CHAPTER 7: POPULATION

1. INTRODUCTION

One of the purposes of a master plan is to document and anticipate future needs for town facilities and infrastructure. Such projections require estimates of the size of the future population, the location of that population within the town, and the rate of growth. Those usual population parameters, however, are not adequate for planning in Hanover, with its atypical population structure. We also need to understand and anticipate changes in the composition of the population, specifically the school-aged, elderly, and Dartmouth student portion of Hanover's population, all of which will affect land use patterns, the town' s economic base, the local demand for housing, transportation, human services, and community facilities.

Hanover is an unusual town, serving a diverse of constituents. Permanent residents, students, commuters, and visitors all contribute to the town's lifeblood. This chapter concentrates on the population of Hanover itself -- both its permanent residents and the students of Dartmouth College. This is done to reflect the full extent of demands placed on the Town. When possible, distinctions between resident and student populations are made to clarify the role that each plays in Hanover's history, present situation, and future prospects.

In the Land Use Chapter, Chapter 3, the future population of the Town is considered in a build-out projection based on current zoning regulations; this yields an approximate doubling of the current Hanover population. While changes in the projected locations of this growth is recommended, the discussion does not consider the rate at which these changes are likely to happen.

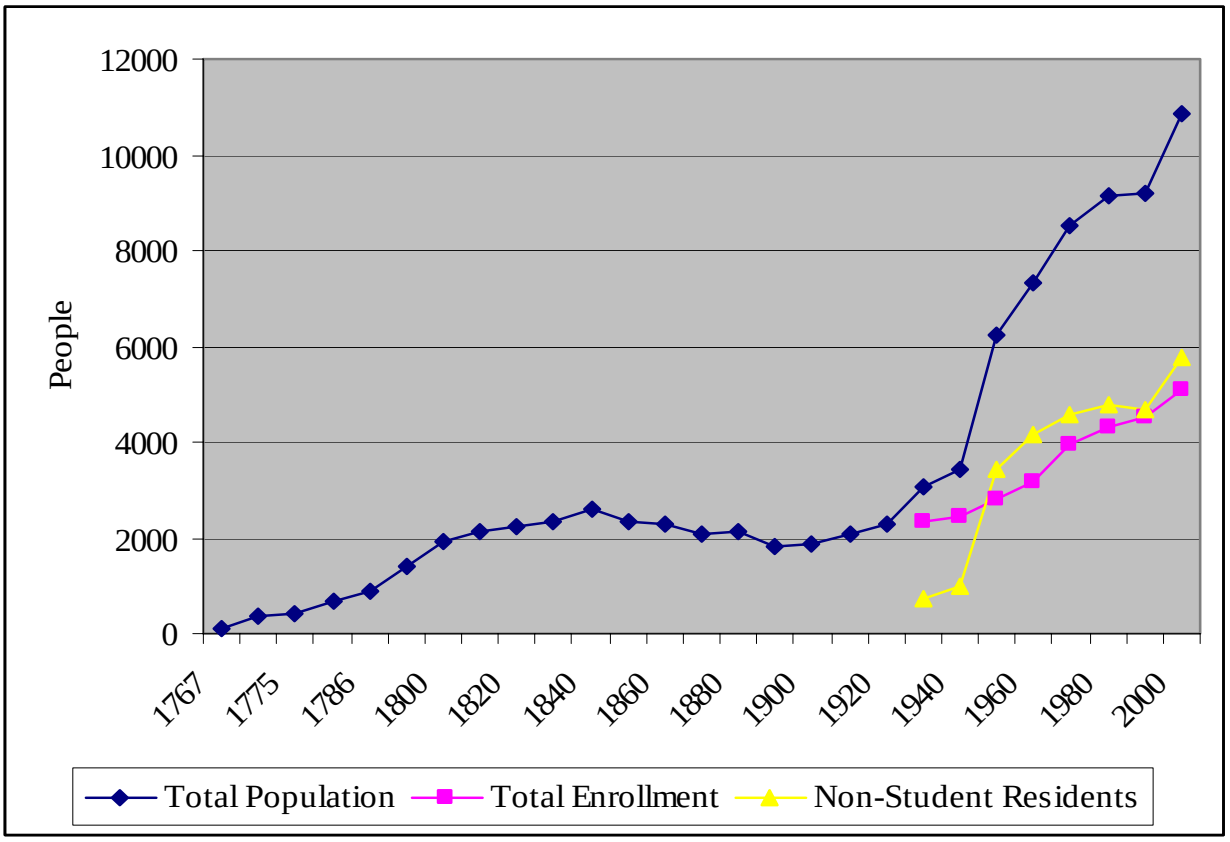
In this chapter the question of the likely rate of future growth of the Hanover population is addressed. Obviously, the rate of growth has critical economic and environmental implications related to planning for infrastructure such as schools, roads, water supply, wastewater treatment, human services, environmental protection, etc.

In the last section of this chapter, possible growth scenarios, largely based on recent population trends are examined. It turns out that plausible historical arguments can be made for future growth rates from below 1% per year to around 2.5% per year. For reference purposes, it may be noted that sustained annual growth of 1% would lead to a doubling of the population in about 70 years; at 2.5% the population would double in only 28 years. It is difficult to imagine the community being able to retain its character and met the demands for municipal services with a doubling of population in only 28 years. This level of population growth would exert substantial, and frequently unwelcome, stresses on our community. As we think about the future population of Hanover, it is clear that we must think about the rate of growth, as well as the total size of the population. Changes that might be accommodated comfortably over a 50-year time period could disrupt the community if imposed during a time period half as long.

2. HISTORICAL TRENDS

In 1840, Hanover's population reached its 19th century peak. The population increase of 700 people, occurring between 1800 and 1840, is attributable to the prosperity brought to the area by sheep raising, the dominant agricultural activity. Unable to compete with the western wool industry and lure of new lands open to the West, in the 60 years that followed, Hanover lost almost 800 residents. As shown in Figures 7-1 and 7-4, this 60-year period before 1890 is unique in Hanover's history as it is the only period of extended population decline. Figure 7-4 gives Hanover's population history since 1767, along with comparable data for Grafton County, the State of New Hampshire and the United States. Figure 7-5 adds available information regarding Dartmouth student population.

Figure 7-1 Hanover Historical Population Trends



Source: U.S. Bureau of the Census, Dartmouth College Office of Institutional Research

Except in the 1980s when there was an unexplained decline in population, since 1900, Hanover's population has been growing at erratic rates of increase. In 1950, the U.S. Bureau of the Census added the Dartmouth student population to the Town's count of residents. After World War II, the Cold Regions Research and Engineering Laboratories (CRREL) opened its doors, and the Dartmouth Hitchcock Medical Center began an extended period of growth, joining Dartmouth College, as major employers for the Town and region. Particularly after 1970, several high-technology companies, pursuing developments initiated at Dartmouth's Thayer School of Engineering, added significantly to the economic base of the town.

Between 1970 and 1980, Hanover's population (students and residents) rose only 7.4%, from 8,494 to 9,119. On a percentage basis, the population increase between 1970 and 1980 made the Town one of the slowest growing communities in the region. However, the net increase of 625 persons over this period was the eighth highest numerical increase out of 31 communities in the region. The low net rate of increase reflected a period of slower growth in the enrollment levels of the College; the percentage of students increased only 10%, a rate less than half that of the preceding decade. The non-student population of the town increased by only five percent in this decade.

During the 1980s the total population increased only 1%, that is 93 persons, and in fact the non-student population may have declined. In this decade, on both an absolute and a proportional basis, Hanover's population increase was among the lowest in the region. This decade was the only exception to the steady population growth of the twentieth century; this decline appears to be anomalous, given the general economic and population growth that took place during that decade in the Upper Valley, New Hampshire, and Vermont.

The 1990s were a period of robust population growth in Hanover. In absolute terms, the 1,638 person increase was the highest in the Upper Valley. The rate of increase, 17.8%, was greater than that of the State or Region although not as fast as Grantham (73.8%), New London (29.4%), Orange (26.2%) or Grafton (23.3%). This growth is attributable to both the resident student population which increased 11.8% and the non-student population which grew by 23.6%.(See Figure 7-5)

From a peak of 20.7% in 1783 to a low of 4.6% in 1900, Hanover had comprised a slowly decreasing proportion of Grafton County's total population. Since 1900, the trend has reversed, due to actual increase and the 1950 change in Census reporting procedures, whereby college students were counted as part of the town's population. The Town currently represents less than 1.0% of New Hampshire's population.

The relatively slow growth rate experienced by Hanover since 1970 resulted in a correspondingly small increase in its population density. Figure 7-7 summarizes the land area and population densities of selected communities in the Upper Valley-Lake Sunapee Region. Because of its comparatively large population and average size land base, Hanover has a population density of 216.6 persons per square mile, making it one of the most densely settled towns in the area. Only Lebanon (304.3 persons per square mile) and Hartford (225.4 persons per square mile) are more compactly settled, while towns such as Dorchester (7.8 persons per square mile) and Orford (22.8 persons per square mile) are much more sparsely populated. Within the town itself, the population density varies considerably. The urban, or in-town, area (including the college) is quite densely settled (roughly 1200 persons per square mile), while the rural areas have low to extremely low population densities (Northwest Hanover at about 300 persons per square mile, Etna and Hanover Center at approximately 570 persons per square mile, Moose Mountain and the area to its east at approximately 7 persons per square mile). (see Map 7-1 Population Density)

As population growth increases settlement density, and decreases the amount of open space, greater demands are placed on local natural and economic resources and infrastructure. The possibility of conflicting land uses is increased. The recent trends toward suburbanization of the rural areas threaten rural quality and jeopardize the character of in-town areas with added commuter

traffic demands. As local institutions grow, and as outside commercial activities are drawn to Hanover, there is a strong need for informed, cooperative planning so that the special qualities and traditionally attractive and distinctive natural and human characteristics of Hanover can be preserved and enhanced.

3. NATURAL INCREASE AND MIGRATION

The two components of population change are natural increase and migration. Natural increase is defined as the excess of resident births over deaths. Migration refers to the number of people moving into and out of a town. If a community has little in- and out-migration, almost all changes in population are attributable to natural factors alone. Figure 7-8 provides the number of births and deaths, from which the "natural increase" may be calculated. The change in Hanover's population is broken down as follows:

> *The population at the close of a period, e.g. 2000, is equal to the population at the start of the period, e.g. 1990, plus natural increase during the period, plus net migration during the period.*

From 1970 to 1980, Hanover experienced a natural increase of 87 persons. Since the Town's total population grew by 625 persons during that same period, there was a net in-migration of 538 persons (86% of the total increase). Thus, nearly all of Hanover's population expansion in the 1970s was due to outsiders, including college students, moving into the Town.

Between 1980 and 1990, the Town's population grew by 93 people. Roughly one-third of that increase was due to in-migration; two-thirds resulted from more births than deaths. Thus, the population growth in this decade is substantially different from that in 1970 to 1980 when 86% of the growth in population was due to in-migration.

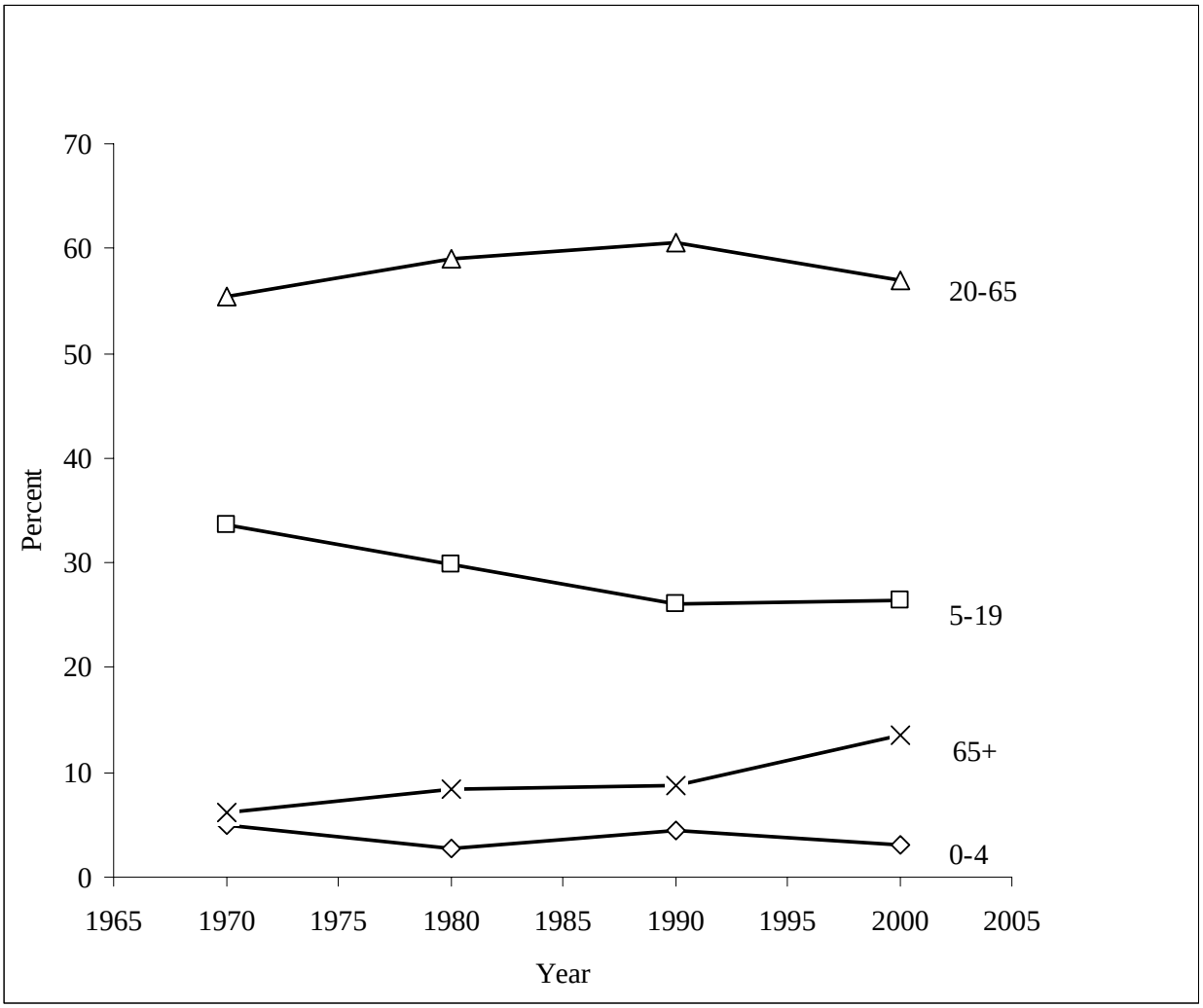
In the 1990s, the number of Hanover residents increased by 1638 people with all of the increase due to in-migration. Considering only non-student residents, the increase was 1102 people. The number of births was exceeded by the number of deaths, creating a 128 person deficit in the population. This is presumably due to the presence of Kendal and the popularity of Hanover as a destination for retirees. These net changes in population due to in- and out-migration are static "snap shots" of a tremendously transitory population. Students and non-students alike move in and out of Hanover with great frequency due to school and job commitments. Figure 7-14 shows that only 38.5% of Hanover's 2000 population over five years of age had lived in the same house in 1995.

In summary, it is important to note that during the past three decades, changes in Hanover population have been heavily influenced by in- and out- migration. Indeed, migration has been the dominant influence in two out of the last three decades. This characteristic of Hanover's population has important consequences as we attempt to speculate on future population pressures.

4. HOUSEHOLD SIZE

Household size in Hanover has continued to decrease from 2.9 people per household in 1970 to 2.49 people in 1990 and to 2.47 in 2000. This decline is generally consistent with County, State and national trends. Census data show that until recently the mean number of persons per household had been somewhat higher in Grafton County and the State than in Hanover, but within the last decade Hanover's household size has remained relatively steady while those of the County and the State have continued to decline.

Figure 7-2 Age Distribution in Hanover, 1999



Source: U.S. Bureau of the Census, 2000

5. AGE DISTRIBUTION

Understanding the age composition of a community is vital in planning for future facility and service needs. A change in the school-age population, for example, may indicate a need for modification in educational facilities. With more children not only are more classrooms needed, but pressure is placed on recreational facilities and programs. Likewise, a shift to a more elderly population would require that a different type and range of services and facilities be developed. Moreover, shifts in

age distribution reflect changes in household characteristics resulting in different demands in the housing market.

The 2000 U.S. Census data show a significant increase in the number of people living in Town (17.78%) in the last decade, as well as significant dynamics in the age composition of the town's population, including:

- All age categories showed significant increases with the exception of the 25-34 year old age group, which cohort was responsible for the proportional decline of the 20-64 set of age groups;
- As a percentage of Hanover's overall population the 20-44 year old age group fell from 46.3% to 39.8%;
- The number of people in the 20-24 age group increased by 6.16%, and those in the 35-44 year old age group increased by only 5.5%, probably reflecting the fact that Hanover is home to students, graduate students and new faculty who also fit into those age groups;
- As the last of the baby boomers reach mid-life, there is a marked decrease in the numbers in the 25-34 age group, which showed a decline of 14.4%, and a significant increase in the 45-54 age group, which jumped from 8% of the population to over 10%;
- The number of people in the 65-74 age group increased by 21%, reflecting the growing trend of providing residences aimed at the elderly, as well as the fact that nationally ours is an aging population; the population of residents 65 and over rose from just under 9% of the population in 1990 to 13.6% in 2000, a substantially greater increase than has been the norm for the surrounding Upper Valley communities. When Dartmouth students are removed and only the non-student residents are considered, the 65 and over age group increased 25.6% between 1990 and 2000.

With Dartmouth College students included in Hanover's population, the 15-19 and 20-24 age cohorts are large (See Figure 7-10) and the Town's median age is lower than it might otherwise be. In addition, Figures 7-11 and 7-12 reveal a general aging trend taking place in Hanover over the past three decades, with increases in the 65+ age group and declines in the 0-4 age group.

6. PRE-SCHOOL AND STUDENT POPULATION

The pre-school (0-4) and student (aged 5-19 which includes Dartmouth students) population in Hanover decreased in both actual number and as a percentage of the total population in the 1970s. As a percentage of total population, the pre-school age bracket declined from 4.9% in 1970 to 2.8% in 1980. The student segment of the population would have dropped farther were it not for the fact that these figures include the increase in college and graduate students.

In the 1980s, there was continued decline in the student population; however, the number of pre-schoolers increased to the 1970 level by 1990. This trend toward an increasing number of residents in the youngest age group was short-lived, as by 2000 the number of persons in this age group again declined. The number of school-aged students (ages 5-19) steadily declined from 1970 through 1990, but has since risen back to roughly its 1970 numbers; however given the growth in the general population the proportion of this age group to the total population is significantly less than it was thirty years ago.

7. WORKING AGE (Labor Force) POPULATION

The working-age group (20-64 years) is often referred to as the resident labor force. This is the group of people of working age who live in Hanover, as differentiated from the workforce, who are those who work in Hanover but do not necessarily live in Hanover. Not all persons in this group are actually employed or looking for work; this is especially true in Hanover, where the 20-24 age grouping actually includes a large number of full-time college and graduate students whose numbers have increased. This group accounted for the main portion of Hanover's population increase during each decade, expanding from 4,710 people (55.4%) in 1970, to 5,375 people (59.0%) in 1980, to 5,559 people (60.6%) in 1990, and to 6,178 people (56.9%) in 2000. While the numbers continued their steady rise throughout the 1990s, the labor force proportion dropped because of the faster growth of the town's elderly (age 65+) population.

8. SENIOR CITIZEN POPULATION

The elderly (senior citizen) population consists of persons aged 65 and over. Although most people in this age group are retired, some are employed full- or part-time. As is commonly the case, in Hanover, there are more women than men in this age bracket. The size of this population group in Hanover rose by 251 people between 1970 and 1980, from 517 to 768 persons, and again between 1980 and 1990 by 43 people. With 352 residents at Kendal and new senior housing opportunities at Outreach House, Wheelock Terrace, Hanover Greens, and South Main Street, the increase in the senior population in the 1990's dwarfs that of the 1970's.

As a percentage of total population, the 65 and over age cohort represented an increase from 6.1% (1970) to 8.4% (1980) to 13.6% (2000). Figure 7-11 compares Hanover's elderly population (as a percentage of total population) to those of the County and the State, showing a consistently lower proportion of elderly in Hanover than in other areas until 2000. Excluding Dartmouth students from the count of total population shows that Hanover has historically had a slightly higher proportion of senior citizens than the State or County. In 2000, the proportion of retirees in Hanover was comparable to the State and County. This was probably due to the general aging of the population added to Hanover's desirability as a community to which to retire.

The population of the U.S. will show a relative increase in the over-65 age group as the "baby-boom" generation moves through the age distribution and the effect of lower fertility rates is reflected. Hanover, Grafton County, and New Hampshire will, no doubt, be influenced by this population shift. Especially if retiree in-migration continues to be a large factor in local population growth, it can be expected that the elderly age group will increase as a percentage of total population.

9. SEASONAL POPULATION

As shown in Figure 7-13, seasonal housing and thus seasonal population is a minor segment of Hanover's total housing and population. The 111 seasonal housing units in the Town account for only 3.7% of all housing units -- a figure significantly smaller than that of 1990 (6.3%). Between 1990 and 1998, only two seasonal residences were permitted; however, this count does not include previously year-round housing, now used seasonally.

10. COLLEGE POPULATION

Since the College population is such a large proportion of the Town's residents, this population component deserves consideration. Founded in 1769, Dartmouth grew from 40 students during the American Revolution to several hundred during the nineteenth century. During the twentieth century, undergraduate enrollment continued a long, gradual increase until 1972, when the College first accepted women as full-time undergraduates. (See Figure 7-15)

The number of students increased between 1960 and 1980 from about 3000 to 4000, as the graduate student body increased and Dartmouth moved to a year-round undergraduate four-term academic calendar called the D-Plan. Under the D-Plan, students are required to complete twelve terms of study. They must be in residence on campus during the fall, winter and spring terms of their first-year, and they must be enrolled in Hanover for their sophomore summer and the fall, winter and spring terms of their senior year. The remaining five required terms may be scheduled in a variety of ways during the sophomore and junior years, including on-campus study and/or participation in one or more of the many off-campus programs Dartmouth provides. When not enrolled for one of the required twelve terms, most students return home for their leave terms, or pursue work, research or internship opportunities in other parts of the country.

In the Fall of 2002, 3811 undergraduates and 1514 graduate and professional school students were taking courses in Hanover, bringing the total Hanover enrollment for 2002 to 5324. Figures 7-15 and 7-16 summarize the enrollment history.

Figure 7-15 shows the number of undergraduate students (including exchange students from other colleges enrolled at Dartmouth and part-time students) and graduate and professional school students taking courses in Hanover for fall terms. As this table indicates, these numbers do not match official enrollment numbers reported to the federal government that include students enrolled in Dartmouth programs outside of Hanover.

Figure 7-16 shows historical trends in the number of matriculated undergraduate students compared to the number "in residence" taking courses in Hanover over time. It should be noted, consistent with data collection methods used for this particular table in the past, that the "matriculated undergraduate" figures include all Dartmouth undergraduates: students in residence in Hanover, students on off-campus programs, exchange or transfer terms, and students on leave terms. These numbers do not include exchange students who are degree candidates at other institutions.

Over the next five to ten years, the College plans no growth in its undergraduate population. Current undergraduate targets are admitted classes of 1070 students each year, with no more than 3800 undergraduates enrolled in courses in Hanover in any given term. Of the 1514 graduate and professional students in the fall of 2002, approximately one-third lived in Hanover. Projections for potential growth over the next decade suggest that Dartmouth may add between 275 and 375 additional graduate and professional students across the whole institution, with the bulk of that increase in medicine and engineering. The senior administration and the Trustees, however, have not approved any increases in the number of graduate and professional school students at this time. The Provost is currently assessing the growth projections for each school and is also looking at the impact of new students on the campus and surrounding communities. (See Housing chapter for

figures on undergraduate and graduate student housing.) If changes in the enrollment do occur, the population impacts of growth in the student body go beyond increases in the student population; for example, more students require more faculty and staff and many married graduate students bring their spouse to Hanover while enrolled.

11. YEAR-ROUND POPULATION PROJECTIONS

Unfortunately, an accurate method for predicting the future population of a small area does not exist. Hanover's population growth is particularly difficult to fit into usual demographic models because of unique circumstances including:

- over a third of the population is composed of the transient Dartmouth student group
- Hanover has an unusually large senior citizen population
- there may be unusually large turnover in younger faculty and professional staff at the two largest area employers, Dartmouth and at the Medical Center.
- in our small population, events such as the Dartmouth Hitchcock Medical Center expansion and the construction of Kendal can overwhelm historical trends.

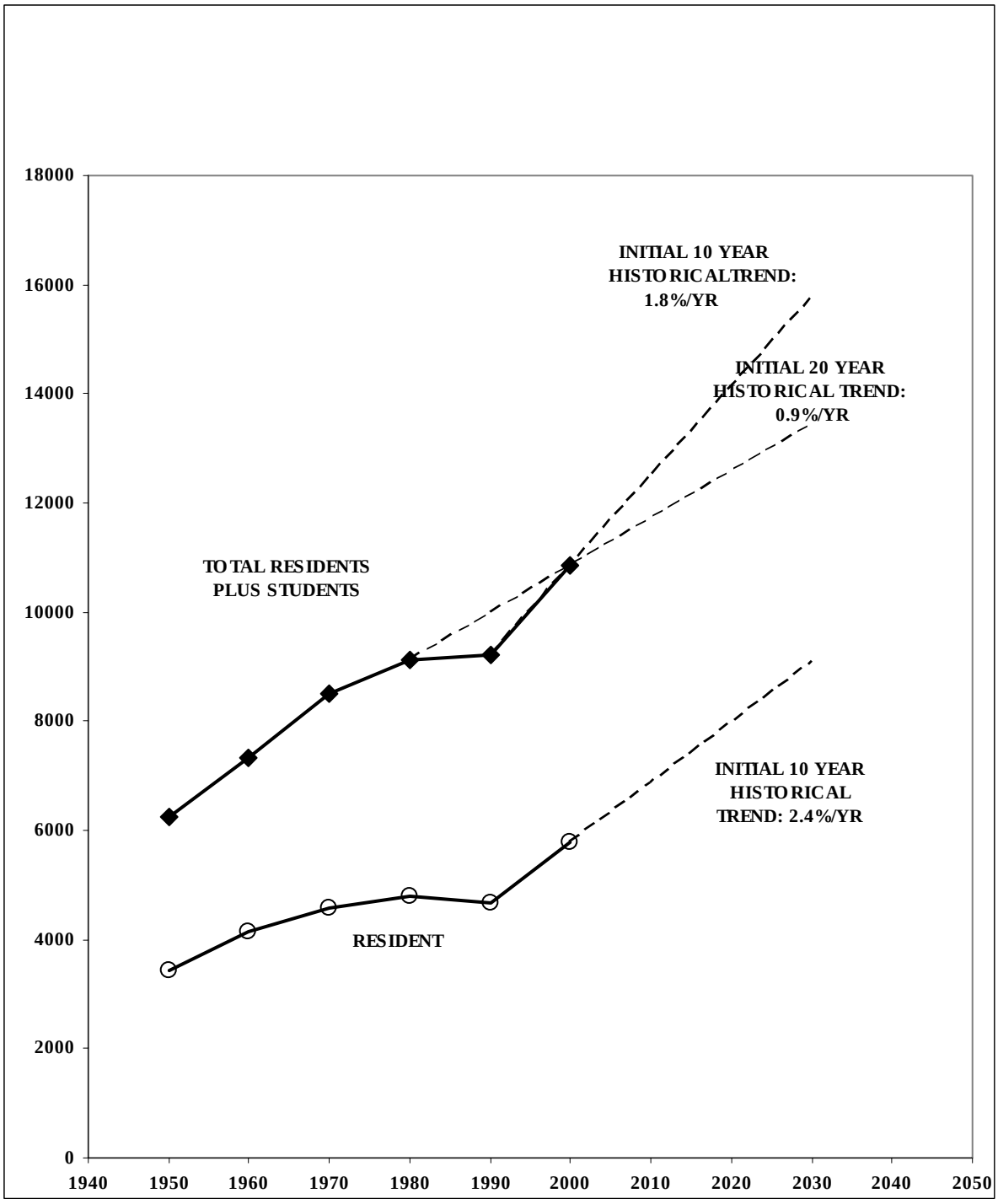
The usual approach to population projections is to examine historical trends, then possibly add modifications based on judgments regarding unique current or likely future circumstances. The fifty year history of the Hanover population is given in Figures 7-1 and 7-4, using data from the U.S. Census, which includes Dartmouth students in residence in Hanover at the time of the census.

Historical extrapolation is immediately made difficult by the apparent dip in rate of increase of the population during the decade of 1980's and rapid rise during the 1990's. No fully satisfactory rationale for this sudden discontinuity in the historical trend has been put forward. There were an unusually large number of deaths recorded during the 1980's, with no good explanation. It would take a great deal of research to explain this unusual deviation from smooth growth. Extrapolation from historical trends is immediately made difficult by the 1990 Census data which fall markedly below what had been a substantially linear growth pattern since 1950. (see Figure 7-3).

The 2000 Census data again conform to that 50 year quasi-linear trend. If we take the rapid growth of the 1990's at face value, we might conclude that Hanover is in the midst of an unprecedented growth spurt of about 1.8% per year during the decade. If linear growth continued at this rate, the Hanover population could be expected to double in about 65 years.

On the other hand, if we look at the total growth over the last two or three decades, the growth has been 0.9% per year. Continuation of linear growth at that rate would lead to a doubling in about a century. The Upper Valley-Lake Sunapee Regional Planning Commission, uses a three decade perspective, which has usually shown itself to be quite reasonably accurate for many communities.

Figure 7-3 Linear Projections Of Possible Population Growth
Based on 10 and 20 year Historical Trends



Source: U.S. Bureau of the Census, Dartmouth College Office of Institutional Research, Hanover Planning and Zoning Office

Another feature of the recent (1980-90) population history shown in Figure 7-3 is worth noting. The lower curve shows the resident non-student population, and it can be seen (and verified

in the data in Figure 7-5) that the student population grew by approximately 200 students during this decade, so that the unusually rapid growth during the 1990s was entirely due to growth in the resident non-student population. This corresponds to a growth of about 2.4% per year in the resident non-student population during the 1990s. That is relevant if we consider infrastructure demands such as housing and land use which are sensitive primarily to changes in the resident non-student population.

12. DISCUSSION

As we plan for the future, and attempt to anticipate changes in the Hanover population, it is clear that we cannot simply look at overall numerical trends. It is important to know whether population changes are being driven by the mechanism of natural increase or by in- and out- migration, and try to identify the changing migration sources. It is also important to understand where in the population age structure changes are occurring. For example, an increase in Hanover's senior population would not add to the Town's educational expenses, but might increase the need for transit facilities. An increase in the Dartmouth student population would have a minor impact on schools and single-family housing, but might have other unique impacts. The Planning Board suggests the following assumptions regarding Hanover's population trends:

- Dartmouth undergraduate population will not increase in the next decade.
- Dartmouth graduate and professional student population is likely to continue to increase. Current projections of between 275 and 375 additional graduate and professional students across the whole of the institution over the next decade would represent an increase of between 18% and 24.7%.
- The major expansion underway at Dartmouth Hitchcock Medical Center, planned growth at Dartmouth College, and expected growth in regional business is likely to increase the demand for housing for at least a decade.
- The Affordable Housing Commission has documented a pressing need for a substantial number of lower cost housing facilities in Hanover.
- Hanover is likely to continue to be an attractive site for retirement living, with implications for both single-family and various types of senior housing.

Each of these possible growth sectors carries with it different implications for the future of Hanover's environment, economic base, and infrastructure needs. Various warning signals indicate that unduly rapid growth would pose problems of various kinds:

- Traffic congestion already appears as a frequent complaint of Hanover residents.
- A large number of independent studies and surveys cited throughout this report (see Chapter 3, Land Use, for a summary) emphasize the value Hanover citizens place on open space, scenic vistas, wildlife and natural habitat preservation, and opportunities for outdoor recreation.
- The wastewater treatment plant is at capacity for treating total suspended solids and biological oxygen demand.
- Water conservation warnings have already been issued by the Hanover Water Company in times of moderate drought. The water yield of reliable aquifers in the rural areas is not known.

- Hanover and Norwich are collaborating on a workable plan for financing a substantial and sorely needed school renovation and expansion project.
- Many persons who were born and raised in Hanover are finding it impossible to afford to live in Hanover.

The Planning Board feels that the 1.8% average annual growth experienced during the past decade cannot result in a sustainable future for Hanover given that the availability of water, sewage treatment capacity, space at the schools and road capacity are all stressed now by existing population. The Board believes that a growth rate of less than 1% per year, consistent with the average of the past two or three decades is desirable.

In addition, it has been noted that most of the growth of the Town has occurred in the rural area causing a slow erosion of the rural character of the Town. In survey after survey, Hanover residents have expressed a desire to preserve this rural character. The Planning Board has responded to this concern in setting a goal for the future development of Hanover: that the balance between population in the rural areas of Town and those areas served by public water and sewer will remain the same as it is today, approximately 25% of the population in the rural areas and the remainder, including students, in the water and sewer service area.

13. RECOMMENDATIONS

The Planning feels that the 1.8% average annual growth experienced during the past decade cannot result in a sustainable future for Hanover because the availability of water and wastewater treatment capacities, space at the schools, and road capacity are all stressed now by existing population. Nor does the Board feel that the current zoning allowance and corresponding residential development trends of higher volume of growth in rural Hanover can be maintained without compromising the rural character of the Town. Therefore, the Planning Board recommends the following growth rate and population distribution policies:

- The Board recommends a maximum population growth rate of less than 1% per year consistent with the average of the past two or three decades.
- The Planning Board recommends that growth in Town be directed in such a way that the current balance of population, 25% in the rural area and 75% in the municipal water and sewer service area, is maintained.

Monitoring growth in Hanover will be critical to establishing conformance to the aforementioned policies. Annual growth and development analyses will inform the Board of changes in the growth rates and distribution that could require changes in land use and growth policies. An annual monitoring program is recommended as follows:

- The Planning and Zoning Department should establish and maintain its own population database to monitor population in the various population sectors on an annual basis. This will provide timely information between regular federal census periods, as well as provide the specialized information of unique importance to the planning process in Hanover.
- The Town Planning and Zoning Department should carefully assess the implications of individual development projects, and the cumulative impacts of annual growth, in terms of the Town's ability to provide needed infrastructure in a timely fashion.

- The Town should continue to contract with the Upper Valley Lake Sunapee Regional Planning Commission for annual traffic count data in the Town and region. Annual reporting of changes should be provided to the Planning Board.
- The Selectboard should be consulted annually regarding the status of the municipal water and wastewater systems, capacities and needs for upgrades.
- The Dresden and Hanover School Boards should be consulted annually to determine school capacities and enrollments and the effects of development projections on the same.

Figure 7-4 Historical Population Trends

Hanover, Grafton County, New Hampshire, U.S.A. 1767-2000

Year	Hanover	Percent Change	Grafton County	Percent Change	State of N. H.	Percent Change	U.S.A.	Percent Change
1767	92	-	747	-	-	-	-	-
1773	342	271.7	2,930	292.2	-	-	-	-
1775	434	26.9	3,518	200.7	-	-	-	-
1783	701	61.5	3,394	-3.5	-	-	-	-
1786	870	24.1	7,802	129.9	-	-	-	-
1790	1,380	58.6	11,953	53.2	141,885	-	3,929,214	-
1800	1,912	38.6	19,413	62.4	183,858	29.58	5,308,483	35.1
1810	2,135	11.7	27,222	40.2	214,460	16.64	7,239,881	36.4
1820	2,222	4.1	31,551	15.9	244,161	13.85	9,638,453	33.1
1830	2,361	6.3	36,806	16.7	269,328	10.31	12,866,029	33.5
1840	2,613	10.7	40,495	10.0	284,574	5.66	17,069,453	32.7
1850	2,350	-10.1	40,455	-0.1	317,976	11.74	23,191,876	35.9
1860	2,308	-1.8	40,395	-0.1	326,073	2.55	31,443,321	35.6
1870	2,085	-9.7	38,307	-5.2	318,300	-2.38	39,818,449	26.6
1880	2,147	3.0	38,788	1.3	346,991	9.01	50,155,783	26.0
1890	1,817	-15.4	37,217	-4.0	376,530	8.51	62,947,714	25.5
1900	1,884	3.7	40,844	9.7	411,588	9.31	75,994,575	20.7
1910	2,075	10.1	41,652	2.0	430,572	4.61	92,228,496	21.4
1920	2,264	9.1	40,572	-2.6	443,083	2.90	106,021,537	15.0
1930	3,043	34.4	42,816	5.5	465,293	5.01	123,202,624	16.2
1940	3,425	12.6	44,645	4.3	491,524	5.63	132,164,569	7.3
1950	6,259	82.7	47,923	7.3	533,242	8.49	151,325,798	14.5
1960	7,329	17.1	48,857	1.9	606,921	13.82	179,323,175	18.5
1970	8,494	15.9	54,914	12.4	737,578	21.53	203,302,031	13.4
1980	9,119	7.4	65,806	19.8	920,475	24.79	226,542,199	11.4
1990	9,212	1.0	74,929	13.86	1,109,117	20.49	248,718,301	9.8
2000	10,850	17.8	81,743	9.1	1,235,786	11.42	281,421,906	13.1

Note: Data from 1790 to 1940 include permanent residents only. Data from 1950 to 2000 include permanent residents and students.

Source: U.S. Bureau of the Census and New Hampshire Office of State Planning

Figure 7-5 Historical Population Trends

Hanover and Dartmouth College 1767-2000

Year	Non –Student Residents	Percent Change	Resident Students**	Percent Change	Total Residents	Percent Change
1767	92	n/a		n/a	92	n/a
1773	342	271.7	n/a	n/a	342	271.7
1775	434	26.9	n/a	n/a	434	26.9
1783	701	61.5	n/a	n/a	701	61.5
1786	870	24.1	n/a	n/a	870	24.1
1790	1,380	58.6	n/a	n/a	1,380	58.6
1800	1,912	38.6	n/a	n/a	1,912	38.6
1810	2,135	11.7	n/a	n/a	2,135	11.7
1820	2,222	4.1	n/a	n/a	2,222	4.1
1830	2,361	6.3	n/a	n/a	2,361	6.3
1840	2,613	10.7	n/a	n/a	2,613	10.7
1850	2,350	-10.1	n/a	n/a	2,350	-10.1
1860	2,308	-1.8	n/a	n/a	2,308	-1.8
1870	2,085	-9.7	n/a	n/a	2,085	-9.7
1880	2,147	3.0	n/a	n/a	2,147	3.0
1890	1,817	-15.4	n/a	n/a	1,817	-15.4
1900	1,884	3.7	n/a	n/a	1,884	3.7
1910	2,075	10.1	n/a	n/a	2,075	10.1
1920	2,264	9.1	n/a	n/a	2,264	9.1
1930	719	n/a	2,324	n/a	3,043	34.4
1940	984	36.9	2,441	5.0	3,425	12.6
1950	3,446	250.2	2,813	15.2	6,259	82.7
1960	4,142	20.2	3,187	16.9	7,329	17.1
1970	4,566	10.2	3,928	23.3	8,494	15.9
1980	4,795	5.0	4,324	10.1	9,119	7.4
1990	4,671	-2.6	4,541	5.0	9,212	1.0
2000	5,773	23.6	5,077	11.8	10,850	17.8

**Note: Resident students is the total number of undergraduates taking courses in Hanover, including exchange students from other colleges studying at Dartmouth as well as full- and part-time graduate/professional students; there is no way to determine how many of these students actually live in Hanover

Source: U.S. Bureau of the Census and Dartmouth College Registrar and Office of Institutional Research

Figure 7-6 Relative Shares of Population

Hanover, Grafton County, New Hampshire, U.S.A. 1767-1996

Year	Hanover	%Han/ Graf Cty	Grafton County	Percent Han/NH	State of N. H.	% Graf Cty/N H	U.S.A.	% NH/ U.S.A.
1767	92	12.3	747	-	-	-	-	-
1773	342	11.7	2,930	-	-	-	-	-
1775	434	12.3	3,518	-	-	-	-	-
1783	701	20.7	3,394	-	-	-	-	-
1786	870	11.2	7,802	-	-	-	-	-
1790	1,380	11.5	11,953	1.0	141,885	8.4	3,929,214	3.61
1800	1,912	9.8	19,413	1.0	183,858	10.6	5,308,483	3.46
1810	2,135	7.8	27,222	1.0	214,460	12.7	7,239,881	2.96
1820	2,222	7.0	31,551	0.9	244,161	12.9	9,638,453	2.53
1830	2,361	6.4	36,806	0.9	269,328	13.7	12,866,029	2.09
1840	2,613	6.5	40,495	0.9	284,574	14.2	17,069,453	1.66
1850	2,350	5.8	40,455	0.7	317,976	12.7	23,191,876	1.37
1860	2,308	5.7	40,395	0.7	326,073	12.4	31,443,321	1.03
1870	2,085	5.4	38,307	0.7	318,300	12.0	39,818,449	.80
1880	2,147	5.5	38,788	0.6	346,991	11.2	50,155,783	.69
1890	1,817	4.9	37,217	0.5	376,530	9.9	62,947,714	.60
1900	1,884	4.6	40,844	0.5	411,588	9.9	75,994,575	.54
1910	2,075	5.0	41,652	0.5	430,572	9.7	92,228,496	.47
1920	2,264	5.6	40,572	0.5	443,083	9.2	106,021,537	.42
1930	3,043	7.1	42,816	0.7	465,293	9.2	123,202,624	.38
1940	3,425	7.7	44,645	0.7	491,524	9.1	132,164,569	.37
1950	6,259	13.1	47,923	1.2	533,242	9.0	151,325,798	.35
1960	7,329	15.0	48,857	1.2	606,921	8.0	179,323,175	.34
1970	8,494	15.5	54,914	1.2	737,578	7.4	203,302,031	.36
1980	9,119	13.9	65,806	1.0	920,475	7.1	226,542,199	.41
1990	9,212	12.3	74,929	0.83	1,109,117	6.7	248,718,301	.45
2000	10,850	13.3	81,743	0.88	1,235,786	6.6	281,421,906	.44

Note: Data from 1790 to 1940 include permanent residents only. Data from 1950 to 2000 include permanent residents and students.

Source: U.S. Bureau of the Census and New Hampshire Office of State Planning

Figure 7-7 Population Density
In Selected Communities 1960-2000

Town	Land Area Square Miles	Number of Persons per Square Mile			
		1970	1980	1990	2000
Hanover	50.1	169.5	182.0	183.8	216.6
Orford	47.9	16.6	19.4	19.5	22.8
Lyme	55.0	20.2	23.4	28.1	30.5
Dorchester	45.1	3.1	5.4	8.7	7.8
Canaan	50.4	38.1	48.7	60.4	65.9
Enfield	43.1	54.3	73.6	92.2	107.1
Grantham	28.0	13.0	25.1	44.5	77.4
Plainfield	53.0	25.0	33.0	37.9	42.3
Lebanon	41.3	269.3	269.8	295.2	304.3
Hartford,Vt	46.0	140.8	173.1	204.5	225.4
Norwich, Vt	44.9	43.8	53.4	60.2	78.9
Thetford,Vt	44.4	32.1	49.3	55.2	58.9

Note: Land area is total area exclusive of water area.
Note: Densities reported are town wide. Village areas are denser while rural areas are less densely settled.
Source: New Hampshire Office of State Planning and U.S. Bureau of the Census

Figure 7-8 Births, Deaths, and Population Change
Hanover Residents 1970-2000

Year	Births	Deaths	Natural Change	Total Population
1970	75	41	34	8,494
1971	59	46	13	
1972	71	34	37	
1973	54	45	9	
1974	55	61	-6	
1975	48	47	1	
1976	40	42	-2	
1977	56	44	12	
1978	46	50	-4	
1979	38	45	-7	
1980	50	43	7	9,119
1981	45	48	-3	
1982	46	53	-7	
1983	44	37	7	
1984	53	32	21	
1985	59	52	7	
1986	47	43	4	
1987	68	65	3	
1988	81	66	15	
1989	46	52	-6	
1990	71	51	20	9,212
1991	57	57	0	
1992	49	46	3	
1993	55	79	-24	
1994	64	77	-13	
1995	55	66	-11	
1996	51	77	-26	
1997	49	83	-34	
1998	56	80	-24	
1999	58	77	-19	
2000	46	72	-26	10,850

Source: NH Bureau of Health Statistics

Figure 7-9 Mean Number of Persons Per Occupied Year-Round Housing Unit
Hanover, Grafton County, New Hampshire 1970—2000

Area	1970 Mean	1980 Mean	1990 Mean	2000 Mean
Hanover	2.9	2.54	2.49	2.47
Grafton County	2.9	2.60	2.51	2.38
New Hampshire	3.1	2.75	2.62	2.53

Source: U.S. Bureau of the Census

Figure 7-10 Age Of Hanover Residents

Age in years	Number	Percent
Under 5	334	3.1
5-9	467	4.3
10-14	530	4.9
15-19	1,865	17.2
20-24	2,518	23.2
25-34	813	7.5
35-44	992	9.1
45-54	1,156	10.7
55-59	390	3.6
60-64	309	2.8
65-74	572	5.3
75-84	637	5.9
85 and over	267	2.5
Median age	22.8	

Source: U.S. Bureau of the Census, 2000

Figure 7-11 Elderly Population As A Percentage Of Total Population
Hanover, Grafton County, New Hampshire

Area	1980	1990	2000
Hanover	8.4/16.0*	8.8/17.4*	13.6/25.6*
Grafton County	12.4	12.4	13.5
New Hampshire	11.2	11.2	12.0

Source: U.S. Bureau of the Census
*the second number is the proportion of people aged 65 and over living in Hanover if Dartmouth students are not counted as part of the total population.

Figure 7-12 Age Distribution By Group
Hanover 1970—2000

Age Group	1970		1980		1990		2000	
	No.	%	No.	%	No.	%	No.	%
0 – 4	414	4.9/9.1*	257	2.8/5.4*	412	4.4/8.8*	334	3.1/ 5.8*
5 – 19	2,853	33.6	2,719	29.8	2,394	26.0	2,862	26.4
20 -64	4,710	55.4	5,375	59.0	5,559	60.6	6,178	56.9
65+	517	6.1/11.3*	768	8.4/16.0*	811	8.8/17.4*	1,476	13.6/25.6*

Source: U.S. Bureau of the Census
*The second proportion is calculated as if Dartmouth students were not counted as part of the total population.

Figure 7- 13 Seasonal Housing Units In Hanover
Hanover 1970-2000

Year	# of Seasonal Units	% Change	# of Year-Round Housing Units	Total Housing Units	Seasonal Units as a % of Total Units
1970	104	-	1,974	1,992	5.2
1980	115	8.6	2,315	2,373	4.8
1990	166	44.3	2,457	2,623	6.3
2000	111	-33.1	2,878	2,989	3.7

Source: U.S. Bureau of the Census

Figure 7-14 Residence In 1995

Hanover

	# of people	%
Population aged 5 years and over	10,529	100.0
Same house in 1995	4,053	38.5
Different house in US in 1995	6,147	58.4
Same county	1,115	10.6
Different county	5,032	47.8
Same state	236	2.2
Different state	4,796	45.6
Elsewhere in 1995	329	3.1

Source: U.S. Bureau of the Census, 2000

Figure 7-15 Dartmouth College Enrollments 1930-2002 (Fall Term)

Year	# Undergraduates taking courses in Hanover	# Graduate / professional students	Total Hanover enrollment
1930	2,230	n/a	2,324
1940	2,359	n/a	2,441
1950	2,612	n/a	2,813
1960	2,913	274	3,187
1970	3,270	658	3,928
1980	3,297	1,027	4,324
1990	3,546	995	4,541
1995	3,682	1,265	4,947
1996	3,775	1,228	5,003
1997	3,664	1,308	4,972
1998	3,787	1,249	5,036
1999	3,703	1,286	4,989
2000	3,748	1,329	5,077
2001	3,834	1,377	5,211
2002	3,811	1,514	5,324

Note: "# Undergraduates taking courses in Hanover" includes exchange students from other colleges studying at Dartmouth; these numbers do not match official enrollment numbers reported to the federal government that include students enrolled in Dartmouth programs outside of Hanover. Includes part-time graduate/professional students.

n/a = Data unavailable.
Source: Dartmouth College Office of Institutional Research

Figure 7-16 Dartmouth College Undergraduate Enrollments

Year	All matriculated undergraduates	# Enrolled in Hanover	% Enrolled in Hanover
1976-77	3,374	3,149	93
1977-78	3,413	3,205	84
1978-79	3,431	3,222	94
1979-80	3,438	3,206	93
1980-81	3,529	3,297	93
1981-82	3,526	3,225	92
1982-83	3,581	3,248	90
1983-84	3,613	3,268	91
1984-85	3,626	3,383	93
1985-86	4,173	3,229	77
1986-87	4,133	3,331	81
1987-88	4,133	3,495	85
1988-89	4,123	3,491	85
1989-90	4,204	3,511	84
1990-91	4,268	3,546	83
1991-92	4,277	3,623	85
1992-93	4,257	3,603	85
1993-94	4,272	3,705	87
1994-95	4,283	3,782	88
1995-96	4,251	3,682	87
1996-97	4,281	3,745	87
1997-98	4,302	3,664	85
1998-99	4,372	3,787	86
1999-00	4,350	3,703	85
2000-01	4,343	3,708	85
2001-02	4,400	3,807	87
2002-03	4,309	3,784	88

Note: "All matriculated undergraduates" includes Dartmouth students who are taking courses in Hanover or enrolled in Dartmouth off-campus programs, plus Dartmouth students who are enrolled as exchange students in other colleges or on leave terms. (Figure 7-15 "# enrolled in Hanover" includes only Dartmouth students; Figure 7-14 "Undergraduates taking courses in Hanover" also includes exchange students from other colleges taking courses in Hanover).
Source: Dartmouth College Office of Institutional Research