, proximity to transportation routes, the ability of the property to sustain development, and other such influences. Similarly, the town will develop differently than the surrounding region, although it may be quite similar to the immediate neighboring communities. The more urbanized areas along the I-93 corridor to the west and in the Seacoast to the east will likely continue to intensify their existing urban character. It is also expected that a more urbanizing trend will result from the construction of the new Route 101 to the south. Northwood and many of the neighboring communities, however, hope to retain their rural character and high quality of life.

The Bear-Paw Regional Greenways project is a grassroots effort started in this area several years ago to identify and protect regionally significant greenways--contiguous tracts of undeveloped land suitable for wildlife and recreation uses. This project covers Northwood and the neighboring communities of Strafford, Nottingham, Deerfield, Epsom, Allenstown, Candia and Raymond. The organization is a private non-profit comprised at this time of volunteers from each of these communities. Some of these volunteers have other affiliations and several other organizations including UNH/Cooperative Extension and the Strafford Regional Planning Commission have contributed to this effort, but the organization is independent.

Among the research the Bear-Paw group has completed is a map which shows tracts of land of 500 or more acres of undeveloped land. The 500 acre threshold is considered to be the minimum size of wild area needed for breeding success and proper management of many of the larger mammals such as bobcats and bear. The Bear-Paw map shows a series of sizeable areas between Bear Brook State Park in Allenstown and the Blue Hills Reserve in Strafford, and between Pawtuckaway State Park in Nottingham and the Blue Hills Reserve. They have identified these corridors as regionally significant open space corridors and are actively pursuing private land protection arrangements. There are three general areas in Northwood which are of regional importance to the Bear-Paw group. Each is listed in the order of relative importance to the

Planning Board. These areas are shown on the map entitled, "Resource Constraints in Conservation Areas."

The Betty Meadow/Saddleback Mountain Area is the largest and most important conservation area. This area is approximately 2,800 acres in size with only minor inclusions of existing developments and a Class VI road running through it. (A Class VI road is a closed, unmaintained town road.) This area is enclosed by the Northwood/Deerfield town boundary and a line 1/4 mile inside the following semi-circle of roads: Upper Deerfield Road (all portions), NH Route 43, Bow Street, US Route 4, Harmony Road, and Winding Hill Road. Of the total area, 85% is either protected land or is land with major development constraints:

Protected lands comprise 50% of the total area and include the Northwood Meadows State Park and the Forest Peters Wildlife Management Area;

65% of the total area has soils with low or very low potential for development;

63% of the area is more than the maximum cul-de-sac length from an existing Class V or better road, greatly increasing development costs.

Development could encroach from the west, north or east, with most pressure at this time coming from the eastern end along Old Mountain Road. This area is important for its overall size and its location in the series of protected parcels in Deerfield leading down to Pawtuckaway State Park.

The Acorn Ponds Area is the second most important conservation area. This area is located north of Route 4 to the east of Ridge Road, and the source aquifer for the Northwood Ridge Water District is located in it. The Acorn Ponds are a series of three ponds and inter-connected wetlands which are valuable habitat area and are related to the groundwater supply of the Ridge District. This area is approximately 800 acres in size with only the District well and the eastern reaches of the old 10th Range Road running through it. The area is enclosed by: the Northwood/Strafford town boundary to the north; a line 1/4 mile west of Allen Farm Road, Route 202A, and Route 202 to the east; the power line easement to the south; and a line 1/4 mile east of Ridge Road and Tasker Hill Road to the west. Of the total area, 80% is land with major development constraints:

60% of the total area has soils with low or very low soils potential for development; and

67% of the total area is more than the maximum cul-de-sac length from an existing Class V or better road.

There is no protected conservation land in this area.

The Big Woods Area is the third most important conservation area. This area is approximately 1,800 acres in size with little if any existing development. The area is enclosed by the following boundary: a line 1/4 mile inside of Jenness Pond Road, Barnstead Road, and Wild Goose Pond Road (Strafford) to the west; the Northwood/Strafford town boundary to the north; a line 1/4 mile inside of Bow Lake Road to the east; and the power line easement to the south. A corridor 1/10th of a mile wide along the existing Long Pond Road is excluded from this area because it is already developed. Of the total area, 97% is land with major development constraints:

60% of the total area has soils with low or very low soils potential for development; and 86% of the total area is more than the maximum cul-de-sac length from an existing Class V or better road.

There is no protected conservation land in this area. Development could encroach on this area from any side, though there appears to be no immediate growth pressure at this time. This area is important for its size and its location between the Betty Meadow/Saddleback Mountain area and the Blue Hills Foundation lands in Strafford.

Northwood supports the protection of these three areas for many reasons. First, in this era of fiscal concern about property taxes, land protection is tax efficient. There have been a series of studies conducted around the nation and in New Hampshire which indicate that land conservation is good for property tax stabilization. Some of these studies, known as “cost of community services” studies, show that undeveloped land generates more property tax revenue than it demands in municipal and school services and therefore has a positive net return. “Does Open Space Pay?” (Natural Resource Network Research Report, UNH Cooperative Extension, Durham, NH, 1995) by Phil Auger, Rockingham County Forester, provides an assessment of Deerfield, Dover and two other southeastern New Hampshire communities. Other studies have taken a different analytical approach and have come to similar conclusions about open space effects on property taxes. The best example is “Property Taxes and Development in the Squam Lakes Area: 1990,” by Ad Hoc Associates, an August 1994 report prepared for the Squam Lakes Association in Holderness, New Hampshire.

The second reason is that the protection of these areas is of benefit to the entire region as well as the town. The protection of contiguous tracts of undeveloped land is important for wildlife habitat, for recreational activities such as hunting and hiking, for its aesthetic value, and for its general contribution to the quality of life in the community and the region. These areas comprise 28% of the area of Northwood and contribute significantly to the rural character.

The third reason is that protection of these three areas relates to good water resource management. The Betty Meadow/Saddleback Mountain Area is located in the very headwaters of the Lamprey River, one of only two nationally designated Wild and Scenic Rivers in this state and of four in New England. The majority of the Acorn Ponds Area is also in the Lamprey River Watershed. The Merrimack River Watershed (via the Lower Suncook River) reaches slightly into the Betty Meadow area, and well into the Big Woods Area. The watershed of the Isinglass River, a major tributary of the Cochecho River, includes a large portion of the Big Woods Area and a small portion of the Acorn Ponds Area. There is also the obvious benefit of protecting the existing municipal water supply for the Northwood Ridge Water District in the Acorn Ponds area.

The Bear-Paw Regional Greenways efforts clearly emphasize the importance of private land protection efforts, and its participants have focused their energy on this task. However, the project has demonstrated the importance of a regionally significant open space resource and the

need for complimentary municipal policy. As such, **the Planning Board supports the protection of these three conservation areas. It supports the concept of private land protection as the first step in achieving the protection goal.** Private protection activity would focus primarily on the acquisition of property in fee simple or of conservation. Donations or purchases using a variety of private or public funding would be used. This could involve town funds, but town funds are not obligated by this policy. Specifically, the Town should look to add to the town forest lands pursuant to RSA 31:15. **The Planning Board hereby adopts the policy position that no new public Class V or better roads should be constructed in these areas, and that no improvements should be made to any municipal Class VI roads which would lead to additional development within these areas.** The Planning Board will revise its regulations to place severe constraints on new private roads within these areas. **The Planning Board will propose amendments to the Zoning Ordinance to require that any new subdivisions within these conservation areas be clustered,** preferably towards the perimeter of the area, and to strongly discourage non-residential uses in these areas. Finally, if performance zoning is pursued in the future, the scoring system needs to include a positive reward for developing in the remainder of town.

Wetlands. The 1987 Master Plan calls for the protection of wetlands, and this policy has been implemented. The wetlands provisions in the Zoning Ordinance are the most comprehensive and substantive of the standards contained in the current ordinance.

The Conservation Commission is part way through the process of evaluating wetlands and designating prime wetlands. To lead towards this designation, the Northwood Conservation Commission has been working on a Wetlands Inventory and Evaluation Project using the NH Audubon Society's Method for Evaluating Freshwater Wetlands. As of July, 1997, the Conservation Commission had inventoried and evaluated a majority of the wetlands in town and produced a set of wetland maps. These are available for viewing at the Town Hall. The next major undertaking for the Project is for the wetlands to be prioritized based on the values they bring to the community. The prioritization of these wetlands is an important part of the protection process. **This designation of prime wetlands is supported by the Planning Board,** and the wetland provisions of the Zoning Ordinance need to be strengthened once this designation takes place.

Wetlands buffers are another issue of concern which has arisen in recent years. A State report issued several years ago recommended a 100' buffer around all wetlands. A quick GIS analysis of Northwood revealed that there are about 4,100 acres of surface waters and wetlands in town (about 21% of the total area), and that 100' buffers around all surface waters and wetlands would affect another 2,400 acres (about 12% of the total area). While there is no immediate policy conclusion to be drawn from these figures, it clearly shows the significant land use impact of a generic policy related to wetlands buffering. There is no doubt that buffers around wetlands are beneficial from an environmental perspective, but the implementation dilemma becomes a

question of design. How much of a buffer? A more sensible approach is to buffer the more sensitive and important wetlands, such as designated prime wetlands, those near steep slopes, or of exceptional wildlife habitat value. The buffer could be based on either a site specific assessment by a natural resource professional, or a simpler standard based on some more objective standard such as drainage class or some threshold of Conservation Commission ranking. In any case, there should be large buffers around wetlands in conservation areas. **The Planning Board supports variable wetlands buffers based on resource values.**

Aquifers. The 1987 Master Plan and current general sources of information on groundwater resources indicate that the only significant surficial aquifer in Northwood is in the area between Northwood and Pleasant lakes. This area has been subject to a considerable amount of growth and development, but it is not located near any other densely developed area in Northwood so it is unlikely that it will be used for town water supply. There could be some future demand for a private community system to serve development in this area. A study for the Northwood Ridge Water District identified three bedrock aquifer areas, all north of Route 4. The district well is in the eastern aquifer area. As a current source of municipal water supply, **it is important that the town enact protective measures in the recharge area.** The other two aquifers lie westerly of the first, one located between Ridge Road and Bow Lake Road, and the other located in the Big Woods area. Protection of the Big Woods and Acron Ponds areas will, by default, protect two of these three aquifers. The recharge area of the third aquifer can be defined and a protection overlay district enacted when the town believes it will be necessary to do so.

Shoreland. Protection of the shorelines of Northwood's lakes and ponds is very important. The visual integrity of the shoreline is an important contributor to the overall aesthetic and recreational experience of lake users and shoreland owners. The use of the shoreline also has an impact on the natural systems, although land use in the entire watershed plays a more significant overall role in protecting the natural systems. Balancing the need to conserve these important natural resources are the demands by shoreline property owners to maximize their access to, view of and enjoyment of the waterbodies. The shoreland property values are high, and the resulting property taxes are accordingly high when compared to other properties in town.

The town should not impose severe restrictions on the future development of shorelines to the point that new camps or homes are prohibited. Certainly it is desirable to have basic controls such as minimum shoreline frontage standards to prevent overcrowding of the shore, sanitary septic requirements for new or replacement systems, and groundcover standards to prevent runoff directly into surface waters. The shoreline frontage requirement is addressed in the Northwood Zoning Ordinance, although its language needs to be clarified to distinguish shoreline frontage from required road frontage. The other standards for development can be added to zoning, but it is easier and equally satisfactory to rely on the existing state policies contained in the Comprehensive Shoreland Protection Act (RSA 483-B). **By ensuring consistency of new**

development with these existing state standards, the basic design of shoreland uses is reasonably ensured without the need for additional municipal regulation.

Steep Slopes. The 1987 Master Plan calls for protection of steep slopes, those being areas of 15% or greater slope. This policy has not been implemented even though it is a substantial and legitimate policy issue, particularly in an area like Northwood which is entirely in the headwaters of three rivers (Merrimack, Lamprey and Cocheco) and which has so many lakes and ponds. **A resource protection overlay district should be added to the Zoning Ordinance to ensure that steep slopes (15% or greater) are protected to minimize adverse environmental impacts.**

High Elevations. The 1987 Master Plan calls for protection of higher elevation areas, specifically suggesting restricted building heights in all areas above 700' elevation and no new buildings above 800' elevation.

The restriction on building heights is reasonable throughout town, and should be implemented for all structures except those which, by design, need to be tall (silos, church steeples, radio antennas, etc.) **A restriction which keeps most buildings below the tree canopy but allows limited exceptions by special exception should be added to the Zoning Ordinance.** The reason for this requirement is justified by both public safety concerns (building height as it relates to fire safety) and aesthetic concerns.

The building restriction above 800' is more difficult to justify, although at least one other community in New Hampshire, Conway, does impose this restriction above 800' specifically to protect the town's scenic backdrop. In Northwood, there are areas along Old Mountain Road and on Sherburne Hill where Class V town roads traverse areas in excess of 800' but where development would have no scenic impact. Other issues are typically of concern in higher elevation areas, such as length from a single access point and steep road grades. These other issues are more appropriately considered as limits to growth than is elevation. **Elevation related building prohibition is no longer endorsed by the Planning Board.**

Agriculture. In the 1987 Master Plan and at early public meetings during the development of this update, the importance of agriculture has been stressed as an important contributor to the quality of life. One person mentioned the hope that the planning process might help preserve the farm-like atmosphere in town.

Agriculture's indirect contributions seem to be most highly valued. With only a few large, active farms in the community and low overall importance of farms as sources of employment, agriculture is not a significant economic engine for Northwood. In heavily forested areas like

New Hampshire, though, open fields and pastures provide excellent opportunities to view the scenic countryside. As an example, consider the view from Blakes Hill Road amid the fields near the top of the hill. Open agricultural land provides a pleasant and natural frame for such vistas. Surprisingly, open agricultural land is a relatively scarce resource and is declining at a rapid pace.

The 1987 Master Plan also stresses the resource value of high quality agricultural soils, and the desirability of conserving such soils through their continued agricultural use. Comprising only a small portion of the total land area of Northwood, good agricultural soils are an important non-renewable resource. Ideally, **prime agricultural soils and agricultural soils of statewide importance should be protected for long term agricultural needs.** Though it is unlikely that large-scale agriculture will return to New Hampshire in the foreseeable future, it is none the less important to try to prevent the loss of these very best soils. In the context of land use planning, such soils are also relatively easy to develop so there will be conflicting, mutually exclusive demands on this resource. **To the extent possible, cluster design of new development so as to minimize the impact directly on the agricultural soils is desirable.** To the extent that someone is willing and able to continue using the land for farming purposes, so much the better, and cluster design proposals should include means of encouraging agricultural production on the open land.

Historic Resources. The 1987 Master Plan recommends that the town should form an Historic Commission to oversee these resources, and that possible historic districts should be identified and protected with an historic district ordinance. Much of the inventory work was completed during the East-West Highway Study (known to the state as the Concord to Spaulding Turnpike Study), so the question is whether or not to engage in these activities. Given the planning challenges facing the community and the need to refine one of the most basic land use controls, the zoning ordinance, it is inappropriate to divert time and energy away from the more basic needs at this time. **The Planning Board no longer supports the creation of an historic district ordinance.** A preferable alternative, if performance zoning is pursued in the future, is to reward development siting and design decisions which are compatible with and complimentary to the town's historic resources.

Night-time Lighting. There is an emerging awareness of the importance of good night-time lighting design. The intensity of lighting, the type of lamps used, their location and shielding, and other such factors are the primary aesthetic factor at night time and also can have a significant impact on safety. The issue was not addressed in the 1987 Master Plan.

The Irving gas station application in Northwood highlights this issue. The application involved a gas station and convenience store in a residential neighborhood of the classic clapboard-sided homes. Typical of current gas station designs, a brightly lit awning over the fuel pumps which

creates that safe feeling for motorists would also diminish the night environment for the entire neighborhood. The Planning Board quickly adopted a few basic lighting standards in the site plan review regulations to deal with this particular application, but the fundamental issues of lighting and illumination have not been completely or thoroughly addressed.

A good reference and the source of much of this section is the Outdoor Lighting Manual For Vermont Communities. It is practical and useful for communities such as Northwood because it converts a very complex subject into manageable proportions.

There are five municipal priorities for illumination control: intensity, glare, color, energy conservation, and skyglow. Each of these is addressed below.

Intensity. The intensity of lighting is simply the amount of light. Intensity effects visibility, but it is not a simple matter of more light to improve visibility. The relative amount of light visible within the various parts of a person's field of vision is important. Where one area is intensely illuminated all other areas will be too dark. When this occurs among two neighboring land uses, each may continue to increase its own lighting intensity to out-compete its neighbor and the outcome will be far too much lighting overall. Various activities require differing amounts of light. **The intensity of site lighting should relate to the proposed use.**

Glare. Glare is the excessive brightness which causes discomfort or visual disability (impairment). The impairment of night vision occurs when glaring lights are anywhere within a person's field of vision, and the result is increased difficulty seeing. This can easily cause dangerous situations when glare impairs a driver's ability to see the road, for instance. **Shielding and directing of lamps to properly contain light is necessary.**

Color. The color of lighting is related to the type of lamp. Metal halide, incandescent and high pressure sodium lamps are the most common types of outdoor lighting. Less commonly used lights include mercury vapor, compact fluorescent, and low pressure sodium. Each of these types of lamps has a different color-rendering ability. Incandescent and metal halide lamps come the closest to true color rendering. Other lamps tend to blend colors, making the distinction of different colors difficult. High pressure sodium lamps cast a yellowish hue, mercury vapor lamps cast a blue-green hue, and low pressure sodium lamps cast an orange hue. True color-rendering tends to be perceived as comfortable lighting, and recent research shows that it is also important for maintaining good peripheral vision at night. **Light which has better color-rendering should be required for all new lighting.**

Energy Conservation. Energy conservation is important from both the perspective of environmental sustainability as well as economy. All else being equal, energy conservation in lighting is a worthwhile goal. However, the color of lighting and the energy efficiency are inversely related. Incandescent lamps, while rendering the truest colors, are also the least energy efficient. Metal halide lamps are much more energy efficient and still provide good color

rendering. High pressure sodium lamps are very energy efficient, yet provide poor color rendering. Energy conservation involves not only the type of lamp, but also the intensity of lighting and the use of the lamp. Greater intensity levels require greater amounts of energy, and nothing saves energy better than turning off the lights. **Combining energy conservation with good color-rendering, metal halide lighting should be the outdoor lamp used for most non-residential applications.**

The use of the lamp is obvious but often overlooked, and so-called “security lighting” is the worst offender. Constant lighting with floodlights provides little actual security because police and neighbors become immune to a brightly lit site. Bright lights which are triggered by motion or heat detectors call attention very effectively while having little impact on the night environment. Lights which provide good color rendering are important for witness identification in the event someone sees a suspect. In remote locations without nearby neighbors and with infrequent police patrol activity late at night or early in the morning, a security alarm system would likely be a better investment than outdoor lighting. **Before approving security lighting on site plans, the Planning Board should require a security plan which may include security lighting.**

Skyglow. This is the glow observed over cities and other expanses of brightly lit areas. It not only obscures the night sky for amateur astronomers, it radically changes the perception of the community at night. In dark locations about 2,500 stars are visible to the naked eye. In suburbs and villages, this can be reduced to as few as several hundred, and in cities as small as Burlington, VT this number can be as low as a few dozen. Research in Vermont indicated that this form of light pollution is the most significant lighting concern in towns the size of Northwood.

Skyglow is caused by: too much illumination overall; lighting that is directed (at least in part) upwards; the reflective nature of surfaces being illuminated; and weather. **The primary steps the town can take to minimize skyglow in Northwood are to control the following aspects of site and street lighting: avoid excessive amounts of light; require cut-off style fixtures which avoid upwards spillage; require security lighting to be triggered by detectors or use cut-off style fixtures; and generally keep lighting directed downwards (no “uplighting” of signs or buildings).**

Transportation

Planning for Northwood invariably comes back to the issues related to US Route 4. Northwood has historically developed along the First New Hampshire Turnpike, so it is not surprising that land use issues are so closely intertwined with this highway. For this reason, this Transportation Chapter is focused primarily, though not exclusively, on issues pertaining to Route 4.

Of utmost importance to the town of Northwood is safety along Route 4. The fact that the town and Route 4 are so closely intertwined and the lack of alternative transportation routes from one area of town to another means that everyone in the community continually uses Route 4. This is a very unusual situation, unlike that experienced in any other community in this part of the state.

Safety. The first safety issue is traffic speed. Concerns raised in the 1987 Master Plan are still applicable to this day:

Northwood officials should discourage any attempts to improve US Route 4 that would result in increased speeds and reduced safety. Because the high seasonal traffic volumes, rolling terrain and associated limitations on site distance, nearly 300 points of access (driveways, parking lots, and intersecting streets), and the Route 4 corridor's role as the focal point for all town activities, any improvement that facilitates high speed travel on Route 4 will negatively impact the town. (Policy #2 of the Transportation Chapter, page VII-28)

People in the community have discussed the need to reduce the speed limit through Northwood. However, a simple reduction in the legal limit does not typically reduce traffic speed. Road design, not the posted speed limit, is the single most important determinant of traffic speed. It is therefore vital that any construction or design modification along Route 4 in Northwood not be designed to increase travel speeds. **Highway design should first and foremost protect the most vulnerable users of the highway.** In Northwood's case, the most vulnerable users are pedestrians and bicyclists, particularly the children near the elementary school and Coe-Brown Academy. Additionally, resident drivers are vulnerable because of their constant need to enter and exit the traffic stream. Road design to protect these users is the priority of the community. **Higher speeds and higher through traffic capacity are not the town's priorities.**

The heavy volume of truck traffic through Northwood is also a safety concern. Clearly Route 4 is an important truck route between the New Hampshire seacoast and Concord. Trucks have a disproportionate impact on the community when compared to cars. **The Planning Board supports roadway modifications which would make Route 4 a less attractive trucking route than NH Route 101 to the south.** Changes resulting in lower speed limits, more stop lights, and slower travel times are needed. Additionally, **the Planning Board opposes allowing tandem and triple trucks on Route 4 through Northwood.**

Access management is another ongoing priority of the community. Although not labeled as such, access management tops the list of transportation recommendations in the 1987 Master Plan. A brochure from the NH Route 16 Corridor Protection Study states:

Access management is a tool to ensure the safe and efficient movement of vehicles by striking a balance between property *access*, in the form of curb cuts, and *mobility*. Curb cuts are places where driveways, both business and residential, intersect with a road. Effective access management ensures that the public's investment in the road system is safeguarded for the future.

Access management attempts to:

- Limit the number of places where vehicles are turning and entering the roadway
- Reduce deceleration in travel lanes
- Remove turning vehicles from travel lanes

The capacity of the road system to handle traffic is a scarce resource that must be protected. Without protection, many of our roads will become so snarled with congestion they are obsolete. Access management protects our road network and ensures it will meet our needs for years to come.

For arterial highways like Route 4, which serve as arterial highways while also providing access to adjacent land uses, it is very important to protect capacity and enhance safety by applying access management techniques. The network of arterial highways throughout the state and the nation facilitates long vehicle trips, and its safe and efficient operation is vital to all levels of government. However, this arterial function must occur while addressing the community needs of access to and from the residential, commercial and civic land uses which access the arterial network directly. **The Planning Board adopted access management controls in their Site Plan Review and Subdivision regulations years ago, and the continued improvement of these controls shall be pursued by the Board.**

During the process of developing this Master Plan update, several people raised the issue of sidewalks and bicycle/pedestrian paths along Route 4. Sidewalks would be desirable in the immediate vicinity of the schools and in areas where there are clusters of businesses where customers could walk from one shop to the next. Sidewalks along the entire length of Route 4 from Nottingham to Epsom, however, are unlikely to justify their expense. Specific proposals need to be developed and evaluated based on their particular merits. **The town's representative to the Seacoast MPO Technical Advisory Committee should work with other town officials, citizens and transportation officials from the region and state to develop appropriate proposals and apply for funding state and federal funding.**

Bicycle route and bicycle paths are more problematic in Northwood. It is not clear what level of demand exists for bicycling along the length of Route 4 or other state roads in Northwood, and such work is beyond the scope of this report. There are no roads in Northwood designated by the NHDOT or the Seacoast MPO for inclusion in a bicycle network, although the State is typically willing to mark bicycle lanes along the shoulders of state. Such shoulder lanes should be evaluated in the vicinity of Coe-Brown Academy running west to Harvey Lake Road and east to the Teen Center. Work in the current state right-of-way is far more likely to be approved for state and federal funding than is the creation of a new right-of-way for a multi-use walking/biking path. **This is another topic for investigation by the town's representative to the Seacoast MPO Technical Advisory Committee.**

East-West Traffic. The East-West Highway. The Concord to Spaulding Turnpike. I-393. Call it what you will, there is concern in Northwood about east-west traffic and ramifications on the town.

As discussed in Northwood Today, traffic volumes coming through Northwood on Route 4 are increasing rapidly. It is clear that increasing through traffic will become less compatible with the community. The town is a linear stretch of homes, businesses and civic sites primarily stretched along Route 4, and as the arterial function of the highway increases the rural qualities of the town and its character will be diminished. For instance, it will become less desirable to walk along Route 4, never mind cross the street, so driving will continue to become more attractive to residents even for short trips. For drivers, left hand turns out of driveways will become increasingly difficult and even short trips will become increasingly frustrating and dangerous. Even neighbors will likely become increasingly isolated from one another and the sense of community will be further diminished. Clearly, increasing volumes of east-west traffic is a growing problem for the community.

Memories of the East-West Highway Study (also known as the Concord to Spaulding Turnpike Study) are still fresh. People were concerned about the impacts of upgrades and of this bypass route or that. The study was terminated in 1993 by the Federal Highway Administration well short of its completion. This was a victory for those concerned about the impacts of the proposals on the table at that time. However, the core question remains unanswered: can we realistically provide for increasing volumes of east-west traffic while protecting Northwood as a wonderful place to live, work and visit?

Because this is the community's plan for its future, this question is addressed from the community's point of view. It appears that there are three scenarios possible:

1. move heavy traffic away from developed areas of the community (a bypass or new road option);
2. move the more sensitive and incompatible land uses away from the heavy traffic along Route 4 (a new land use option); or
3. continue the current course of action and see what happens.

The earlier study was an aborted attempt to identify alternative routes for the arterial highway. A bypass would have left the current road better able to serve its property access function. A new highway would certainly shift the adverse impacts of the arterial road to other people and places, and this was understandably at the heart of the controversy from this past study. Unless another east-west highway study is initiated, moving the heavy traffic away from developed areas will not happen. Further, lack of another study precludes the town's ability to fairly and rationally make plans to reserve viable, feasible corridors for a possible east-west arterial road in the future.

The town has more control and influence over land use than over a state highway. For this reason the second option is more feasible while the town is acting alone on this issue. New residential development is occurring mostly away from the Route 4 corridor. Over time it is reasonable to expect that there will be a continuing shift of residential land use off of the Route 4 corridor, and that many of the existing homes will be converted to business uses, or will remain

homes but with home-based businesses. This will help to remove some of the adjacent land uses which are most susceptible to the adverse impacts of increasing traffic volumes. However, virtually all civic facilities are located along the length of Route 4 from one end of town to the other. Churches, schools, town hall, the library, the transfer station and the post office are all scattered along the frontage of Route 4. Northwood Narrows is the only significant exception to this rule. **A long term land use policy for Northwood is to relocate residential and sensitive civic uses away from Route 4.** By “long term” it is assumed that the process of relocating so many community facilities would take several generations. Questions about where the civic uses would go are addressed in more detail in the Future Land Use section.

The third option, continuing on without changing policies, will lead to similar results to the previous option with respect to residential growth shifting away from Route 4. However, taking no positive actions to move the civic uses off of the Route 4 corridor fails to address expected future problems.

Road Network Issues. Related to the issue of land use development shifting away from the Route 4 corridor are issues of the adequacy of the remainder of the road network.

Neighborhood Connections. The overall town and regional road network is adequate to accommodate through traffic flow, but there is a strong need to develop better interconnections throughout town. **There should be alternative routes to most, if not all destinations.** New roads should be designed for the continuation of streets in adjoining areas, and permanent dead-end roads should be avoided. Provisions for neighborhood sidewalks and pedestrian or bike paths also needs to be considered. These provisions will allow a higher degree of mobility for residents whether driving, walking or biking within the community.

Neighborhood roads need to accommodate safe access to properties for residents and customers, for convenient and efficient pickup and delivery of goods, for emergency vehicle access, and other such uses. The local streets need to be linked to traffic-carrying streets in a way that simultaneously provides good access to other parts of the community and region while minimizing the use of residential streets by through traffic. Providing for the flow of traffic should not encourage through-traffic, but should provide for smooth flow of delivery and service vehicles like postal carriers, home heating oil trucks, school busses, snow plows, and so forth.

Emergency Re-routing. One exception to the need to prevent through traffic on local roads is when alternative routing is needed when Route 4 is blocked by traffic accidents. Currently there are alternative routes suitable for car traffic along most portions of Route 4 through Northwood, though none of these are particularly well suited for truck traffic. Connection of Upper Bow Street and Lower Bow Street would be a useful alternative route to make available. Route 4 west of the western end of Lake Shore Drive is probably the longest stretch without a nearby alternative route. Apparently major work to Old Turnpike Road in Epsom would be needed to connect it through to the west, or the Gulf Road could be

reestablished. Neither of these options will be easy or inexpensive. **This is another topic for investigation by the town's representative to the Seacoast MPO Technical Advisory Committee.**

Gulf Road. Access from Blakes Hill Road to the Gulf Road area has been an on-going planning issue for many years. At issue is an area between Northwood Lake and Pleasant Lake which has several hundred year-round and seasonal houses in Northwood, but which has no direct access into Northwood. The only access is via Route 107 and Route 4 in Deerfield and Epsom around the west end of Northwood Lake. The long trip around to this part of town is an inconvenience for year-round and seasonal residents living there. However, it also poses logistical problems for emergency services providers and for school bus routing. Additionally, there is a safety concern for all development in the Gulf Road area because a large number of homes are accessed by a single road. Blockage of Gulf Road by accident or storm would isolate many people. There is no connection, even by private road, around Pleasant Lake.

Until the 1920s or 1930s, Gulf Road extended across the Gulf and up to Blakes Hill Road. This portion of Gulf Road has reverted to the adjacent property owners and is no longer a town road. The Gulf is a deep ravine, 200 to 300 feet deep, with steep slopes on both sides. It will be a difficult and expensive undertaking to re-establish the Gulf Road through to Blakes Hill Road, or to create a new road to another point on Blakes Hill Road or Winding Hill Road. Resolution of this issue is important to the town and to the residents of this area, however, for safety and convenience reasons. **Because of the existing safety concerns regarding the isolated nature of this area, the Planning Board should recommend a growth moratorium in this area.** This would include a prohibition on the issuance of additional building permits, and should prohibit further subdivision or site plan review approvals until the access issues are resolved. In addition to the recommendations recently released prepared by the *Joint Northwood Gulf Road Board/Deerfield Gulf Road Committee*, **the town should investigate the possibility of a betterment assessment district.** This would ensure that the property owners in the area which would benefit the most would pay for a greater share of the solution cost than would the rest of the property owners in town.

Conservation Areas. In the Conservation and Preservation of Natural and Cultural Resources Chapter, the three areas were delineated for long term open space protection: Betty Meadow/Saddleback Mountain, Big Woods, and Acorn Ponds. The town's primary policy approach is to encourage and help facilitate private land conservation actions, recognizing the limitations of land use regulation for such extensive land protection priorities. However, municipal road policy is extremely important for this land protection effort. If the town can keep new roads out of these areas then further development in these areas is less likely. The town can take three steps to implement this policy. First, **allow no new town roads to be constructed in these areas.** Second, **allow no existing segments of Class VI roads to be upgraded to Class V or better standards in these areas,** recognizing, of course, the existing commitments made by past Town Meetings regarding the extension of the Class V portion of Mountain Road. Third,

mandate through the Zoning Ordinance that any private development must be clustered outside of these areas, or towards the exterior perimeter of these areas if it can not be clustered outside of the area. **A fourth step should be investigated, that being prohibition of any new private roads for subdivision purposes.** This policy should be drafted to permit lesser roads for timber harvest or fire protection, and possibly for access drives needed for infrequent use to things like telecommunications towers. This fourth step could easily run into legal problems and needs to be evaluated in that light. However, it would certainly forward the basic policy objective of no new roads in the protection areas.

Villages. Where the town seeks to create new village nodes which are adjacent to but not fronting on Route 4, it will be important to consider the creation of new public roads. These new roads would form the basic network for a non-linear neighborhood and would provide access in areas not currently served by public roads. The development of such roads can be left to chance through the subdivision application process, or the town can take a more active role by designing the street networks ahead of time and protecting road corridors with an official map. An official map is a planning tool authorized by RSA 674:10. The official map is adopted by Town Meeting based on a street plan prepared by the planning board, and it protects a surveyed corridor from unnecessary building development so that future road construction costs will be reasonable and adjacent land uses will not be unduly harmed. While not expressly stated in the statutes, the planning board could probably require any future subdivisions to conform with an official map as well. Town Meeting would need to authorize the planning board to initiate this work and fund the required survey and engineering design work, and later the Town Meeting would need to adopt the findings in the form of an official map.

Roadway Design Issues. Roads are complex public spaces which affect traffic, parking, aesthetics, neighborhood character, and perceptions of the community. Roadway design affects driver behavior, trip patterns, and recreational uses along the road. Beyond the obvious need for quality construction and design which incorporates basic safety principals, there are a host of design issues of importance to the community.

Roads must be safe for all users, so the first issue is preventing vehicles from reaching excessive speeds. In residential and rural areas, vehicle speeds should be limited to 25 to 30 miles per hour. Roads should be designed and built to take advantage of topography and adjacent woods, fields and yards to create visually interesting environments. Natural views should be protected. Sight lines towards civic or historic buildings create interesting vista terminations. Adjacent stone walls, large street trees and ground cover should be retained, as was accomplished by the town during the recent reconstruction of Tasker Hill Road. The scale of the facility needs to be appropriate to the use of the road by cars, trucks, walkers, bicycles, emergency vehicles and others. In Northwood, many of the town roads already have these positive design features. It will be important to retain these qualities during future road maintenance and reconstruction.

Some of the town roads have exceptional scenic quality and the town should designate them as scenic roads. Scenic road designation pursuant to RSA 231:158 restricts the cutting of trees and disturbance or stone walls in the public right-of-way, but does not affect the rights of property owners to use their own property. **The following roads and road segments should be recommended to Town Meeting for scenic road designation: Jenness Pond Road; Old Barnstead Road; Tasker Hill Road; Ridge Road; Sherburne Hill Road; Old Mountain Road; Winding Hill Road; Blakes Hill Road from Kelsey Mill Road to Winding Hill Road; and Harmony Road.**

Economic Development

In 1992 the Selectmen created an Economic Development Committee because, “The Town of Northwood is strongly business oriented and its citizens depend on a good business climate for their quality of life” (Memo from Richard Lewis to John Jacobsmeyer and Eleanor Pinkham dated June 21, 1992). The memo outlines several broad areas of concern, including expansion of the tax base, the need to take better advantage of resources available from other levels of government, and to improve the community’s interaction with the business community. While this issue is complex, Mr. Lewis’ goals provide an excellent starting point for this plan.

As is true in every community, there are opportunities and obstacles facing any economic development effort. For opportunities, the high traffic volumes coming through town are the obvious starting point. Much of the existing business base is heavily dependent on capture of pass-by traffic. It is reasonable to expect continued growth in the number of small businesses along Route 4 which will seek to capture pass-by traffic. The trick will be growth without choking off the traffic flow which brings in the customers.

Another opportunity is the quality of life and of the environment in Northwood. Development which relates to the historic amenities in the community or which relates to the high quality natural setting would be ideal. Northwood should be presenting a positive image of a town with heritage and character which would attract business owners to locate in town, near enough to the urban areas east and west, but still in a quiet place where you don’t have to lock your doors, you know your neighbors, and can see 2,500 stars in the sky at night. Such opportunities will increase over time as information technology improves.

Constraints are obvious, too. Route 4 is a congested and sometimes dangerous road and continued development and more driveways will worsen the situation. There is only a small municipal water supply system at the Ridge, and there is no municipal sewer system. Many industrial users prefer municipal sewer systems because of the high cost of large scale on-site disposal, and because of increased liability exposure from disposal of wastes on their own property. Finally, the nature and configuration of natural resource constraints in Northwood

show that there are few if any major expanses of easily developed land. Land constraints will cap the scale of future development.

Because the town is limited in its ability to bring about private sector actions, the town's position must be largely reactive. However, by establishing community goals for economic development the town can posture itself to take advantage of opportunities as they arise. There are four broad goals for economic development in Northwood: take advantage of "home grown" opportunities; enhance the property tax base; establish an institutional structure for economic development; and control adverse impacts of new development. Each of these is addressed below.

Take Advantage of "Home Grown" Opportunities. The first economic development policy is to take advantage of local opportunities first. What this means is that there are opportunities within the community's collective control which can help promote economic development in Northwood, and these need to be addressed first before turning to resources outside of the community.

There needs to be a support system for existing community businesses. Establish a dialog with the business owners to find out their needs from the community. Focus efforts on retaining existing businesses, possibly using the Business Visitation Program model from the state or the Rockingham Economic Development Corporation. Maintaining a stable economic base is important before efforts are undertaken to expand it. Parallel to this maintenance effort, encourage local entrepreneurial efforts by facilitating quick approval of home occupations and home-based businesses. Other communities such as Newmarket have adopted policies which allow home occupations which are not discernable to neighbors. When business activity becomes noticeable, then the home-based business becomes subject to a series of basic regulations and must obtain a permit. This sort of policy approach, coupled with advances in telecommunications and the increasing levels of white collar workers and educational attainment in town should result in greater opportunities for residents to both live and work in Northwood.

Create opportunities for residents to both live and work in Northwood so that they can contribute more to the community. The justification for this policy is subtle but important. People who live and work in the community are more likely to contribute to the community in many ways. There will tend to be more social interaction, and to volunteer and participate. A reduced percentage of workers commuting out to other communities will benefit Northwood in ways such as increasing the pool of possible volunteer firefighters who are in town most of the time. With the increasing number of white collar professionals in Northwood and the telecommunications advances will come increasing opportunities for residents in the labor force to create their own jobs in the community.

Try to develop practices which keep money in the community longer. Hire local firms for jobs in town. Buy products from locally owned businesses rather than corporate chains which

will electronically transfer their profits out of state on a daily basis. In the sustainable economic development circles, this is known as “plugging the leaks.”

Given the large acreage in town of forests and the few farms and their importance to the landscape, it would be nice to see forestry and agriculture play an increasingly important economic role in the community. Both of these activities create value and are good for the economy. Figuring out how to accomplish this objective will be a difficult task at best, though.

Enhance the Property Tax Base. Given the complexities surrounding the relationship between growth and property taxes, it is reasonable to expect that the town will benefit if the value of the tax base per capita increases. **The Town should strive to increase the value of the tax base per capita.** Increases in per capita value spread out the costs of government facilities and services over a broader base and should help to either lower the cost of government, increase the quantity and quality of services provided, or both. This is a measurable goal which can easily be monitored every year.

The means of accomplishing this goal are less clear. There is no hard evidence which indicates that non-residential growth will accomplish this goal. The primary debate about this argument centers around the concept that more business growth will induce more residential growth, so per capita property tax values may increase or decrease. It seems reasonable to assume that residential growth without some balancing of non-residential growth will likely decrease the per capita property tax values. However, these generalities are not particularly useful when it comes time to make real decisions. For instance, residential growth in the form of two bedroom condos usually cause only a minimal increase in school enrollment while growth in the form of three or four bedroom single family detached houses usually generate a large increase in school enrollment. The same types of specifics are needed for non-residential development. Some will have a large demand for community services while others will not. The generalities are good for advocating positions, but the specifics are critical when it comes time to make decisions.

Perhaps the only safe assumption about means of increasing the property tax values per capita is to focus on quality development. **The Planning Board needs to find ways to modify its land use regulations to require that new homes and businesses be well designed and built for mid- to upper-market consumption, but must balance this with the need to maintain affordable housing for low income households.**

Control Adverse Impacts of New Development. There is no need to dwell on this concept, and the town does a good job of preventing adverse impacts already. This is important as the community grows so that its quality of life and the attractiveness of the community to seasonal residents and visitors is maintained. Maintaining a built environment which blends well with the natural environment and reinforces the connection with Northwood’s heritage is important.

The idea of creating or strengthening village areas in East Northwood, at the Ridge and in Northwood Narrows is important in this respect. The village design is a New England tradition and is an important design component for the community's future. It will be important to entice new businesses which are not dependent on pass-by traffic to locate off of Route 4 in these village areas.

Establish an Institutional Structure for Economic Development. If the town seeks to retain, expand and attract desirable new business development, it will require a strong effort by the town government. The Board of Selectmen must lead this effort. The municipal government has not sustained an active institutional structure for economic development issues. The Economic Development Committee created in 1992 is currently inactive. The Planning Board can not assume the economic development role because it would conflict with its regulatory responsibilities. The Planning Board can only facilitate, but it is not in a position to initiate and advocate. The Northwood Chamber or Commerce is the only active organization which is currently dealing on a regular basis with business issues, but it is a private civic organization rather than a branch of the town government.

The town should re-invigorate the Economic Development Committee. The Committee would be the municipal contact point for economic development issues. They would work with other levels of government to find funding and training. They would be a source of information about the community for prospective businesses. They would be given the charge of accomplishing the economic development goals of this plan. They would be responsible for coordinating with other community institutions like the Selectmen, Planning Board and Conservation Commission.

The Board of Selectmen must decide the degree to which the town of Northwood wants to initiate economic development activity. This is not a simple issue. How much time and energy will be devoted to economic development? There is a virtually endless list of activities which could be undertaken. A brochure about the community could be prepared. An internet web page could be developed. A listing of available properties suitable for certain types of business development could be compiled and maintained. A community economic development forum could be held. Ads could be developed. Trade shows attended. The list is endless. **The town should seek assistance and oversight from a trained economic development specialist**, either private consultants or those available through the State, UNH or the Rockingham Economic Development Corporation. But always, the question comes back to what resources is the town willing to devote to this issue? How much money? How much agenda time? How much volunteer time?

Future Land Use

A future land use chapter represents the composite of the master plan policies and presents a vision of the future. It is not precise, but it provides insight as to desired future conditions in the town. So what should the future hold for Northwood?

Northwood is at the headwaters of three major watersheds, similar in many ways to towns in mountainous areas. There are many areas of wetlands and steep slopes, as is expected in headwater areas. Further, the pattern of these resource constraints breaks up the developable areas into small tracts. **Because of its sensitive natural resource base, Northwood is not ideally suited to intensive development. A strong focus on protection of natural resources is the result.** The plan establishes a focus on protection of three major conservation areas--the Betty Meadow/Saddleback Mountain, Big Woods, and Acorn Ponds areas. These areas are of regional significance for wildlife habitat, recreation and quality of life. Further, the plan emphasizes protection of pockets of sensitive natural resources through the continued use of overlay zoning and recommends resource-specific mandatory cluster zoning. These resources include aquifers, wetlands, shorelines, steep slopes, and important agricultural soils.

Balanced with the need to conserve sensitive and important natural resources, there is a need to facilitate growth in other areas. This balance is important to ensure that the Master Plan is not perceived as an anti-growth policy, but rather helps to show that it is a balanced policy which supports conservation of important resources and growth in other areas. The general concept is that all new land uses be added outside of the conservation areas, and further that new uses be focused in a roughly mile-wide band which generally follows the Route 4 corridor through town. The intention is to get development off of Route 4, particularly for new residential and civic uses, and leave the less sensitive land uses along Route 4. **There should be a concerted effort to create village nodes in East Northwood and at the Ridge, and to reinforce the existing village of Northwood Narrows.** A small network of neighborhood roads should be designed to accommodate the nodal growth at both the Ridge and East Northwood villages.

The Ridge, having a municipal water supply system and being located generally in the center of the community, should become the primary village for municipal civic uses. The town should either stop further investment in municipal public facilities which rely on Route 4 for their direct access, or should invest in developing some means for integrating these facilities into the surrounding neighborhoods. Some municipal buildings such as the highway garage, dump and public safety buildings may still be more appropriately located on Route 4 away from village areas. Other civic uses such as the post office and churches should also be encouraged to be located in these village areas off of Route 4.

The remaining areas of town will have a dispersed pattern of development. With resource protection measures in place, there will be generally low density residential development occurring around town, with pockets of more dense developments in subdivisions. Farm and

forest uses will hopefully remain viable economic uses of the land and will continue to enhance the quality of life and character of the community.

Business development is expected to remain at a relatively small scale. Most will likely locate in the mile-wide corridor along Route 4, although smaller home occupations and home-based businesses will be located throughout town.

One exception to the changing future land use pattern will occur in the Gulf area. **Until the severe access problem is remedied in the Gulf Road area, there should be no approvals given for new housing units, new subdivisions, or new site plan reviews.** There should be allowance for minor changes such as expansions to existing homes and boundary line adjustments, but nothing which significantly increases the amount of development in this isolated area. This policy reinforces the need to solve this problem before it is allowed to get any worse.

In summary, the town will retain its natural assets and much of its small-town atmosphere which is cherished by all who live, work and vacation here.



Revised Master Plan Policies

The set of policy recommendations of this 1998 Master Plan Update are different than that of the 1987 Master Plan. For this reason, all policies contained in the 1987 Master Plan are hereby repealed and replaced by those policies contained in this chapter. Policies in the 1987 Master Plan are found in three places: The Goals and Objectives summary at the beginning of the document (pages xi through xvii); at the conclusion of chapters or subsections of chapters (chapters 1, and 3 through 9); and in the Future Land Use Chapter (pages X-1 through X-7).

Goals

The following goals are the broad, general policy statements which have been developed during the formulation of this plan.

Natural and Cultural Resources. The town's natural and cultural resources are important amenities to the community, and reasonable measures should be taken to ensure sound resource management and conservation. There are significant resource constraints in Northwood because of its geography, and these constraints restrict the ability to accommodate growth more than in communities lower in the watersheds.

Housing. The town should encourage well designed and thoughtfully sited residential development which is complimentary to the scenic nature of the town, which enhances the social structure of the town, and which minimizes adverse impacts on the environment. With over 400 seasonal homes in Northwood, conversion to year round homes remains a concern, particularly with regard to adequacy of septic systems and the impact on school enrollment.

Economic Development. It is the policy of the Planning Board that the town needs to initiate a community effort focused on increasing local economic development opportunities, broadening the tax base, and ensuring that future development is consistent with the long term interests of the town.

Transportation. Transportation policy focuses on safety, convenience and quality of life, and is obviously centered in one way or another on Route 4. Safety issues such as speed control, access management and spot improvements are vital given that Route 4 is the only road in town which provides access to all parts of town. The town road network should be enhanced to allow residents to bypass Route 4. In the long run, the ability to safely accommodate growing volumes of east-west traffic will become increasingly difficult to balance with community protection and enhancement. It is the Planning Board's policy that land uses which are most sensitive to high traffic volumes should be discouraged in the highway corridor and encouraged away from corridor.

Future Land Use. Land use change in the town should enhance the quality of life for residents. Given the expectation of continued growth, the following are desired future land use conditions:

- A. Concentrate a moderate amount of mixed use development in the village areas of East Northwood, the Ridge and Northwood Narrows, expanding these villages to compliment their traditional New England design;
- B. Work toward long term change to shift the civic focus of the community to the village areas off of Route 4;
- C. Shift the nature of land uses in the Route 4 corridor away from residential and other uses which are sensitive to the impacts of heavy traffic, and allow the corridor to remain a focus for business activity which depends on pass-by traffic.
- D. Maintain the dispersed, rural land use pattern throughout town, with clustered residential areas interspersed with fields and woods; and
- E. Minimize intrusion into the conservation areas.

Implementation Steps

The following objectives are recommended action steps to implement the general goals of this plan. They should be considered as a starting point for implementation activity. The recommendations suggest people, boards or organizations to be responsible for implementation, and the proposed time frame for implementation.

1. **Wetlands Protection.** Continue existing wetlands protection policies, but with the following changes:
 - a. bring definition of wetland up to date;
 - b. amend Subdivision Regulations to require Site Specific Soils Mapping for all subdivisions to ensure proper wetland boundaries are identified;
 - c. require that a 100' buffer be maintained around any wetland or surface water within the conservation areas as delineated in this plan;
 - d. require that a 50' buffer be maintained around all other wetlands, streams and rivers; and
 - e. do not allow wetland area to count as part of the required minimum lot size.

Responsible party and timeframe: Planning Board to amend Subdivision Regulations in 1998 and propose Zoning Ordinance revisions for the 1999 Town Meeting.

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2. **Prime Wetlands Designation.** Complete the process of prime wetlands designation. Upon completion of the designation process, amend the Zoning Ordinance to require that a 100' protective buffer be established around the perimeter of each designated prime wetland.

Responsible parties and timeframes: Conservation Commission to complete designation process within the next several years. Planning Board to propose Zoning Ordinance revisions for the following Town Meeting.

3. **Aquifer Protection.** Enact zoning controls to protect known aquifer areas. The controls should:
- a. encourage new development to be clustered away from recharge areas;
 - b. reduce allowable density of development in recharge areas;
 - c. limit non-residential uses to those which would not make significant use of hazardous materials which, if accidentally released or improperly disposed of, could contaminate the groundwater; and
 - d. prohibit underground storage tanks.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting.

4. **Shoreland Protection.** The town shall actively assist with the enforcement of the state's Comprehensive Shoreland Protection Act, pursuant to RSA 483-B:8. Further, the town shall actively seek to work with adjacent communities where water bodies cross town borders.

Responsible party: Code Enforcement Officer--ongoing.

5. **Steep Slope Protection.** Enact zoning controls to prevent development on steep slopes. The controls shall:
- a. Prevent construction of new structures and roads in areas with a slope of 25% or greater, and shall prohibit areas of 25% or greater slopes from being counted as part of the minimum lot size.
 - b. Allow any significant construction activity in areas with a slope of 15% but not more than 25% by means of a Special Exception. The conditions for the special exception should require minimizing impact in the steep slope area, and require a suitable erosion control plan be implemented.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

- 6. Building Height Limits.** Enact zoning controls to limit maximum building height to help address public safety and aesthetic concerns. The controls shall:
- a. Generally keep structure heights below the prevalent tree canopy height.
 - b. Include provisions to encourage the protection of the treeline around buildings along ridge lines where such ridge lines are a significant part of a scenic view.
 - c. Keep all occupied portions of a structure at a sufficiently low height to ensure that town firefighting equipment can reach people in the event evacuation is required.
 - d. Provide a Special Exception which allows for structures which need to be taller, such as silos, church steeples, and telecommunications mounts (towers). As part of the Special Exception for new telecommunications mounts, require that a provider prepare a comprehensive plan for their eventual complete coverage of the town, known as buildout coverage. This needs to include a complete evaluation of all existing possible mounting locations and alternative proposals for obtaining the provider's buildout coverage. This should include coverage with a small number of tall telecommunications mounts, a larger number of medium height telecommunications mounts, and a large number of low height telecommunications mounts.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

- 7. Protect Productive Agricultural Soils.** Enact zoning controls to require cluster subdivision design on lots where there is a significant amount of prime agricultural soil or agricultural soil of statewide importance, as defined by the Natural Resources Conservation Service. The Northfield, NH zoning ordinance should be used as a model.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

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- 8. Protect Historic Resources.** Enact performance zoning standards which encourage and reward the siting and design of new development which is consistent with and complimentary to the town's historic resources.

Responsible parties and timeframes: Planning Board and Town Historian to develop and propose Zoning Ordinance revisions for the 1999 Town Meeting

- 9. Lighting.** Enact performance zoning standards which encourage and reward good night time lighting for non-residential development. During the process of revising the Zoning Ordinance, the Planning Board shall investigate suitable standards and design criteria which implement the policies of this plan and are acceptable to the community.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

- 10. Protect Designated Conservation Areas.** The Town shall make an effort to conserve three large areas of valuable natural resources: Betty Meadow/Saddleback Mountain; Acorn Ponds; and Big Woods. Purchase or donation of conservation easements or land in fee simple for conservation use, privately funded primarily, are the primary means recommended to accomplish this protection. However, the town shall enact policies which restrict the construction of new roads or the upgrading of closed roads, and which require that any development which occurs in these areas be clustered and otherwise designed to minimize adverse impacts.

Responsible parties and timeframes: Conservation Commission has an ongoing role in the land protection efforts. The Planning Board to propose development design standards in 1998, to propose Zoning Ordinance revisions (if needed) for the 1999 Town Meeting, and to request that the Board of Selectmen address the road policy issue following adoption of this plan.

- 11. Prevent Erosion.** Because of the sensitive nature of the resources in Northwood, an erosion and sediment control plan should be required for all major subdivision and site plan review applications.

Responsible party and timeframe: Planning Board to amend Subdivision and Site Plan Review regulations in 1998.

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12. **Soils Mapping.** Site Specific Soils Mapping should be required for all major subdivision and site plan review applications.

Responsible party and timeframe: Planning Board to amend Subdivision and Site Plan Review regulations in 1998.

13. **Commercial Excavations.** Any existing or future surface mining or excavation in Northwood should be required to adequately protect the mined site from erosion, and to prevent adverse off-site impacts to the environment and aesthetic quality. This should be accomplished simply by implementing the provisions of RSA 155-E.

Responsible party and timeframe: Planning Board--ongoing.

14. **Seasonal Home Conversions.** Seasonal home conversion to year-round use should be monitored and regulated. Consideration should be given to the type and adequacy of the septic system, source and proximity of water supply, potential impact on the immediate area, and potential impact on community facilities. All seasonal home conversions should be thoroughly checked for potential health and safety threats.

Responsible party and timeframe: Code Enforcement Officer--ongoing.

15. **Cluster Design.** Amend the land use codes to allow and encourage cluster housing development and require cluster design where it would result in protection of important natural resources. This provision permits landowners who plan to subdivide their land to build houses on smaller portions of the land while reserving sizeable areas as open space. This design option results in no net change in the amount of development which can be accommodated, yet helps to retain more useable open space, preserve natural beauty, and enhance a neighborhood's recreational space.

Responsible party and timeframe: Planning Board to amend Subdivision and Site Plan Review regulations in 1998, and to propose Zoning Ordinance revisions for the 1999 Town Meeting.

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- 16. Village Enhancement.** Enact zoning controls which encourage new housing units and community-oriented businesses to be located in or near the villages of East Northwood, the Ridge and Northwood Narrows.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

- 17. Traffic Sensitive Land Uses.** Discourage the development of residential and other sensitive land uses along Route 4.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting

- 18. Home Occupations and Home-Based Business.** Modify land use codes to develop standards which encourage the establishment and operation of home occupations and home-based businesses while also guarding against adverse impacts on neighborhoods and the town.

Responsible party and timeframe: Planning Board to amend the Site Plan Review Regulations in 1998, and to propose Zoning Ordinance revisions for the 1999 Town Meeting.

- 19. Access Management.** Continue to implement and refine access management policies which address access onto US Route 4 and other arterial highways. Although the NHDOT has the final authority to issue driveway permits on arterial highways, this does not diminish the town's police powers pursuant to its land use authority. Town land use codes impose standards which are and should continue to be more restrictive than the statutory standards imposed on NHDOT.

Responsible party and timeframe: Planning Board--ongoing.

- 20. Highway Speed Controls.** Northwood officials should discourage any attempts to improve US Route 4 that would result in increased speeds and reduced safety. Because the high seasonal traffic volumes, rolling terrain and associated limitations on site distance, nearly 300 points of access (driveways, parking lots, and intersecting streets), and the Route 4 corridor's role as the focal point for all town activities, any improvement

that facilitates high speed travel on Route 4 should be discouraged because it will negatively impact the town.

Responsible party and timeframe: Planning Board and Board of Selectmen--ongoing. Both boards need to be able to advocate this position any time physical changes to Route 4 are proposed.

- 21. Initiate Discussions About East-West Traffic.** Continuing growth of traffic volumes through the town on Route 4 will continue to create problems for the community until long term solutions are found. The East-West highway study came and went without closure, leaving the fundamental issues unresolved. It is time to initiate discussions again to see what options are available to accommodate the increasing through traffic volumes while protecting the safety and quality of life of Northwood's citizens.

Responsible party and timeframe: Chairman of the Northwood Planning Board to convene a meeting of affected local, regional and state parties in 1998.

- 22. Safety Improvements.** Monitor motor vehicle collision locations and evaluate possible improvements as necessary. These potential improvements should then be recommended for inclusion in the Capital Improvement Program and application should be made for transportation funding through the Seacoast MPO.

Responsible party and timeframe: The town's TAC representative (the person representing the town on the Seacoast MPO's Technical Advisory Committee) needs to work with the Police Chief to monitor collision data. The Road Agent, MPO staff, NHDOT District 6 staff, and the town's engineering consultant may all be helpful with interpreting this information and developing concepts for solutions. The TAC representative needs to coordinate transportation funding applications for any needed improvements. This task calls for periodic evaluation, perhaps every two years, or more frequently if problems become apparent.

- 23. Special Service Transportation Providers.** Northwood should support the efforts of special service transportation providers. These services are extremely important to many elderly and handicapped residents of Northwood and, as such, add a valuable dimension to Northwood's overall quality of life.

Responsible party and timeframe: Board of Selectmen--ongoing.

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- 24. Bicycle and Pedestrian Improvements.** Develop applications for transportation funding for spot improvements. It is expected that these will primarily be for sidewalks in the vicinity of the schools and clusters of businesses along Route 4 rather than extensive facilities along the entire length of the highway.

Responsible party and timeframe: The town's TAC representative needs to work with MPO staff and town officials to develop transportation funding applications for any improvements which are deemed suitable. This task calls for an on-going evaluation. Funding cycles are currently arranged in a two-year cycle, although the application times vary depending on funding source, so specific time frames are not specified..

- 25. Road Network Design.** Require that all roads which are sited in new developments be consistent with the existing roadway network as a condition of subdivision approval. New roads that could potentially serve as neighborhood through roads at some future date should be planned and built accordingly. Investigate the possibility of creating new town roads to enhance the local road network, providing alternative ways around town and enhance emergency access.

Responsible parties and timeframes: Planning Board has ongoing responsibilities for review of new development roads. Additionally, the Planning Board should seek authority from the Town Meeting in 2000 or 2001 to establish an Official Map of the community which lays out specific recommendations for future town roads. The town's TAC representative needs to work with the MPO staff and town officials to develop specific proposals for emergency access connections.

- 26. Gulf Road Growth Moratorium.** To prevent the worsening of the access and safety problems which have already occurred in this area, the Planning Board should propose to the 2000 Town Meeting a growth moratorium which would be lifted upon provision of a secondary emergency access.

Responsible party and timeframe: Planning Board to propose a moratorium at the 2000 Town Meeting.

- 27. Scenic Roads.** There are nine road segments identified in this plan which should be recommended to town meeting for designation as scenic roads. Scenic road designation provides a measure of protection for large trees and stone walls.

Responsible party and timeframe: Planning Board to recommend scenic road designations at the 2000 Town Meeting.

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- 28. School Safety.** Enact regulatory controls which discourage land uses along Route 4 in the vicinity of the Northwood Elementary School that would sharply increase traffic flows.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting.

- 29. Hazardous Materials Locations.** Restrict storage of flammable liquids and gases in large quantities to areas in town which are not heavily populated or congested with buildings. In addition, segregate industrial properties from residential properties if significant quantities of toxic chemicals and flammable materials are used in industrial processes.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting.

- 30. Re-Invigorate the Economic Development Committee.** The Economic Development Committee should be re-activated and charged with the following duties:
- a. Serve as liaison to the Northwood Chamber of Commerce and all town boards and committees with respect to economic development matters.
 - b. Provide a contact point for business inquiries to the town, and develop information and materials which will be disseminated in response to such inquiries.
 - c. Establish and maintain contact with relevant economic development organizations such as the Rockingham Economic Development Corporation, DRED, the Small Business Administration, and others so that the town can take advantage of any opportunities or offerings from such organizations.
 - d. Develop and implement a community initiative to “plug the leaks” so that money which enters the town re-circulates through town rather than being lost to other communities.
 - e. Monitor annual changes in the equalized assessed valuation per capita.
 - f. File an annual report to the town to keep its citizens aware of issues and progress.
 - g. Other related duties as may be appropriate.

Responsible party and timeframe: Board of Selectmen to re-establish the committee in 1998.

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- 31. Guiding Future Land Use.** Utilize a better system of zoning controls to better guide land use changes and implement the specific policy recommendations of this plan. Develop a performance-based approach to zoning which offers rewards for use, siting and design issues which enhance the community, and which relies less heavily on disincentives and prohibitions.

Responsible party and timeframe: Planning Board to propose Zoning Ordinance revisions for the 1999 Town Meeting.

Appendix A: Listing of Businesses

**Appendix B: Key to “Conservation Lands & Wetlands”
Map**

