

# **Town of Brookline MASTER PLAN**

Prepared by:

**NASHUA REGIONAL PLANNING COMMISSION  
with cooperation from the  
BROOKLINE MASTER PLAN COMMITTEE  
December, 1985**



## ACKNOWLEDGEMENTS

Special thanks are extended to the following members of the Brookline Master Plan Committee, Town Boards, Departments, and Offices whose commitment to Brookline's future has made this Plan possible. Their contributions of time, knowledge, and insights have been valuable assets to the Plan:

John Andel	Margaret Hall	Geraldine Phillips
Chip Arnold	Mary Harris	Calvin Sandford
Peter Bennett	Nancy Howard	Don Shattuck
Bob Bourassa	Robert Jeffreys	John Swift
Nancy Brodeur	Miriam Jepson	Bob Sykes
Rena Duncklee	Adrian Kerouac	Martin Torres
Leonard Dunton	Wayne Lefebvre	Henri Vezina
Clarence & Marcia Farwell	Walter Lincoln	Peter Webb
George Farwell	Paul Niman	Eddy Whitcomb
Allan Fessenden	Jason Osborn	Anne Winter
Betty Hall	Florence Palmer	Peter White

Extra special thanks are extended to Peter Cook for his contribution to the Community Attitude Survey and Tom Moran for his contribution of the map materials used for this plan.

Staff assistance from the Nashua Regional Planning Commission was provided by:

Bruce A. Klink	Madeleine P. Trombly
Paul Konieczka	Shirley R. Vance
Marla S. Engel	Joyce C. Jennings
Edwin R. Howes	

## TABLE OF CONTENTS

	<u>Page</u>
Acknowledgements . . . . .	i.
Table of Contents . . . . .	ii.
List of Tables . . . . .	iii.
List of Maps . . . . .	iv.
 Introduction . . . . .	 1.
Chapter I: Natural and Cultural Resources . . . . .	I-1.
Chapter II: Demographic Profile . . . . .	II-1.
Chapter III: Transportation . . . . .	III-1.
Chapter IV: Community Facilities . . . . .	IV-1.
Chapter V: Community Attitude Survey . . . . .	V-1.
Chapter VI: Goals, Objectives, Recommendations . . . . .	VI-1.
Chapter VII: Future Land Use . . . . .	VII-1.
 Appendix A: Soil Limiting Factors . . . . .	 A-1.
Appendix B: Community Attitude Survey Results . . . . .	B-1.



## LIST OF TABLES

- I-1. Scenic Vistas
- II-1. Population Growth 1880-1980
- II-2. Population Projections 1985-2000
- II-3. Age Distributions 1960-1980
- II-4. Educational Attainment - 1980
- II-5. Household Size 1960-1980
- II-6. Household Income Distribution - 1979
- II-7. Distribution of Housing Units
- II-8. Occupancy and Tenure of Housing - 1980
- III-1. Historical Traffic Growth on NH 13 in Brookline 1976-1984
- III-2. Average Daily and Weekly Traffic Volumes
- III-3. Summary of Road Conditions Survey
- III-4. Place of Work and Likely Commuter Route for Brookline Residents
- III-5. Comparison of 1980 US Census Journey-to-Work Data with  
1984 Community Survey
- IV-1. Brookline Fire Department - Calls Answered 1975-1984
- IV-2. Brookline Police Department - Annual Activity 1975-1985
- IV-3. Brookline Volunteer Ambulance Service 1978-1984
- IV-4. October School Enrollments: Grades 1-6 - 1970-1990
- IV-5. Projected Grade 1 Enrollments 1970-1990
- IV-6. Population Statistics 1970-2030
- IV-7. October School Enrollments: Grades 7-12 - 1970-1990
- IV-8. Special Education Out-of-District 1973-1974
- IV-9. Library Adult Reading Room Facilities
- IV-10. Library Children Reading Room Facilities
- IV-11. Annual Library Statistics
- IV-12. Projected Library Shelving Requirements
- IV-13. Recreation Facilities Analysis - Existing Facilities Inventory
- IV-14. Recreation Facilities Supply Standards
- IV-15. Analysis of Existing Recreation Facilities - 1985
- IV-16. Projected Recreation Facilities Requirements 1985-2000
- V-1. Brookline Community Survey Results - Town Services
- V-2. Community Service Preference Ranking
- V-3. Age Group Results: Community Attitude Survey
- V-4. Household Resident Figures: Community Attitude Survey
- V-5. Comparison of Town Survey/Population Projection Figures
- V-6. Comparison of Town Survey/1980 Census Figures

# LIST OF MAPS\*

Elevation Map . . . . .	not included
Slope Map ** . . . . .	not included
Soils Map ** . . . . .	not included
Septic Limitations Map . . . . .	not included
Water Resources Map ** . . . . .	not included
Fire Department Travel Routes and Land Use Map . . . . .	IV-7.
Existing Land Use . . . . .	not included
Zoning . . . . .	not included
Future Land Use Map . . . . .	VII-5.

\*Maps used to portray much of the information discussed in this report are not in a form or size that allows for reproduction. For this reason, they have not been included with this document but can be reviewed at the Brookline Town Hall Selectmen/Planning Board Office during regular office hours: M-F 9:00 A.M.-2:00 P.M.

\*\* Mylar originals to these maps are part of the Commission's Regional Map Series. Blueprint reproductions are for sale and can be ordered by calling 883-0366.

## BROOKLINE MASTER PLAN

### INTRODUCTION

The purpose of a Master Plan is to provide guidance to the Planning Board and other Town Boards and officials in their decisions which affect the community's growth and development. To do this, the Master Plan must first identify and analyze past trends and current conditions before attempting to look ahead and project future development. From these analyses, the planning process will determine the potential for community growth and establish community goals to help guide future growth and development in a manner which will not produce negative impacts.

The Master Plan will address two important considerations of future growth in town: one dealing with physical aspects of development and the other with its social aspects. The first consideration is the land's natural capability to support certain types of land use. Natural laws of physics impose certain limits on how land can be used without creating negative impacts on the Town, its residents, or other natural systems. Each parcel of land exhibits certain characteristics of soil types, slope, surface or groundwater, and vegetation which determine the parcel's capability to support uses of varying intensity. These natural characteristics which determine land capability must be identified and inventoried to ascertain the community's potential to support growth and development. These are the subjects of Chapter One: Natural and Cultural Resources.

The second important consideration, is land suitability, which deals with the more subjective area of the social aspects of growth and development. While each parcel of land has a natural capability to support different types of uses, each parcel will also be subject to evaluations regarding the suitability of different uses to be located upon it. Communities and neighborhoods each develop a certain, unique character as they grow and develop. It is this unique character, which is derived from the community's residents and their opinions, perceptions and desires, which determines the suitability of a particular use for a particular parcel of land. Thus, subsequent chapters of the Master Plan must first identify the social trends of the community's growth including Town services and facilities, and second, the opinions, perceptions and desires of the residents to establish goals and objectives for the Town's future growth. From these chapters the suitability of different uses will become evident. The ultimate goal of the Master Plan is to set a course to follow which will result in the achievement of these community goals and objectives.

Throughout the Plan's development, the purposes and goals of the Master Plan must always be kept in mind. They are to:

- 1) provide a guide to decision-makers;
- 2) determine where certain land uses can be located (capability);
- 3) determine where certain land uses should be located (suitability);

- 4) identify community goals for the future growth and development of the Town; and
- 5) identify the means and methods to achieve these goals.

The Master Plan will then become a public statement which outlines how the growth and development needed to keep the Town vital will be encouraged, while protecting the health and well-being of the community's residents for generations to come.

### Background

The Town of Brookline is located in extreme southern New Hampshire, along the Massachusetts/New Hampshire border between the Towns of Hollis and Mason. The Town's boundaries encompass approximately 20.1 square miles of which three-tenths of one square mile (or 1.5%) is covered by the surface waters of Potanipo and Melendy Ponds and other, lesser water bodies.

Brookline was first settled in 1741 by approximately 10 families and was originally a part of Hollis. The Town was first called "Raby", but was incorporated in 1769 as the "Town of Brookline".

In Brookline's earlier years, the population made its living from the Town's natural resources and limited industries. Typically one-man or family operations, these industries and businesses included lumbering and sawmills, cooperage and cabinet-making, and brick kilns. One notable exception was the Fresh Pond Ice Company which at one time employed several hundred, and was the largest icehouse under one roof in the world, and supplied Boston-area communities with natural ice in summer months.

From a population of approximately 134 persons in 1775, the Town's population grew to 698 persons 100 years later in 1880. Following a brief decline to 548 persons in 1890 the population remained between 500 and 560 persons for over 50 years, through the 1940's. Since the 1940's however, the population of Brookline has increased steadily and dramatically to its current population of over 1,800 persons.

A number of reasons explain this enormous population growth in Brookline; principally the Town's proximity to the growing cities of Nashua, and Manchester, NH and the Lowell-Lawrence and Boston, MA areas. This factor, along with improvements to the region's transportation network, which make it easier to live in rural areas such as Brookline and work in a job center like Nashua, explain much of the Town's recent growth.

Beginning in the early 1960's, Nashua began to grow in both population and as a job center as new industries moved to the state. Merrimack and Manchester both began to grow in the same manner. This growth in jobs brought new residents to the region, some of whom settled in Brookline. At the same time, New Hampshire became a very attractive place to live for persons who work in Massachusetts, due to several obvious tax advantages compared to Massachusetts, as well as Brookline's attractiveness for those who

desire a quiet, independent rural life-style. Thus, Brookline and several other Nashua-region towns have become "bedroom communities" for Massachusetts workers as well. The net effect of Nashua's rapid industrialization, increased commuting from New Hampshire to Massachusetts, and general immigration of residents seeking what Brookline has to offer has been to more than double the Town's population since 1960.

Perhaps because of this startling population growth, residents have recently begun to express their concern and desire that the Town should more actively manage its growth and development. Several residents have advocated the preparation of a Master Plan for the Town, citing the following reasons:

- 1) that growth could get out of control;
- 2) a Master Plan will provide a legal and rational basis for the Town's zoning and other land use regulations;
- 3) planning will help to maintain the Town's present rural character and lifestyle without being exclusionary in effect;
- 4) sensitive natural resources such as wetlands, forests, steep slopes and water quality can be protected and maintained;
- 5) sound planning for future needs will bring budgetary stability to the Town's tax rate; and
- 6) comprehensive planning will enable the Town to examine the possibilities of increasing opportunities for commercial and light industrial activities, broadening the Town's tax base.

Since the Town's imposition of a growth limitation ordinance in 1977 which limits the number of building permits available to subdividers, the rapid growth of previous years has abated, probably due more to national economic trends, Brookline's relative remoteness, and poor access to the Town, rather than the growth limitation ordinance. However, from the legal and planning perspectives, this should be viewed as a temporary growth management tool to be used until the Town has established the basic elements of a long-term growth management strategy. These basic elements include the Master Plan, a comprehensive zoning ordinance, subdivision regulations, non-residential site plan review regulations and a capital improvements plan.

From these basic elements the Town will have a sound, long-term growth management strategy which will enable local officials to manage and accommodate growth while reducing its negative impacts upon the community. It is through this process of planning for and managing growth, not excluding it, that Brookline will be able to insure that its natural resources will remain unspoiled and that places to live, work and play will be available for current and future generations.



## CHAPTER I

### NATURAL AND CULTURAL RESOURCES

This chapter examines the natural and cultural resources of the Town of Brookline. First, the natural features are identified which impose limitations or constraints to development. Particular emphasis is placed upon those natural features which determine land capability to support land uses of different intensities. Second, the Town's cultural resources are discussed with regard to existing cultural features, their importance to the Town, and future planning considerations for their protection.

#### I. Natural Resources

The Town of Brookline is located in the Lower Merrimack River Valley. Like most communities in the Nashua region, the Town is overlain by glacial till soils deposited as glaciers slowly retreated in a northwesterly direction over this region thousands of years ago. These glacial till soils are, in many areas of town, sparsely spread over granite or other types of bedrock.

##### A. Topographic Features:

The topography of Brookline can generally be described as consisting of gently sloping hills located in three of its four corners with a central low-land which runs generally from northwest to southeast. There are, however, several areas of steep slopes in Town.

Topographic features of concern here consist of two characteristics; elevation and slope. These are further examined below, as well as their relevance to planning and land use.

##### Elevation

Elevation is a measure of the height of a given point of land relative to Mean Sea Level. To make elevations comparable, they are expressed as "feet above Mean Sea Level" (ft. aMSL).

Elevations in Brookline range from a low point of under 220 ft. aMSL, in the Town's southeast corner, to a high point of just over 800 ft. aMSL along the Town's eastern border with Hollis, on Birch Hill. Other significant elevations include Russell Hill which rises to 738 ft. aMSL, and Potanipo and Hutchinson Hills, both over 600 ft. aMSL. Twelve hills of lesser elevation surround the lower town center, a low-lying area which runs from the north-central area to the Town's southeastern corner. (See Elevation Map)

From a planning and development perspective it is worth noting that roads and settlement patterns have generally followed this "path of least resistance". These elevations impose significant obstacles for road building and thus, they limit development which may occur on and around them.

As these low-lying, more easily developed areas become "saturated" with development, it is reasonable to expect that development will begin to spread out from these areas into other, more remote, low areas, or onto the hills surrounding these areas. Both of these aspects of future development may create problems; further development in remote low-lying areas may damage wetlands and lead to scattered and premature development, while building on higher elevations and steep slopes poses problems for septic systems, access and water supply, due to thin soil cover and shallow depth to bedrock.

The higher elevation areas within Brookline are also important as they provide a vantage point from which to view the area's scenic vistas. They are also scenic in themselves. The major hills in Town provide the best vantage points to get a "birds eye view" of how Brookline is laid out. Referring to the Elevation Map, the following hills and their respective directional vistas are potential locations to look out over the Town:

TABLE I-1  
Scenic Vistas

<u>Hill Name</u>	<u>Viewing Directions</u>
Russell	NE to SE
Potanipo	All directions
Hobart	NW to S
Hutchington	S to E

Numerous other elevated areas will also offer scenic views of the Town. From most vantage points one can also see beyond Brookline and view the rolling New England topography, forests, valleys, and rural development.

Because of the large geographical areas involved in when dealing with scenic vistas and the difficulty in defining just what is scenic, it is never an easy task to categorize and preserve the scenic resource. Conservation and preservation efforts are helping to ensure that these scenic areas will continue to be "worthy of the climb". Continued efforts in this direction are needed such as the public purchase of land and access to good vistas. Physical improvements to these areas including clearing trees or building a tower could also be done to enhance the scenic view for the public.

#### Slope:

Slope is a measure of the pitch or "steepness" of land between two given points. It is expressed as a percentage which is calculated by dividing the change in elevation between two points by the distance between the two points (change in elevation/distance = % slope). For example, if two points are 50 feet apart and one



point is 10 feet higher in elevation, the slope of the land between them is  $10'/50' \times 100\% = 20\%$ . Land with 0% slope is level, and land with 100% slope has a pitch equal to a 45 degree angle.

The slope or relative steepness of a parcel of land is a critical determinant of its ability to support certain land uses. For this reason, areas of land within certain categories of slope are mapped so they can be identified and given the special consideration they require. (See Slope Map)

For Town planning purposes, land areas with slopes of between 15 and 25%, and areas with slopes which exceed 25% are identified. These areas are delineated because their development often presents substantial problems. These categories, and the problems of development on slopes within them, are described below.

#### 25% and Greater Slopes:

Land areas in this category are among the most difficult to develop. These areas will require extreme care and usually need special engineering and landscaping to be developed properly. The major problem of development on slopes of 25% or more is that generally, steep slopes have only a very shallow layer of soil covering bedrock. Because of this, safe septic system installation is very difficult, storm water run-off is accelerated rather than absorbed, and soil erosion potential increases. Road and driveway construction to steep slope sites is more difficult and costly, and also increases the amount and velocity of surface run-off. Proper safeguards must be applied to such sites to minimize hazards to downslope properties, and these safeguards usually mean costly and often problematic engineering and landscaping solutions.

For these reasons, active use of steep slope sites should be avoided wherever possible, or approached with extreme caution and subjected to a thorough review of the safeguards to be employed. If possible, the Planning Board and Town should consider preserving such areas as open space and not allowing their use for intensive development.

#### 15% to 25% Slopes:

While somewhat less severe, the same problems and concerns expressed above regarding slopes in excess of 25% apply to slopes in the 15-25% category. The soil layer over bedrock on 15-25% slopes may be slightly deeper, but in many cases it may be insufficient to properly support the safe installation of a subsurface waste disposal system. Accelerated surface water run-off and soil erosion will also be legitimate concerns of development proposals for these areas. Road construction will also encounter the same problems as in the 25%+ slope category.

Land areas within the 15-25% slope category should also be subject to thorough reviews of the proposed safeguards needed to protect downslope properties from insufficient septic system treatment of wastes, soil erosion and accelerated surface water run-off. Where possible, such areas should be preserved and not used for intensive development. To the extent possible, natural vegetative cover should remain undisturbed to minimize erosion and enhance surface water absorption on all slopes in excess of 15%.

8% to 15% Slope:

Land areas in this slope category will exhibit, to a lesser extent, similar difficulties to those of steeper slopes; however, in many cases the costs to overcome these problems make the development of such slopes much more feasible. Development potential of such sites will, in most cases, be determined by specific site characteristics, such as depth and type of soils and the intensity of the proposed development. For these reasons, specific site investigations and a close review of proposed septic and erosion safeguards are urged for any development proposals on parcels in this category. It is reasonable to expect that more and more proposals to develop such sites will arise as the more suitable low and flat land becomes saturated with development.

0% to 8% Slopes:

Land areas within this slope category are generally the most suitable for active development, provided soil types are suitable (see below). With few exceptions, slopes of 0 to 8% are generally overlain by soil layers of sufficient depth to adequately purify septic system effluent and provide for absorption of surface water run-off. Land in this slope category will generally be capable of supporting the most active or intensive land uses in Town, unless specific site characteristics, other than slope, impose constraints upon its use.

One notable exception would be for land of 0 to 3% slope at low elevations overlaid by poorly or very poorly drained soils. These areas will, in all probability, have a water table which is at or very near the surface for prolonged periods. In fact, pooling or standing water may be seen in such areas. Land areas of this type present significant problems for site preparation, drainage, construction, and septic system installation and operation. For this reason, proposals for their development should be carefully reviewed, and it may be more appropriate to protect such areas from development through the use of a wetlands conservation ordinance.

Conclusions:

The purpose of establishing these slope categories and delineating steep slopes on a map is not to preclude the use of such areas, but rather to identify such areas and provide a general guide to the potential problems which development of such areas may face. The mapping and descriptions of such slope categories is not a definitive guide as to where development should or should not occur. Specific site characteristics should be investigated to determine the extent to which the potential problems identified herein must be overcome in the course of development. The slope data must be used along with soils and water resources information to determine a specific site's natural capability to support a proposed use.

C. Soil Features:

Soil types are perhaps the single most critical determinant of a parcel's capability to support development. In communities such as Brookline, soils serve as the sole medium of sewage purification because of the Town's total reliance upon individual septic systems for the treatment of human waste. Additionally, each soil type has different physical and chemical properties which influence the ways in which that soil may be used. The Soil Conservation Service (S.C.S.) of the U.S. Department of Agriculture, has conducted extensive surveys and analyses of the soils found in Brookline and Hillsborough County. From these surveys and analyses, the S.C.S. has identified the characteristics of each soil type and determined the capabilities and limitations of each for particular uses.

For planning purposes, soils are examined here in two ways; our first analysis divides the soil types into seven distinct categories which have broad implications regarding development potential and planning for future land uses. The second analyses examines the ability of a soil type to support the proper functioning of a subsurface septic system by determining the limitations of the soil to absorb and purify septic effluent.

In general terms, Brookline's soils are predominantly of two types: the low-laying land in the Town Center and southeast quadrant is of Hinckley-Windsor types, while the balance of Town is characterized as being of Canton-Chatfield soil varieties. The first type (Hinckley-Windsor) is described as excessively drained, gravelly and sandy. However some land areas within this group are poorly and very poorly drained soils or wetlands. The Canton-Chatfield soils are well-drained, loamy soils and are often found on slopes and covered with forest.

A more specific analysis divides the many soil types into the following seven categories: wetland, floodplain, sand and gravel, seasonally-wet soils, shallow-to-bedrock, hardpan, deep-stoney, and soils which are prime farmland or of statewide importance for

agriculture. These soil categories have been mapped for easy reference by members of the Master Plan Committee. (See Soils Map) Brief descriptions of each category and its relevance to planning follow: A listing of which soils fall within each category provided in Appendix A.

- 1) Wetland or Wet Soils: Soils in this category are poorly and very poorly drained, and serve as water storage areas which recharge stream flows during dry months. They are often nearly level and may be ponded or have standing water on their surface. They pose tremendous problems to development and their active use for development purposes should be limited or prohibited through the adoption of a wetlands conservation zoning ordinance. More detail is given to this resource later in the chapter.
- 2) Floodplain Soils: These are soils found adjacent to rivers and streams which deposit the soil by flooding of these water courses. Because Brookline has no major water courses, little if any floodplain soils are mapped, although their presence may be detected through site investigations. These soils are often among the finest agricultural soils in the State.
- 3) Sand and Gravel Soils: These soils are excessively drained and are characterized by their rapid permeability. These are among the most predominant soil types in Brookline. Because of the rapid permeability they impose severe limitations upon their use for septic systems and act as a poor filter. These soils may also be stoney, especially the Hinckley soils. They are highly erodable, do not yield groundwater to a great degree, and will not hold as slopes or banks.
- 4) Seasonal Wet Soils: These soils are moderately well drained and found in upland depressions. Because they generally form a relatively thin soil layer over bedrock, they will have a tendency to have a seasonally high water table, which imposes severe restrictions on their ability to be used for septic systems and home construction. They are found in scattered locations among the hills surrounding the low-lying Town Center and southeast quadrant.
- 5) Shallow-to-Bedrock Soils: This category contains several soils types which generally form an extremely thin layer over bedrock (generally 30 to 40 inches deep). They are moderately to well-drained, are generally covered by woodland and have very limited

capacity to yield groundwater. Because they are so thin, their use for septic systems is severely limited, although site investigations may determine sites with sufficient depth to bedrock.

- 6) Hardpan Soils: These soils are characterized by a 24 inch layer of well-drained soil underlain by a dense, slowly permeable hardpan layer of up to 60 inches deep. Due to this hardpan layer, these soils have severe limitations for use as septic system leaching areas. They are found in one location in Brookline, just south of Potanipo Pond on the slopes of a drumlin, or glacier-formed hill.
- 7) Deep-Stoney Soils: Soils in this category represent the predominant soil type in Brookline. They are described as well-drained, often contain stones and boulders at or near the surface, and are found on slopes of the hilly uplands which surround the Town Center area and Route 13. Depth to bedrock is typically in excess of five feet, much of this soil type is covered by woodland, and the availability of groundwater is moderate. The greatest limitations to development imposed by these soils are the stoniness of the soils and their designation as having severe limitations to development, although relatively flat or moderately sloped parcels of this soil type may have only moderate limitations to development.

#### D. Soils and Septic Limitations

Our second analysis of soils examines the limitations of each soil type and slope combination imposed on its use for subsurface septic system installation and operation. It is important to remember that this analysis combines information regarding both soil types and slope, and that it does this at a scale which is unsuitable for site-specific analysis and decision making. This analysis will not replace or eliminate the need for site investigation to determine land capability. It is provided to give a broad overview of the potential for development in Brookline and to serve as a warning system to the planning board, alerting them to potential problems which certain land areas will present. While the soil types are delineated on the Master Plan maps with a reasonable degree of accuracy, specific soil types referred to on the map are those of the predominant soil type within the mapped area. Actual boundaries between soils on the ground are not so easily discernable and will vary from those mapped. Thus, site inspections and more thorough study of the soils of any site will not be replaced by the maps which accompany this plan. (See Septic Limitations Map.)

The septic limitations analysis by the S.C.S. examines the following characteristics or properties of land areas for their capability to support the safe installation and operation of subsurface septic systems:

- 1) permeability of soil
- 2) depth to water table
- 3) depth to bedrock
- 4) steepness of slope
- 5) stoniness or rockiness of soil
- 6) susceptibility to flooding

Land areas have been categorized as possessing either slight, moderate or severe limitations to proper septic system operation due to the combined effect of these six characteristics.

Slight Limitations: Land areas designated as having slight limitations are the most capable of supporting safe operation of septic systems. Any limitations of these areas are considered to be easy and inexpensive to overcome. Unless other site characteristics limit their suitability, they are recommended for active use and development. In fact, because there is so little land of this classification in Town, these parcels should be used as efficiently as possible, perhaps by clustering residential or commercial uses to maximize the efficient use of these most buildable land areas in Brookline.

Moderate Limitations: Land areas in this category have moderate limitations or constraints to septic system installation or operation. Their development and use will require planning, careful review, and usually remedial engineering or landscaping work to overcome the limitations imposed. These limitations will not preclude the development of these parcels and they are identified to alert interested parties that special consideration and potentially expensive remedial work may be required to safely develop such sites. Land areas in this category are scattered among the hilly uplands, and are in more plentiful supply than parcels of slight limitation. Because there is so small a portion of the land in Town within this category, these land areas should be used as efficiently as feasible while recognizing that limitations to their use exist. Moderate-density clustering may be feasible on selected sites which are so designated.

Severe Limitations: Land areas with this designation have the poorest capability to be used for septic system operations due to one or more of the characteristics used to evaluate its potential. This designation should not be interpreted to mean that these land areas are incapable of supporting development. Rather, the "severe" designation alerts the developer and planning board of the need to identify the limitation(s) and make sure that any and all remedial actions to overcome the limitations are made. The importance of site inspections in such cases cannot be over-emphasized.

By applying this classification to Brookline soils, approximately four-fifths of the Town is found to be in the severe category. As previously mentioned, however, these are six different soil characteristics or properties that are considered in classifying a soil. (See Soils Map) Depending on which specific property warranted the severe rating, this will be reflected in the economical and technological requirements necessary to use the soil for residential septic systems. Using the information shown on the Soil Map, as it related to what the limiting factor actually is, will help in the effective planning for future growth.

Those areas classified as having moderate limitations for septic system operation, when combined, total approximately one fifth of the Town's total area. The predominant areas of soils classified as such are located in the southeast corner of Brookline, west and southwest of Russell Hill, south of North Mason Road, along portions of Old Milford Road, and south of Rocky Pond Road.

Unfortunately, not much of the Town is underlain by soils falling into the slight limitation class. These 5-20 acre parcels are scattered over much of the Town, but at best, total 150-200 acres all together. Since these areas of slight and moderate septic limitations do not constitute a large portion of the Town, where applicable, planning for future growth should allow for their optimum use.

#### E. Soil Potential Ratings:

A recent SCS program aimed at providing local Planning Boards with better soils information for decision-making has been established. A new rating system of soil "potential" has been developed that indicates the relative quality of a soil for a particular use compared to other soils within the County. The criteria used for this system better address local soils characteristics, performance, and corrective measures than the present survey's soil Limitations Ratings. The program has been completed for Rockingham and Cheshire Counties while it is currently in progress for Grafton and Hillsborough Counties.

Soil potential ratings for Hillsborough County are presently being adopted as a form of soil interpretation applicable to three basic kinds of land use (septic installation, building of dwellings with basements, and road construction). The system rates the quality of a soil for a particular use relative to other soils in the area. (Specifically to a type of soil designated as the area's "standard" or optimum soil for each use.) Any corrective measures needed to overcome limitations are identified, as is the degree to which the measures are feasible and effective. The system uses local criteria relating to a specific set of soil characteristics.



This provides information about soils emphasizing feasibility of use rather than avoidance of problems. The final publication for Hillsborough County will assemble in one document information on soils, corrective measures, and the relative costs of the corrective measures for each use. It makes Soil Survey information more applicable and easily used, thereby strengthening resource planning efforts through more effective matching of the soil information to that of contemporary development methods and needs.

Basically, this system evaluates the potential of various soils to the three selected uses previously mentioned. Consideration is given to individual soil properties such as texture, slope, water table, depth to bedrock, permeability, flooding, and drainage. A reference soil for the area will be selected for each use having soil properties favoring the lowest cost when considering the soils limitations and applicable corrective measures. Each soil is indexed based on its potential use, soil properties, use of corrective measures, and any continuing limitations (i.e. septic system maintenance and erosion stabilization). Finally, a five unit rating class is matched to the soil's numerical index to see if, for a particular use, the soil has very high potential (lowest cost), high potential, medium potential, low potential, and very low potential (greatest cost of corrective measures to overcome soil limitations).

The soils potential ratings are being developed primarily for planning purposes for targeting areas acceptable for a specific use (i.e. residential development) and are not intended as recommendations for soil use. The use of this system will assist decision-makers in determining the relative suitability of soils for a given use. Once available this fall, this system will have great potential for use with other resource and development information as an overall guide for making land use decisions.

F. Water Resources:

Addressed here are those natural resources within Brookline that are associated with water. These include watersheds, wetlands, and aquifers. Graphic information relating to this resource can be obtained by reviewing the Water Resource Map.

Watershed Areas

Brookline can be divided into a number of watershed areas based on the existing stream channel network and topographic divides. The major watersheds include North Stream/Scab Mill Brook, Village/Stonehouse Brooks, Talbot Brook, Wallace Brook, and Rocky Pond Brook. Water from each of these watersheds combines to flow into the Nissitissit River, the beginning of which runs through southeast Brookline.

Spaulding Scabbard



### Wetlands

Existing wetlands include those areas particularly sensitive to development. They perform a unique function within the hydrologic system of each watershed. Wetlands provide the vital link between incoming precipitation and aquifer recharge, flood storage and prevention, erosion control, and water purification of sediment, contaminants, and problem nutrients. Depending on type of wetland involved, they also provide important habitat to a variety of vegetation and animal life including aquatic plants, insects, amphibians, fish, and water fowl. The role education plays in understanding the importance and sensitivity of wetlands cannot be overestimated. Promoting the development of school and public environmental education programs that utilize the outdoors as natural classrooms is one way of increasing community awareness.

The designation of wetland areas is the first step in developing any kind of protection plan or strategy. Next comes a prioritization of wetland areas based on their location and the need of the benefits they provide. After this would be the drafting of a wetlands protection plan or strategy involving where and how protection is needed. Final action would involve the implementation of the plan through wetland protection ordinance adoption and gaining better control of areas considered important, through conservation easement, deed restrictions and fee-simple purchase of development rights or land.

### Wetland Designation

Wetland designation involves determining the location or extent of any areas that support typical wetland vegetation. Co-existent with wetland vegetation are water level characteristics which support low development potential but high hydrologic influence.

Nothing can replace the field survey when it comes to identifying wetlands. Trained botanists, ecologists, and hydrologists, when working in the field, can provide the highest level of information needed. If available this information should be incorporated into any land use decision making. However, the reality of most local Planning Boards is that the costs involved greatly outweigh the applicability of using this approach in developing an information base.

There are two sources of information and technical assistance presently available to local Planning Boards. One is the Hillsborough County Soil Conservation District and SCS Soil Survey. The other is the US Fish and Wildlife Service, National Wetlands Inventory classification system and map products.

Significant technical and scientific expertise has gone into the development of the Hillsborough County Soil Survey. Since the survey's completion, the District has and continues to offer technical assistance at the local and regional levels. In mapping the region's soils, the SCS has delineated those soils having poor to very poor drainage based on individual soil properties. Soils in these categories include:

Very Poorly Drained

Borohemists (BoA BpA)  
Chocorua (Cu)  
Greenwood (Gw)  
Saco Variant (Sm)  
Scarboro (So, Sr)

Poorly Drained

Binghamville (Bg)  
Leicester Variant (LeA, LsA)  
Leicester-Walpole Complex (LtA,  
LtB, LvA, LvB)  
Pipestone (PiA, PiB)  
Ridgebury (RbA, ReA, ReB)  
Saugatuck (Sn)

The proximity of these soils to low-lying areas or to surface waters is evidence supporting the sensitivity of these areas and their importance as wetlands. The amount and location of incoming runoff, slope, accessibility of natural drainage features, and seasonal wet conditions are all important points to consider in documenting the importance or sensitivity of a particular wetland.

The Brookline Soils Map has highlighted those SCS wetland soils that exist within the Town. From this map, major concentrations of these soils are found to exist in the areas of Wallace Brook, Stickney Brook, Rocky Pond Brook, and the Nissitissit River in southern Brookline; Lancy Brook, Potanipo Pond, North Stream, Village Brook, and Stonehouse Brook in central Brookline; and Scabbard Mill Brook and Melendy Pond in northern Brookline. Wetland areas are for the most part located adjacent to or very near open water as found in the Town's rivers, streams, and ponds. This relationship is the result of a localized higher water table and the source of greater quantities of soil water during periods of high stream flow. There are also some scattered pockets of wetland soils throughout the Town, usually at the bottom of low-lying areas or depressions.

Additional information of value in delineating wetlands comes from recent efforts of the U.S. Fish and Wildlife Services National Wetlands Inventory Project. The National Wetlands Inventory (NWI) provides a detailed and tested system of classifying wetlands through the use of aerial photo interpretation. By combining field investigation, photo-interpretation, quality control of interpreted photos, and draft map review; final NWI maps are produced. The quality control process undertaken in producing the wetland maps greatly adds to the accuracy of information presented.

The NWI classification defines wetlands according to ecological vegetation-type characteristics. Three key attributes define the term "wetland": (1) the presence of wetland plants or (2) the presence of wet soil or (3) soil saturation or flooding. Wetlands are naturally diverse and complex. The system presents a method for grouping ecologically similar wetlands and makes it easier to determine wetland type than by only using SCS soils information.

The NWI classification system begins by dividing wetlands into five groups or broad systems. These include Marine, Estuarine, Riverine, Lacustrine, and Palustrine. Since Brookline is far beyond the coast's tidal influence, only the latter three groups apply. Basically the Riverine system covers streams and rivers, the Lacustrine system covers lakes and large ponds, and the Palustrine system covers small ponds and typical vegetative wetlands. After being assigned to a particular system, a wetland is further classified by subsystem to reflect hydrologic conditions. Below subsystem is the Class level, which describes the appearance of a wetland in terms of vegetation or substrate. Finally, each class is further subdivided into subclass and includes modifiers to better describe hydrology and man's activities as they relate to the existence of the wetland.

NWI maps are available from the Office of State Planning in Concord. USGS topographic maps are used as the base with wetland information added to this. Brookline is covered by two map sheets, the north half is on the Milford, NH quadrangle (1:24,000) and the south half is on the Townsend, MA/NH quadrangle (1:25,000). Wetland areas are outlined (or traced if a linear stream) and labeled using the NWI classification system. A detailed legend accompanies each map to explain the map symbols used. The Brookline Conservation Commission has a set of the NWI maps to use in evaluating the Town's wetland resources and guiding future education and protection work.

#### G. Aquifer Potential

Existing aquifers presently being used or having potential for future use in Brookline are grouped either as being composed of stratified drift, glacial till, or bedrock materials. Various studies and mapping have been completed or are underway to better delineate the hydrogeologic characteristics of this resource.

Stratified drift aquifers provide the best potential for providing adequate supplies of water in Brookline. These deposits laid down in the valleys during periods of glacial retreat are generally well sorted sands and gravels. These materials have a higher porosity than finer-grained sediments or poorly sorted till deposits and therefore contain larger quantities of water and provide larger well yields.

A 1977 USGS groundwater occurrence study of the Lower Merrimack River Basin has mapped the areas in Brookline where the potential for stratified drift deposits to yield water is either high, medium, or low. The division is based on the type of material within the deposits and its saturated thickness. Corresponding well with other USGS surficial geology mapping, high potential aquifers are shown to exist in Brookline north and west of Potanipo Pond. The proximity of these high potential aquifer deposits to the pond may suggest a strong hydrogeological link between the two. Water within Potanipo Pond may likely be replenishing or recharging the water within this aquifer. Future protection and planning efforts on this aquifer should also take into consideration the pond as a source of direct recharge. This means land use around the pond should be regulated to protect the water quality of Potanipo Pond. However, in order to develop effective regulations there must be scientific/ecologic information to base this on. The information can be obtained from an environmental study of Potanipo Pond similar to the type done in the State's Lay Lake Study Program.

Another high potential aquifer area is located in the southeast corner of Town beneath the Nissitissit River. A similar recharge relationship may exist between the river and the aquifer beneath it.

Moderate potential aquifer areas are more numerous in Brookline. These mapped areas are found farther north and directly south of Potanipo Pond, along Wallace Brook, and beneath more of the Nissitissit River northwest of the high potential area.

Other mapped areas in this study included low potential yielding aquifers within the glacial till deposits covering much of the remainder of Town. The poorly-sorted nature of these materials and their shallowness contribute to the aquifers in these materials as yielding only sufficient quantities of water for domestic use.

A more detailed groundwater study and expansion of the 1977 work has been underway for the past three years. The information from this soon-to-be-released Aquifer Delineation Study will show the full extent of the stratified drift aquifers, areas of recharge, type and thickness of aquifer material, saturated thickness, direction of flow, and potential pollution sources. This information, to be available by January, 1986 will be of great value in local level aquifer protection efforts. By having more information on the location and character of these aquifer resources, Brookline can better regulate its land use to insure the aquifers will not become contaminated and unuseable to the community.

As the recent study maps in greater detail the surficial extent of stratified drift, it also better delineates where the till aquifers may be, by showing where stratified drift deposits are not

found. Because of the type of material involved in till aquifers, this type of aquifer is relatively shallow and directly overlaying bedrock. It is also very likely to be localized in extent. These aquifers can be easily impacted by contaminants from land use practices including septic system operation, agriculture, industry, underground fuel storage tanks, and surface runoff containing road salt. Unfortunately little else is known about the till aquifers other than where the deposits are. Further site specific study using existing water well and soils information may be helpful in defining them. As these localized, shallow aquifers are tapped for a large percentage of private water supplies, compatible land use siting is of concern here as it is with the stratified drift aquifers.

The third type of aquifer, composed of bedrock, is the least known of the three types. Since the studies needed to better define this resource are technical and very costly, not much detail is known about them. Existing wells tapping this resource for water provide the best information currently available to describe the character of the resource. However, since the underground geology is so variable and as the aquifer's recharge can be some distance away, it is very difficult to protect this resource. Basically, by regulating the siting of potential problem land uses on a Town-wide basis, there will be less chance the resource will be contaminated.

#### H. Agricultural Land Use

Certain land areas in Brookline are currently under agricultural use. As shown on the existing land use maps, these areas are included in the agriculture/vacant category. However, the soils being used may not be the best available. Since they are being actively farmed, they are important to the role agriculture plays in the Town's economic, cultural, and conservation picture. Existing agricultural use areas help add to the Town's present aesthetic and rural character by providing open space environments. Continued efforts in providing tax-incentive, purchase of development rights, or land trust programs may insure continued agricultural use of these lands.

Certain other soils in Brookline have been classified as being of importance to the State's agricultural make up. While the 1981 Soil Survey indicates that none of the Prime farmland soils identified by the SCS are found in Brookline, there are soils of "statewide importance".

The absence of Prime agricultural soils in Brookline is perhaps due to the lack of floodplain areas in Town which contribute to the development of these soils. The soils of state-wide importance found in Town include the "Scituate fine sandy loams" (SsA, SsB) and the "Canton fine sandy loams" (CaB, CaC). Review of the SCS soils Map will show that these soils are located in small areas scattered over the Town's entire area.

Unlike other communities along the Souhegan, Merrimack, and Nashua Rivers which have significant amounts of both Prime and statewide importance soils for agriculture, Brookline has a nearly insignificant share of such soil types.

There are a variety of options available for preserving farmland relative to the importance of the resource and the amount of control a Town desires to have over the resource. The costs of these are directly proportional to the level of control desired. Options include agricultural zoning, conservation easements, clustering, transferable development rights, tax stabilization contracts, compensable regulations, actual fee-simple purchase of the property, and private or State land trusts. The method of protection chosen will reflect the importance of the agricultural resource, the desired level of control the Town wishes, and its ability to compensate the owner for the control.

## II. Cultural Resources:

Cultural resources discussed here deal with the historical aspects of Brookline's development. The Community Attitude Survey (See Chapter V) showed there is strong community support for addressing historic resource preservation. Over 65% of the respondents either "strongly agreed" or "agreed". There is a need to look at the concept of Historic Districting in Brookline. There was also strong support shown in the survey for preservation of the Town's "rural" character. The rural character, in part, results for the existing historical composition of the Town Center.

Defining what is or is not of historical importance cannot really be done until there has been a comprehensive historic inventory conducted throughout the Town. Such an inventory has yet to be done in Brookline. The inventory should ideally document all structures, sites, events, trails, cemeteries, individuals, etc., having any cultural or historical significance to the Town. Setting a cut-off date to better define "historic" before the inventory is undertaken is difficult and not practical. The inventory process may find certain events, location, or structures that are culturally unique to the Town but occurred after the date arbitrarily set. For this reason it is best to inventory the Town before any further efforts are made to lay out the Historical District.

There are numerous sources of information and assistance available to Brookline in conducting an historic inventory. Neighboring Towns including Amherst and Hollis have gone through the process of inventorying their cultural resources. Learning of their experiences may better help Brookline develop its own inventory before starting out.

There are also several State and Regional agencies that provide information on or assistance with conducting historical inventories. These State agencies include the Office of State Planning, NH Dept. of Resources and Economic Development - State Historic Preservation Office, NH Historical Society, and the NH Association of Historic District Commissions, National Trust for Historic Preservation, the Franklin Pierce Law Center's Environmental Law Clinic, and the Society for the Preservation of New England

Antiquities. Many of the above mentioned sources provide "how to" publications or even technical assistance to local Historical Commissions in conducting the initial historical inventory.

Once the inventory has been completed, setting boundaries for the Historic District and drafting necessary ordinances can begin. Interpretation of the historic inventory results by local Historical Commission, Planning Board, and other assisting agency officials will govern where the District boundaries will go. Inventory findings will also have an effect on the type of regulations and ordinances that will be necessary to adequately protect the historical nature of the District. These sources of information also provide assistance in evaluating the inventory results and suggestions for developing appropriate regulations.

With Brookline having a unique history all its own, the Community's concern for Historic Districting appears reasonable. As the Community Attitude Survey also pointed out, with 69% of the residents concerned with the Town's future growth and 25% of the respondents living in dwellings over 75 years old, there is a need for cultural and historic resource protection. Brookline is fortunate to have an existing Historic Commission. This group of people, along with other Town Boards and the interested public, can begin to organize the necessary tasks involved in protecting the Town's Cultural Resources while there is still time.

### III. Conclusions and Findings

Considerable natural and cultural resources currently exist within the Town of Brookline. Those types of resources considered worthy of additional protection efforts include steep slopes, poorer soils, wetlands, aquifers, existing agricultural use, and cultural features. The needed protection of these resources can come from developing wetland, aquifer, and historic district ordinances; subdivision regulation amendments to address steep slopes and poorer soils; and seeking additional professional consultation (SCS, hydrologist, botanist, etc.) when there is a question concerning the impacts of development on a particular resource. Further discussion of recommendations addressing these concerns can be found in Chapter VI: Goals, Objectives, and Recommendations.





## CHAPTER II

### DEMOGRAPHIC PROFILE

#### Introduction

This chapter provides a statistical and descriptive profile of the population of Brookline, including significant features of the population's growth, projections of its future growth, and an examination of current and future housing for the population. The data used here are derived primarily from the 1980 Census although some state, local and regional sources are used.

This chapter provides the base upon which the balance of this plan rests -- its assumptions and projections determine how much growth in population and housing are expected and thus, how much is accommodated in land use regulations and community facilities planning.

#### Population Growth

Brookline's population has experienced minor fluctuations in the absolute count of persons over the last century, with the exception of three decades: between 1880 and 1890 population declined by 21 percent, while the decades after 1960 have seen rapid population growth. The following table summarizes the Town's growth (or decline) in population since 1880.

TABLE II-1  
Population Growth 1880-1980

<u>Year</u>	<u>Population</u>	<u>Percent Change</u>
1880	698	--
1890	548	(21.5)
1900	505	(7.9)
1910	501	(.8)
1920	546	9.0
1930	511	(6.4)
1940	561	9.8
1950	671	19.6
1960	795	18.5
1970	1,167	46.8
1980	1,766	51.3

Source: U.S. Bureau of Census

Like many communities in Southern New Hampshire, Brookline has experienced rapid growth in population since 1960, increasing by nearly 1,000 persons in that twenty-year period. Population growth in a community may be attributed to two factors: natural population increase due to more births than deaths, and increases caused by more persons taking up residence in town than those who move away (net in-migration). While we cannot directly count in-migrants, by calculating the natural population growth and subtracting it from the total growth in population we can indirectly calculate how much of the Town's growth is due to in-migration.

A brief analysis of vital statistics recorded by the State between 1970 and 1980 indicates that the Town of Brookline had a natural population increase of 151 persons (259 births - 108 deaths = 151 net increase). The U.S. Census Bureau reported a total population increase of 599 persons in Brookline over the same period. Thus, we can see that of the 599 new residents between 1970 and 1980, 151, or 25.2 percent, can be attributed to natural population growth while the balance, 448 persons, or 74.8 percent of population growth between 1970 and 1980, can be attributed to net in-migration to the Town.

This figure of 75 percent of growth due to in-migration may be of little predictive value because the extent of future in-migration will be a function of both the availability of housing in Town and jobs within the region. And these two factors are most influenced by national economic conditions, although the Planning Board can have some impact on the local housing supply. Unfortunately, we are unable to predict future population growth solely on the basis of prior in-migration trends. However, it is reasonable to suggest that as the national economy continues to grow, housing starts and employment opportunities will both increase locally and regional thus, in-migration and population growth will continue at a relatively high rate.

#### Population Growth Projections

The task of projecting future population growth in a community such as Brookline is extremely uncertain for a number of reasons. Brookline has a relatively small population currently residing in a community with a large proportion of vacant, yet developable land. There is the potential for significant subdivision activity to occur. Also, many factors which influence the rate of growth in Brookline are relatively unpredictable and beyond the control of the Town. Because of this large growth potential and the unpredictable nature of other growth factors, the accurate projection of future population for a given future date is uncertain at best.

With these caveats in mind, and because it is essential that the Master Plan identify reasonable expectations of future growth in population, the following population projections are offered. The projections given below are prepared by the NH Office of State Planning.

TABLE II-2  
Population Projections<sup>1</sup>

Year	Pop.	% Increase	Average Annual %
1985	2,140	17.52	.50
1990	2,450	12.7	2.54
1995	2,700	9.3	1.86
2000	2,910	7.2	1.44
2005	3,060	4.9	.98
2010	3,220	5.0	1.00

<sup>1</sup>Office of State Planning, October, 1985

<sup>2</sup>Percent increase from actual 1980 Census count of 1,766 persons.

These population projections were prepared by the Office of State Planning by using a demographic/economic model called DEMOS. The model has been designed to interrelate growth pattern components of the State's population and economy. The demographic variables included population, births, deaths, migration (both employment and retirement related), households, labor force, etc. The economic variables include employment, earnings, and personal income. These variables have been applied to the Town's base line conditions as portrayed by the April 1, 1980 U.S. Census data. The population projections presented in Table II-1 and used hereafter are the results of the models interrelating all of the demographic/economic variables that can affect a Town's population growth.

### Characteristics of the Population

#### Age Distribution:

The distribution of Brookline's population among selected age groups nearly mirrors that of the region as a whole. There is no particularly large proportion of residents in any one age group relative to the regional population. This appears to be true in previous years as well. The following table shows the historical trends of age distribution in Brookline.

TABLE II-3  
Age Distributions 1960-1980

Age Group	1960		1970		1980	
	#	%	#	%	#	%
0-5 years	115	14.5	149	12.8	141	8.0
6-17 years	198	24.9	342	29.3	442	25.0
18-64 years	406	51.1	581	49.8	1024	58.0
65+ years	76	9.6	95	8.1	159	9.0
Totals:	795	100.1	1167	100	1766	100.0

Source: U.S. Census Bureau

Of significance here is the clear decline in the proportion of the population less than 5 years old. While the trend may be attributable to a number of causes (deferred child-bearing, women in the workforce, etc.) it will affect the need for school facilities in future years.

Also of significance is the continuing aging of the population -- a national trend attributed to the impact of the post-war baby boom. In 1970 Brookline's population had a median age of 25.6 years. By 1980 the Town's median age had increased to 29.1 years, the fourth-lowest median age in the Nashua region, where median ages ranged from a low of 26.7 in Litchfield to a high of 32 years in Hollis.

#### Education:

The education levels of a population are generally measured by the median number of school years completed by persons over 18 years of age (median is the point below which 50 percent of respondents fall). In Brookline, the median education level was 12.1 years in 1960, and 12.3 years in 1970. Data for 1980 have not provided median years completed, but rather the following:

TABLE II-4  
Educational Attainment - 1980  
Brookline/Nashua Region

Years of Schooling; persons >18 years	Brookline		Region	
	#	%	#	%
(1) Elementary through 3 years high school	265	22.6	22,098	23.5
(2) 4 years high school	391	33.3	36,148	38.4
(3) College: 1-3 years	271	23.1	18,267	19.4
(4) College: 4 years	170	14.5	10,989	11.7
(5) College: 5 or more yrs.	78	6.6	6,635	7.0
Totals:	1175	100.0	94,137	100.0

Source: 1980 Census

From this data it appears that Brookline's population has higher proportions of persons who have completed both 1-3 years, and 4 years college programs than the regional population as a whole.

#### Household Characteristics:

Brookline's population was found to have been divided into 561 households in 1980. Of these 561 households, 466 were reported to be families, as defined by the Census Bureau ("households" include "families" which are persons who reside together and are related by blood, marriage, or adoption).

Persons per household: Household size across the nation has declined sharply over the last decade and this trend holds true in the Nashua region and Brookline.

TABLE II-5  
Household Size  
1960-1980

	1960		1970		1980	
	Brookline	Region	Brookline	Region	Brookline	Region
Population	795	63,920	1,167	100,864	1,766	137,089
Households	236	18,830	331	29,503	561	46,033
Persons per Household	3.37	3.50	3.53	3.42	3.15	2.98
% Change:	--	--	+ 4.7	- (2.3)	- (10.8)	- (12.9)

Source: U.S. Census Bureau

As the table above indicates, the magnitude of the decline in household size for Brookline is not as great as the region as a whole; it is nonetheless significant for local planning. Because household size is declining (and it is projected to continue to decline) demand for large, 3-4 bedroom housing units will also decline with the demand shifting to 1 and 2 bedroom units which may not require the same large lot size often required of 3 to 4 bedroom units for septic systems leaching areas.

Household Income:

The incomes of Brookline's households are measured in several ways that allow comparisons to other communities in the region. First there is the distribution of households within several income brackets. The following table shows the number and percent of household within certain income ranges, as well as the region's totals for these same incomes:

TABLE II-6  
1979 Household Income Distribution: Brookline & Region

	<u>Brookline</u>			<u>Region</u>		
	<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>	
Less than \$ 5,000	30	5.4		3098	6.9	
\$ 5,000 to \$ 9,999	62	11.1		4436	9.9	
\$10,000 to \$12,499	33	5.9	37.3	3222	7.2	37.9
\$12,500 to \$14,999	35	6.3		2754	6.1	
\$15,000 to \$17,499	48	8.6		3505	7.8	
\$17,500 to \$19,999	28	5.0		3480	7.7	
\$20,000 to \$22,499	42	7.5		3658	8.1	
\$22,500 to \$24,999	56	10.0		3179	7.1	
\$25,000 to \$27,499	32	5.7	46.1	3224	7.2	45.2
\$27,500 to 29,999	46	8.2		2617	5.8	
\$30,000 to \$34,999	54	9.7		4160	9.3	
\$35,000 to \$39,999	32	5.7		2586	5.8	
\$40,000 to 49,999	33	5.9	16.5	2789	6.2	17.0
\$50,000 to 74,999	21	3.8		165	3.7	
\$75,000 or more	6	1.1		590	1.3	
Total	558	99.9*		44,953	100.1*	

\* Does not total 100% due to rounding.

Source: 1980 Census

This brief comparison indicates that household incomes in Brookline roughly parallel the regional income distribution. There is not a larger proportion of either high or low income households.

Three other measures of income are available; median and mean household income and per capita income. These are shown in the following table with the regional average of the same measure:

	<u>Brookline</u>	<u>Regional Average</u>
1979 median household income	\$22,545	\$22,122
1979 mean household income	\$23,721	\$24,464
1979 per capita income	\$ 7,528	\$ 7,688

The clear conclusion from these income measures is that Brookline's households do not exhibit any distinct differences in their incomes from regional averages and distributions. The slightly higher median income yet lower mean and per capita income measures suggest Brookline may have a

slightly higher proportion of moderate income households (above the median), while the regional mean and per capita incomes are skewed upwards by a relatively small proportion of households with vastly higher incomes.

### Housing:

The characteristics of a community's housing supply are of critical importance in determining how it will grow in future years. Without getting into a detailed discussion of the dynamics of the local housing market, essentially, the availability of affordable housing of various types will be perhaps the most significant factor in determining future population growth and demand for local services such as schools, roads, recreation and public safety.

This chapter will examine several aspects of the role and function of Brookline's housing market: the "availability of affordable housing" includes such factors as the number, type and size of housing units, and the vacancy rates and cost of both rentals and for-sale units.

### Existing Supply: Types of Housing:

The housing supply of a community is made up of a variety of housing types. These are often categorized as single-family, multi-family and mobile homes. Among these categories we count the number of "units" of each type, where a unit provides housing for one household, whether it is a family, an individual or a group of persons.

Single family units are the most common type of housing and they typify the American dream of homeownership. Recent developments such as condominiums and modular housing are included here. Multi-family housing units are usually three or more units in one structure, and are typically rented or leased to the occupants. They fill a unique demand for housing because these units cost far less and are often much smaller than single-family units. Mobile homes likewise offer another alternative to single-family homeownership; these units cost much less yet still offer the benefits of single-family homeownership. The following table shows the distribution of these types of units in Brookline and the Region in both 1970 and 1980:

TABLE II-7

#### Distribution of Housing Units

	<u>Brookline</u>			<u>Region</u>		
	<u>1970</u>	<u>1980</u>	<u>%</u>	<u>1970</u>	<u>1980</u>	<u>%</u>
<u>Total Units</u>	404	609	50.7	32,318	47,944	48.4
single-family	311	486	56.3	19,849	34,560	74.1
multi-family	21	55	161.9	10,582	11,685	10.4
mobile homes	23	37	60.9	1,116	1,377	23.4
seasonal	49	35	-28.6	726	322	-55.7

#### Percent Distribution

single-family	76.9%	79.8%	61.4%	72.1%
multi-family	5.2%	9.0%	32.7%	24.4%
mobile home	5.7%	5.4%	3.6%	2.9%
seasonal	12.2%	5.8%	2.3%	.7%
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.1</u>

Source: U.S. Census



This information shows that Brookline's housing supply has changed its composition between 1970 and 1980 in several ways. While single-family units remain the dominant types, representing nearly 80% of the housing stock, the number of multi-family units more than doubled between 1970 and 1980 to represent nine percent of Brookline's housing. Also note that the total number of units increased by 50.7% over the decade, a figure almost identical to the growth in population of 51.3%. Also, of significance is the declining percentage which both mobile homes and seasonal units represent in the local housing supply. There may be some discrepancy in the number of mobile homes that actually exist in Brookline as shown by the Census figures in Table II-7. An increase in the number of mobile homes was recorded in 1980 over that in 1970. This is likely due to the 1980 Census counting seasonal mobile home units that existed in the Field and Stream Trailer Park at the time of the 1980 Census that were not there in 1970. State figures show that since 1980 there has been two more mobile homes in Brookline for a total of 39. However, according to 1985 Town tax records, there are 13 mobile homes and 15 mobile homes with land listed. Together this totals 28 mobile home units. Since the tax records were printed, 5 of the 13 mobile homes have been removed. A more realistic number of mobile homes in Brookline figures out to be 23 (as of 1985), a zero percent change since 1970 after taking into consideration those units recently removed.

#### Tenure and Occupancy/Vacancy:

Occupancy and vacancy of housing units deal directly with the availability of housing (or lack thereof). Tenure refers to the nature of its occupancy, specifically whether it is owned, rented or available for purchase or rental. The following table presents data on tenure and occupancy of Brookline's housing stock.

TABLE II-8  
Occupancy and Tenure of Brookline Housing, 1980

	<u>Renter-Occupied</u>	<u>Owner-Occupied</u>
Total Housing Units	- 609	-
Total Year-Round Units*	- 561	-
Occupied Units:	86	475
Percent of Total	15.3%	84.7%
Vacant**	1	1
Percent of Total	.2%	.2%
Persons in Units	215	1,551
Percent of Total	12.2%	87.8%
Mean Persons Per Unit	2.5	3.27

\* Excludes seasonal units

\*\* Excludes 11 units classified by Census as "Vacant, other" (note that including these yields a town-wide vacancy rate, regardless of tenure, of 2.3% of all units).

Two conclusions may be drawn from this data: (1) vacancy rates for Brookline housing, at the time the Census was taken, are incredibly low, and; (2) the households which occupy Brookline's rental housing have far fewer persons per unit than those which own the units that they occupy.

This first point is significant. When vacancy rates are this low, the market for housing is so tight that the price for the units available can be much higher than under normal market conditions.

Thus, the short-term impact of such low rates of vacancy in housing is to drive up the cost of any available units as the supply fails to meet the immediate demand. A clear remedy is to encourage the production of units in sufficient numbers to meet the demand. One "rule-of-thumb" suggests that vacancy rates of two percent in for-sale units and four percent in rental units are optimum conditions for a healthy housing market.

Such vacancy rates accomplish several desirable goals; they allow for competitive pricing of available housing, they accommodate new household formation as children leave home and seek housing of their own, and they accommodate in-migration of new residents which are presumably employed in the regional economy. The alternative to adequate vacancy rates presents a series of undesirable consequences: inflated prices for available units, deferred household formation or forced out-migration of newly-formed households, and stagnation of the regional economy as businesses will be unable to attract workers due to high housing costs and the lack of housing. One recent study of this region's economy suggests that the single greatest limitation to the continued growth of the regional economy will be the lack of affordable housing to accommodate the in-migration of new workers and managers for new and expanding businesses (report of Dr. William Fischel; "The Growth of Business and Industry in the Nashua Regional Planning Area: Recent Trends and Prospects for the Next Decade", December, 1981).

A more recent study of the area's housing market examined housing activity since the 1980 Census and the effects of the downturn in mortgage interest rates in 1982 and 1983. This study identified the average sales price of new single family homes in the region as \$89,108. It showed that Brookline's housing market was particularly active: prices were 94 to 96 percent of the regional average and the homes sold in 1982 were on the market for a much shorter period than the regional average. (Brookline had the 2nd shortest average time on the market of 65 days; regional average was 75 days.) This study also showed that Brookline's housing supply expanded more rapidly than the regional average; Brookline's supply grew by 2.5% in 1980, 2.2% in 1981 and 2.0% in 1982 while the regional averages were 2.2% in 1980, 1.9% in 1981, and 1.7% in 1982. In the first six months of 1983, Brookline's housing supply grew by another 2.2%, far above the regional average of 1.5%. (Source: Preliminary Report of the Nashua Area Housing Market Survey; NRPC, October, 1983.)

One clear conclusion from this data is that Brookline's housing has been and remains in strong demand, as indicated by the short time units spend on the market and the rate at which units are added to the town's housing supply. In the period from January 1980 to April 1983, at least 42 units received building permits, and this does not include 1981 data, which was not available. This represents a 7.5 percent growth of the housing supply.



Although these units are selling for slightly less than the regional average price for new homes, this is probably due to the locational disadvantages of Brookline relative to more easily accessible communities located closer to the job centers.

### Value

The 1980 Census gathered information on the value of housing units and the rent cost of rental housing in all communities. This information for the Town of Brookline was reported as follows for 1970 and 1980:

	<u>1970</u>		<u>1980</u>	
	<u>Brookline</u>	<u>Region*</u>	<u>Brookline</u>	<u>Region*</u>
Median Value of owner-occupied units	\$18,400	\$19,200	\$59,100	\$60,325
Contract Rent of renter-occupied units	\$90	\$107	\$245	\$250

\* Regional figures are the average of the median reported for all 12 towns.

Source: 1970 and 1980 Census

As with the recent housing market survey, these figures indicate Brookline's housing costs are slightly less than regional averages in both the for-sale and rental markets. In fact, both the Census and the Survey show costs to be about 2 percent less than the regional averages.

### Projected Housing Demand

We have already determined the projected population growth for the Town through the year 2000. Clearly, these future residents will require housing. This section will determine how many new housing units will be required, in five year increments, to house the anticipated population growth plus maintain a vacancy factor of reasonable size to insure competitive pricing.

The accuracy of these projections depends upon two factors: (1) the projected population figures must be reasonably accurate, and; (2) the average household size, in persons per unit, must be accurately forecasted as well. We have already accepted the projected population figures as reasonably accurate. Average household size in Brookline, according to the 1980 Census was 3.15 persons per household. This figure represents a decline of 11.8 percent over the previous 10 years. National, state and regional data all show a trend of declining household size, measured in persons per household. This has been attributed to numerous sociological changes such as deferred childbirth, women entering the work force and pursuing careers, the increased incidence of divorce and single-parent households, the aging of the population and greater longevity or life-expectancy, etc. Whatever the cause or causes, its immediate effect is that more housing units are required to house the same number of persons, organized into smaller household units.

For this reason our projected housing demand assumes a continuing decline in average household size of .05 persons per unit, per five year

increment. The following table shows projected housing demand based on our assumptions regarding projected population growth and declining household size:

<u>Year</u>	<u>Population</u>	<u>Persons/Unit</u>	<u>Housing Units Needed</u>
1980*	1,766	3.15	561
1985	2,140	3.10	690
1990	2,450	3.05	803
1995	2,700	3.00	900
2000	2,910	2.95	936

\* 1980 population, household size and housing units are actuals, from the 1980 Census.

These calculations of future housing demand do not include any allowance for the necessary vacancy of units discussed previously. For this reason we add a three percent vacancy factor to the amount of housing needed to accommodate future population growth:

<u>Year</u>	<u>Units Needed</u>	<u>Plus 3% Vacancy</u>	<u>Total Units Needed</u>	<u>New Units* Needed</u>
1980**	561	17	578	-
1985	690	21	711	133
1990	803	24	827	116
1995	900	27	927	100
2000	986	30	1,016	89
				<u>438</u>

\* assumes previous demand has been met by new construction in prior 5-year period.

\*\* 1980 figures are actuals from 1980 Census.

These calculations indicate that a total of 438 new units will be required to accommodate both the anticipated population growth and a healthy housing market characterized by adequate vacancy rates to allow competitive pricing. This would constitute a 76 percent increase over 1980 figures to house a population which will increase approximately 65 percent over this twenty year period.

While the flaws in this method are readily apparent, this does offer some guidance to local decision-makers on the probable rates of both population and housing growth, as well as the effects of declining household size on housing demand. These should not be interpreted to mean that a certain number of building permits should be issued each year to meet a goal of 438 new units by the year 2000. Rather, these are offered to suggest how many housing units may be required if the assumptions made prove correct.

Another point to consider in planning for future housing needs is that Brookline should begin to consider its role in regional fair-share housing. Comparing Brookline's population growth to that of the region, shows what percentage its population is of regional projection:

<u>Year</u>	<u>Brookline</u>	<u>Regional</u>	<u>% of Regional</u>
1980	1776	138,089	1.28
1985	2140	156,300	1.37
1990	2450	172,510	1.42
1995	2700	186,170	1.45
2000	2910	198,560	1.47

These figures show that Brookline will be a growing factor in the development of the region. The projected increase in housing units, if actualized, will provide for more than their fair share of the regional housing picture.



## CHAPTER III

### TRANSPORTATION

A variety of factors are used to determine whether one part of a community is better suited for development over another. One of these factors is the ability of the local transportation network to handle the new traffic demands of this new development. Each road within the network serves a particular function based on the type and volume of traffic that it carries during a typical day of the year, as well as the characteristics of the roadway itself.

The purpose of this chapter is to inventory Brookline's existing transportation (i.e., roadway) network: traffic volumes, roadway pavement conditions, functional classification, and the travel patterns of the present population, to discover any deficiencies for traffic and/or safety reasons. Then, using this data as the base, future travel patterns for different development scenarios will be predicted and the necessity of further improvements to the network determined.

#### I. BACKGROUND

Before we discuss Brookline's network, it would be helpful to understand two basic concepts used in transportation planning: capacity and Level of Service(LOS).

##### A. Capacity

Capacity, as the term implies, is the ability of a road to carry a certain amount of traffic. The base unit for roadway capacity is 2000 vehicles per hour in both directions for a two-lane road, while correction factors are applied to account for differences in lane widths, travel speeds, lateral obstructions along the roadway, and the type of vehicles in the traffic stream (percentage of trucks or buses compared to just passenger vehicles). Wider roads designed for higher speed travel would have more capacity than narrower, winding roads. For example, a road with four 11-foot lanes (two lanes in each direction) has only 97% of the capacity of a road with 12-foot lanes when all other factors are the same.

Intersection capacities can also be calculated for both signalized and unsignalized locations. This is done by comparing conflicting turning movements in each direction (at signalized intersections) or by determining available turning capacity, given existing traffic volumes and speeds (for unsignalized intersections).

##### B. Level of Service

Level of Service (LOS) is a qualitative measure of the operating conditions of a roadway or intersection when accommodating different traffic volumes, given the specific roadway geometry, travel speeds and amount of vehicle delay. It is used as a comparative index to assess the operating qualities (and there-

fore, its capacity) of a particular facility. In fact, a road may exhibit several different Levels of Service during the course of a day. However, the evening peak hour is usually used as the worst-case analysis condition.

The LOS scale goes from "A" to "F", with "A" being the optimum free flow condition with no delay or maneuverability restrictions on traffic, while "F" is a forced flow condition with long delays and traffic congestion. LOS "E" is considered the theoretical capacity condition, where vehicles experience momentary stoppages and have little freedom of movement in the traffic stream. Different types of streets have different criteria for capacity due to design speeds and geometry, while intersection LOS depends mainly on the number of conflicting turning movements.

## II. EXISTING TRANSPORTATION NETWORK

### A. Functional Classification

Functional classification is defined as a degree of service provided by each highway facility. This level of service is expressed on a continuum from increased mobility (arterials) to increased access to local land uses and neighborhoods (collectors and local roads). The following is a synopsis of the Federal Highway Administration's definitions of functional classification:

Major Arterial- Serves the major traffic movements within communities or between major suburban centers, predominantly through traffic wishing to bypass the central community area.

Minor Arterial- Provides access to smaller geographic areas than major arterials; allows intra-community mobility but does not penetrate identifiable neighborhoods.

Collector- Provides both land access and traffic circulation within residential districts, as well as commercial and industrial areas.

Local- Provides access to individual land uses and discourages through traffic.

Using these criteria, the following roads in Brookline have been functionally classified by the NH Department of Public Works and Highways. All other roads are classified as local roads.

Major Arterial - NH Route 13, from Milford to Massachusetts.

Major Collector - NH Route 130, from Hollis to NH 13.

Minor Collector - Pepperell Road, from NH 130 to Hollis town line.  
Mason Road, from NH 13 west to Mason town line.

B. State Aid Classification

The NH Department of Public Works and Highways uses another level of classification for funding purposes. The following section describes the State-aid system.

Class I Trunkline Highway - 6.81 miles, consist of all existing or proposed highways on the primary state highway system, excepting all portions of such highways within the compact sections of towns and cities of 7,500 inhabitants or more. The State assumes full control and pays costs of construction, reconstruction and maintenance of its sections; the portions in compact areas are controlled by the towns and cities under Class IV highways.

Class II State Aid Highways - 7.17 miles, consist of all existing or proposed highways on the secondary State highway system, excepting portions of such highways within the compact sections of towns and cities of 7,500 inhabitants and over, which are classified as Class IV highways.

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

All bridges improved to state standards with state aid bridge funds are maintained by the state. All other bridges shall be maintained by the city or town until such improvement is made.

Class III, Recreational Roads - None, consist of all such roads leading to, and within, state reservations designated by the Legislature. The state highway department assumes full control of reconstruction and maintenance of such roads.

Class IV, Town and City Streets - None, consist of all highways within the compact sections of towns and cities of 7,500 inhabitants and over. Extensions of Class I and Class II highways through these areas are included in this classification.

Class V, Rural Highways - 21.68 miles, consist of all other travelled highways which the town or city has the duty to maintain regularly.

Class VI, Unmaintained Highways - 7.99 miles, consist of all other existing public ways, including highways discontinued as open highways, highways closed subject to gates and bars, and highways not maintained in suitable condition for travel for five years or more.

Scenic Roads, are special town designations of Class IV, V and VI roads where cutting or removal of a tree, or disturbance of a stone wall, must go through the hearing process and written approval of local officials (See RSA 231).



According to the NH Department of Public Works and Highways, Brookline has 6.81 miles of Class I road, 7.17 miles of Class II roads, 21.68 miles of Class V roads, and 7.99 miles of Class VI roads. Also, North Mason and Averill Roads have been designated as scenic roads by the Town.

In addition, Brookline has two roads that are classified as Federal-Aid highways, which qualifies them for 75% Federal funding for reconstruction, resurfacing or rehabilitation. NH Route 13 is classified as a Federal-aid Primary highway, while NH Route 130 is designated on the Federal-aid Secondary highway system. Because Brookline does not have an urbanized area, none of its roads qualify for Urban Systems funds, and such a designation is not anticipated during the time frame of this Master Plan.

### C. Traffic Volumes

A traffic volume counting program was initiated for various roads in Brookline during the summer of 1984. The purpose of the program was to determine the amount of traffic coming into and out of the Town as a whole and the Town Center area in particular. Because of the Town's size and rural character, the NH Department of Public Works and Highways has not collected a significant amount of information for roads in Brookline. There is a permanent traffic recorder on NH 13 just north of Old Milford Road near Melendy Pond. Table III-1 shows the historical traffic growth rates for this location. All the available traffic count information was then used to see if there were any existing capacity problems on any roads in Brookline. Table III-2 shows current and historical traffic volume counts for various locations in Brookline.

TABLE III-1  
HISTORICAL TRAFFIC GROWTH ON  
NH 13 IN BROOKLINE - 1976-1984

LOCATION:	YEAR	ADT	AWT	% ADT GROWTH
NH 13, near Melendy Pond	1976	2993	2852	--
	1977	3275	3143	9.42
	1978	3489	3369	6.53
	1979	3478	3401	-0.32
	1980	3416	3312	-1.78
	1981	3578	3468	4.74
	1982	3523	3431	-1.54
	1983	4002	3962	13.60
	June 1984	4942	4916	
June 1984 adjusted Volume as AADT		4539		13.40

Average ADT Growth 1976-1984: 6.46 % per year

ADT = Average Daily Traffic

AWT = Average Weekday Traffic

SOURCE: NH Department of Public Works and Highways Traffic Counts



TABLE III-2  
AVERAGE DAILY AND WEEKDAY TRAFFIC VOLUMES  
FOR BROOKLINE, NEW HAMPSHIRE

Compiled by the Nashua Regional Planning Commission

LOCATION:	1977	1978	1979	1980
	ADT / AWT	ADT - AWT	ADT - AWT	ADT / AWT
NH 13, near Melendy Pond	3275/3143	3489/3369	3478/3401	3416/3312
NH 13 at Mass. State line				
Pepperell Rd., E. of Cross Rd.				
NH 130 at Hollis town line				
NH 130(Main St.)N. of Cemetery				
NH 130, N. of Main Street				
Oak Hill Rd., North of NH 13				
NH 130, east of NH 13				
Main St,W.of Milford Rd(NH 130)				
Mason Road, at Mason town line				
Old Milford Rd.,South of NH 13				
Mason Road, West of NH 13				

LOCATION:	1981	1982	1983	1984
	ADT / AWT	ADT / AWT	ADT / AWT	ADT / AWT
NH 13, near Melendy Pond	3578/3468	3523/3431	4002/3962	4704/4636
NH 13 at Mass. State line				4629/4339
Pepperell Rd., E. of Cross Rd.				3769/3540
NH 130 at Hollis town line				3084/2998
NH 130(Main St.)N. of Cemetery				2795/2795
NH 130, N. of Main Street				1431/1431
Oak Hill Rd., North of NH 13				1423/1423
NH 130, east of NH 13				1358/1421
Main St,W.of Milford Rd(NH 130)				1316/1177
Mason Road, at Mason town line				906/ 906
Old Milford Rd.,South of NH 13				366/ 364
Mason Road, West of NH 13			1092/1092	

SOURCE: NH Department of Public Works and Highways Traffic Counts  
Nashua Regional Planning Commission Counts, 1983, 1984

As expected, NH 13 carries the most traffic in and through Brookline. Other roads in town serve predominantly local traffic, while the state routes (13 and 130) provide access for through traffic from Massachusetts and into Hollis, Nashua and Milford. Counts also indicated use of NH 130 and NH 13 by greater numbers during hot weather, likely heading to Silver Lake State Park in Hollis via these routes.

Traffic volumes during peak hours only showed several hundred vehicles an hour. In fact, the highest volumes were found at the counting location on NH 13 at the state line on Sunday afternoon, which showed volumes from 500-550 vehicles an hour for two to three hours. Even with this volume, NH 13 is still operating at about 30% of its total capacity, while other roads, although often narrower and more winding, carry significantly lower traffic volumes and, therefore, are well within their capacity.

#### D. Roadway Conditions

Members of the Town's Master Plan Committee conducted a survey of road and pavement conditions for all roads in Brookline. This subjective evaluation was based on the type of surface, condition of this surface, ride, and any additional problems due to narrow lanes, steep slopes, poor drainage or shoulders, etc. Review of the survey's results and additional input was provided by the Town's Road Agent. The survey found that, generally, the heavier travelled roads were already paved and in fair to good condition, while most of the other, unpaved roads were rutted, narrow, and/or only accessible with four-wheel drive vehicles. Also, except for the State-maintained roads, most of the roads in Brookline were found to be narrow when compared to State guidelines that set pavement widths depending on road traffic levels. For two lane roads (one lane in each direction) carrying 0-50 vehicles per day, the State guideline is for 9 foot lane width. When ADT is 50-200 vehicles per day, the guideline is for a 10 foot lane width. Above this figure, lane and shoulder widths continue to increase with an increase in ADT. The results of this survey are summarized in Table III-3.

Given the topography of the Town and the low volume of traffic currently generated within Brookline, it is concluded that these roads were adequate to handle existing traffic volumes. However, with the large number of gravel and/or narrow roads in Town today, extensive repairs and/or reconstruction of various roads is warranted now. It should be noted that the long-term need for roadway improvements should be jointly determined by the sufficiency of the existing roadway and the projected amount of traffic that will ultimately use it. The Future Land Use element of this Master Plan should be used as a tool to guide growth to appropriate areas, using the criteria of capability and desirability of the land to support this new activity, and prioritize any improvements necessitated by this new growth, such as roads. The Town should investigate the need for a long-term roadway maintenance/improvement program as part of an overall Capital Improvements Plan.

TABLE III-3 BROOKLINE - SUMMARY OF ROAD CONDITIONS SURVEY

ROAD NAME (From - To)	LANE WIDTH (ft)	TYPE OF SURFACE			OVERALL CONDITIONS				POSTED SPEED LIMIT	RIDE AT SPEED LIMIT			PROBLEMS				
		Paved	Gravel		Excellent	Good	Deterioration	Poor			Bumpy	Smooth		Narrow Width	Steep Slope	Sharp Curves	Frost Heaves
Austin Rd. (to end of pavement	.1mi	X					X						X	X			Slope less than 10%
Averill Rd.	10	X				X							X		X		
Averill Rd.			X					X		X			X				
Ball Hill Rd. (Class VI)			X					X		X							4 WD only
Ben Farnsworth Rd. (Class VI)			X					X		X							4 WD only
Bond Street		X				X											
Canal Street (Dead End)		X					X						X				
Cleveland Hill Rd.		X				X							X				
Cleveland Hill Rd.			X			X											
Colburn Rd.			X			X							X				
Corey Hill Rd. (Private)			X				X						X	X			Rutted, poor drainage
Cross Rd.		X					X										Bad intersection w. NH130
Dupaw Gould Rd.		X				X							X				Narrow bridge
Dupaw Gould Rd.			X					X					X	X	X		
Elm Street		X				X							X				
Flint Meadow Drive		X			X						X						
Hutchinson Hill Rd. (Class VI)			X					X									4 WD only after 1 mile

CONDITIONS: Excellent - very smooth, little or no cracking.

Good - smooth, with some signs of wear.

Deterioration - visible signs of wear (cracks, ruts, etc.) prevalent travel speed may be reduced.

Poor - badly rutted or cracked, speeds reduced, in need of repair.

TABLE III-3 (cont'd) - BROOKLINE SUMMARY OF ROAD CONDITIONS SURVEY

ROAD NAME (From - To)	LANE WIDTH (ft)	TYPE OF SURFACE			OVERALL CONDITIONS				POSTED SPEED LIMIT	RIDE AT SPEED LIMIT			PROBLEMS				
		Paved	Gravel		Excellent	Good	Deterioration	Poor			Bumpy	Smooth		Narrow Width	Steep Slope	Sharp Curves	Frost Heaves
Key Rd. (to end of pavement)		X					X			X			X	X			
Birch Hill Rd. (Pending Approval)		X			X									X			
Lake Rd. (private)			sand				X						X		X		Flooding, no shoulders
Main St. (from Meetinghouse Hill to Pepperell Rd. and Proctor Hill Rd.)		X			X						X						
Bohanon Bridge Road		X			X												Wood Bridge - 6 ton limit
Mason Rd. (½ ST, ½ TN)		X					X (Part)			X			X	X	X		Winding, no shoulders
Meetinghouse Hill Rd. (ST - summer, TN - winter)		X				X								X			
Myopia Hill Rd.	10	X			X								X				
NH Rte. 13/Milford/Mass.		X			X						X						
Nissitissit Rd. (private)			X			X				X			X	X			
Oak Hill Rd. (.3 mi. from S. Main) to Pepperell - TL 1.2mi)			X				X						X	X			Ledge
No. Mason Rd. (Rte. 13 - Dump) (Dump - Mason Line)		X			X						X			X	X		Two narrow bridges
Old Milford Rd.		X					X			X							Washboard
										X							Poor shoulder

CONDITIONS: Excellent - very smooth, little or no cracking.

Good - smooth, with some signs of wear.

Deterioration - visible signs of wear (cracks, ruts, etc.) prevalent travel speed may be reduced.

Poor - badly rutted or cracked, speeds reduced, in need of repair.



TABLE III-3 (cont'd) - BROOKLINE SUMMARY OF ROAD CONDITIONS

ROAD NAME (From - To)	LANE WIDTH (ft)	TYPE OF SURFACE			OVERALL CONDITIONS				POSTED SPEED LIMIT	RIDE AT SPEED LIMIT				PROBLEMS			
		Paved	Gravel		Excellent	Good	Deterioration	Poor			Bumpy	Smooth		Narrow Width	Steep Slope	Sharp Curves	Frost Heaves
Parker Rd.		X			X						X						
Pepperell Rd. (State)		X			X						X						
Regina Rd. (to Myopia)		X				X								X			Poor intersection with Old Milford Rd.
(rest)			X			X											
Rocky Pond Rd. (.2 mi. end pave.)		X				X				X					X		
(to end)			X					X					X				No shoulders
Ruonala Rd.		X				X					X		X				
Russell Hill Rd. (fr. Mason .5 mi)		X					X			X			X	X			Slope less than 10%
(rest)			X					X					X	X	X		
Sargent Rd. (Dead end)			X					X					X				Closed to Kecy Rd.
Skyline Drive(private)			X					X					X	X			
South Main St. (State)		X					X									X	
Steam Mill Hill Rd.		X				X											
Stonehedge Rd. (private)			X				X							X			
Townsend Hill Rd.		X						X									
West Hill Rd.			X					X					X			X	No shoulders
			X											X			Slope less than 10%
Pond Rd. (Bear Hill Vill., dead end)			X			X							X				

CONDITIONS: Excellent - very smooth, little or no cracking.

Good - smooth, with some signs of wear.

Deterioration - visible signs of wear (cracks, ruts, etc.) prevalent travel speed may be reduced.

Poor - badly rutted or cracked, speeds reduced, in need of repair.

E. Travel Patterns of Brookline Residents

1. 1980 U.S. Census

The 1980 U.S. Census also provided information on the Journey-to-Work characteristics of Brookline residents. This data can be used to determine which roads in Town are and would be used by local commuters to nearby employment centers. Table III-4 summarizes the work destinations and the most likely route used to get there.

As expected, Routes 13 and 130 carry the bulk of the work trip traffic from Brookline to other areas. Unfortunately, any information on trips into Brookline has been aggregated into a countywide summary. It should be noted that these distributions cannot be considered exact because the data is presented at the town-to-town level and does not reflect individual work locations, local congestion factors, or driver route preferences. However, the routes chosen do generally follow with the principle of minimum travel time, which is considered one of the primary factors in commuter route selection.

The data supports the assumption that Brookline residents are commuters to other, nearby employment centers, such as Nashua, Milford, and Manchester, although 15% of the Town's population (16 years and older) works within the town. These travel patterns do not pose any problems with the capacity of existing roadways. However, any increase in employment opportunities in Brookline, if desired as a long-term goal of this Plan, may result in an increase in incoming and outgoing commuter traffic on Brookline roads, probably along existing patterns. These effects will be considered later in the Future Land Use section of the Master Plan.

2. Survey Results

As part of the Community Attitude Survey, a series of questions was asked regarding work and non-work trips by Brookline residents. The work trips can be compared to the Census data to help validate the survey responses, while the non-work trips will give an indication of the use of and/or need for local and regional commercial facilities.

a) Work Trips

Table III-5 compares the 1980 Census data to the 1984 survey data. In general, the data verifies the Census findings of Brookline residents working in regional employment centers, such as Nashua, Milford, and in Massachusetts, while 11% work within Brookline itself.

TABLE III-4  
PLACE OF WORK AND LIKELY COMMUTER ROUTE  
FOR RESIDENTS OF BROOKLINE, N.H.

<u>Town of Work</u>	<u># Workers</u>	<u>% Workers</u>	<u>Likely Route</u>
Nashua	222	24.4	NH 130 east.
Brookline	134	15.3	Various roads in town.
Milford	113	11.6	NH 13 north to Milford.
Merrimack	69	7.4	NH 13 North to NH 101-A <u>or</u> NH 130 east to US 3.
Boston, MA area	48	5.5	NH 130 to US 3.
Amherst	36	3.7	NH 13 North to Bypass.
Manchester area	38	3.7	NH 13 north to NH 101.
Lowell, MA area	32	3.7	NH 130 to US 3.
Hollis	31	3.5	NH 130 eastbound.
Fitchburg, MA area	26	3.0	NH 13 south.
Pepperell, MA	20	2.3	NH 130 east to Pepperell Rd.
Townsend, MA	19	2.2	NH 13 south.
Groton, MA	17	1.9	NH 130 to Pepperell Rd. <u>or</u> NH 13 south to Route 119.
Hudson	7	0.8	NH 130 eastbound.
Elsewhere or Not reported	44	11.0	Unknown.
Workers living in Brookline	873		

External Work Trips by Route

NH 130 East - 368	Not reported - 96
NH 13 North - 230	NH 13 South - 45
Within Brookline - 134	

SOURCE : 1980 U.S. Census of Population

Route distribution compiled by the Nashua Regional Planning  
Commission.

TABLE III-5  
COMPARISON OF 1980 U.S. CENSUS JOURNEY-TO-WORK  
DATA WITH 1984 COMMUNITY SURVEY

<u>TOWN</u>	<u>TOWN SURVEY</u>	<u>% RESPONSES</u>	<u>1980 CENSUS</u>	<u>% RESPONSES</u>
Brookline	35	11.8	134	16.2
Milford	30	10.2	113	13.6
Amherst	9	3.0	36	4.3
Hollis	3	1.0	31	3.7
Townsend	5	1.6	19	2.3
Nashua	114	38.6	222	26.8
Manchester	9	3.0	21	2.5
Massachusetts (other)	64	21.7	129	15.6
Bedford, NH	3	1.0	17	2.1
Merrimack	10	3.4	69	8.3
New Hampshire (other)	<u>13</u>	4.4	<u>38</u>	4.6
	295		829	
No Response	85		44	

Source: 1980 U.S. Census  
Brookline Community Attitude Survey, 1984



b) Non-Work Trips

Survey results in this category followed expected patterns, where more frequent purchases were made locally, while larger, more infrequent ones were made at the larger cities, Manchester and Nashua, where these items are more available.

86% of respondents did their weekly grocery shopping either in Nashua (65%) or Milford (21%). Brookline residents who worked in towns where banking services were available (such as Nashua and Milford) generally banked in the same town, whereas residents working out of state conducted this activity in the nearby towns. Medical trips were concentrated in either Nashua or Milford (87% for doctors, 64% for dentist). Recreation trips were largely within Brookline (50%) or the immediate area, given the availability of Melendy Pond and Silver Lake State Park nearby.

As expected, furniture/appliance purchases were predominately in Nashua or Manchester, accounting for 87% of these trips. Entertainment activities were primarily in the Nashua/Brookline/Milford area, with Manchester being a less frequent destination.

III. SIGNIFICANCE OF RESULTS

The inventory of the transportation network in Brookline has identified the major roads and the travel patterns of town residents. As expected, traffic volumes were not high enough to cause any present capacity problems. However, the rural character of the Town's network, with its narrow, winding roads, either gravel or paved, may lead to safety problems later as present road conditions deteriorate. As the Town develops, local officials should look at needed improvements to those roads which will see significant increases in traffic, or where safety hazards need correction. Toward this end, local officials should investigate the need for a long-term road improvement/maintenance program, which should be part of an overall, townwide Capital Improvements Plan.

Travel by residents to and from work follows expected patterns along major roads and/or state highways. The location and type of future land uses could have a significant effect on present travel habits. The ability of the natural and man-made resources (such as roads) to accommodate future growth should be the primary criterion for assessing the appropriateness of changes in existing land use.



## CHAPTER IV

### COMMUNITY FACILITIES

#### INTRODUCTION

How well a Town "functions" as a whole is often governed by the type and adequacy of community services it provides. This section of the Brookline Master Plan identifies existing community facilities the Town provides for its residents. Also presented are recommendations to better address deficient areas of service.

As recently experienced by many New Hampshire Towns, inadequacy of community facilities is the direct result of accelerated Town growth. New residential, commercial, and industrial growth brings with it a greater demand on existing facilities and requirements for added levels of service. School enrollments increase, greater volumes of waste need to be disposed of, and more calls are made to the Town for additional fire, police, and ambulance protection services. Town roads require upgrading and extension, as do water and sewer facilities if they exist. Any Town is obligated to provide certain community services to its residents and businesses. As town growth takes place, so must the level of community facilities and services provided.

The following chapter outlines existing areas and levels of service provided by the Town of Brookline. Also addressed are anticipated needs to meet existing deficiencies and cover future levels of projected growth. Because future growth can only be estimated based on projections, the recommendations for areas of need are only that - recommendations. Should growth patterns be found to differ from what is projected, so must the Town's plan change to meet those different community needs. A plan is a must in the forward progress of any community's growth. In New Hampshire the required community plans for guiding growth are the Master Plan and the Capital Improvements Plan. A Master Plan is intended to cover a 15-year planning horizon. The recommendations resulting from the Master Plan process are meant to be implemented over a 5-year period.

This chapter does not provide the financial analysis as found in the CIP, but it does help define the goals and priorities that a CIP is based on. The following facilities and services are examined to determine each area's capability to meet present and projected future needs:

- |                          |                               |
|--------------------------|-------------------------------|
| - Fire Protection        | - Public Schools              |
| - Police Protection      | - Public Library              |
| - Ambulance Service      | - Recreation and Conservation |
| - Town Office Facilities | - Solid Waste Disposal        |

Suggested recommendations have been developed for each of the above community facilities and services. These recommendations are presented in Chapter VI: Goals, Objectives, and Recommendations.

### BROOKLINE FIRE DEPARTMENT

Brookline's fire protection service, is typical of many rural New Hampshire Towns. A community force of residents operate Town and Department-owned equipment to answer local and mutual-aid fire alarms. In between a totally volunteer force and full-time paid positions, the Brookline Fire Department is referred to as "call paid". Fire Department members all receive a yearly minimal stipend for being on the force. Depending on the members position, they also receive a variable hourly salary for time spent answering calls. The following sections examine various aspects of the service, its structure, what is involved, its adequacy, and future planning.

#### Fire Department Volunteers

The Brookline Fire Department is dependent on members coming forth to fill its ranks. Past yearly membership has averaged about 28 people. The 1985 membership list includes 25 people. The Fire Department is headed by three, Town-elected "Fire Engineers". With one elected as the Fire Chief, the three Fire Engineers oversee all operations within the Department. This includes personnel training, equipment maintenance, and most important, making sure all fire calls are handled in the most professional and timely manner possible. A breakdown of the Department's past ten year record of type and number of calls answered is presented in the accompanying table.

TABLE IV-1

#### Brookline Fire Department - Calls Answered, 1975-1984

Type of Call	75	76	77	78	79	80	81	82	83	84
Structure Fire	--	3	6	3	1	5	2	2	2	0
Chimney Fire	--	5	8	2	4	14	7	15	18	11
Brush/Forest Fire	3	6	10	7	7	17	5	8	8	2
Mutual Aid Call (stand by or assist)	--	6	13	10	8	14	12	10	21	16
Auto Fire	--	1	2	4	0	0	2	3	3	0
Auto Accident	--	1	1	3	3	0	6	3	5	1
Other	--	19	14	12	32	17	16	11	10	21
Total Number of Calls	--	41	54	41	55	67	50	52	67	51
Fire Department Annual Operating Expenditures (x \$1,000)	8.24	7.89	12.47	15.84	18.96	20.16	21.80	15.74	18.77	20.46

#### Fire Department Response Time

In answering a fire call or alarm, the Brookline Fire Department has two major concerns. The first is that the necessary fire fighting equipment arrives at the fire location as quickly as possible. The second is for Department personnel to also arrive at the fire location as soon as possible. These two considerations can be combined in an overall discussion of response time.

There are a number of factors which can affect a Fire Department's response time. The first is the time of day at which the fire occurs. A fire call taken during normal workday or evening hours will generally result in a faster than average response time. Those responding to the alarm will already be awake and dressed at the time of the alarm. For fire calls taken in the early hours of the morning (members being asleep and not dressed), response time will be slightly longer than average. The Brookline Fire Chief estimates the Department's response time can be anywhere from 4-10 minutes, depending on the time of day and location of the fire.

Second, is the location of the fire within the Town. The distance a fire is from the Fire Station and the surface and traffic conditions of the road together affect the response time. The location of hydrants and water holes also affects the time it takes a Department to get large volumes of water onto the fire.

Brookline is rated an "E" Town for fire insurance purposes. The rating is based on the type of fire protection the Town is able to supply and the availability of water sources within the Town. Presently, fire insurance premium rates are the same for an "A" rated City like Nashua, as they are for an "E" rated Town like Brookline. Depending on the type of coverage, commercial vs. homeowners, an insurance company may be concerned with the location of the Fire Station and water source with respect to a structure someone is requesting them to insure. The Fire Chief mentioned that insurance companies have contacted him to find out if a specific location is within five miles (by road) of the Station. The insurance company is also interested in the location's proximity to an adequate water supply for fire fighting and how fast and for how long the Department can supply water to the site. The accompanying land use map (Page IV-7) shows the Department's primary travel routes, existing stream and ponds, and the location of dry hydrants and water holes. The map also attempts to show where areas of existing residential, commercial, and industrial development are in relation to the above. (An enlarged map of much greater detail showing the Department's road numbering system and water access locations has been prepared by the Department and is on display in the Station.)

A third factor to consider is the location of Department personnel when the fire alarm is sounded. During normal working hours, five to seven Department members are present or working in the Town. This leaves 18 to 20 members working in neighboring Towns. Depending on the location of the fire, these people may actually be closer to the fire than some of those working within Brookline.

When a call is taken during the day, initial response time will be the same as for an early evening or weekend call when most of the volunteers are located in Town. Those working in Town will arrive at the fire in the same amount of time as they would for an evening or weekend alarm. The main difference will be the number of initial responders arriving at the fire location. A weekday fire will have a "second wave" of responders arriving to the fire scene shortly after the initial responders, as they are traveling in from other Towns. However, the Fire Chief feels that, so far, the number of initial responders is enough to set up equipment, analyze the situation, and begin operations. As the secondary responders arrive, they are assigned their tasks based on early fire reconnaissance.

In getting equipment to the fire, who does this is often determined by the location of the fire. The five to seven in-town members are all within one or two miles of the Fire Station. They happen to be situated so that, depending on where the fire is located, some of them will be driving by the Fire Station in going to the fire. Those going by the Fire Station will get the designated first response or "attack" vehicles out and on their way to the fire over the pre-planned routes previously mentioned.

As is the case with Brookline's "call paid" emergency fire service organization, the more people available to call on, the better in time of need. The Fire Chief encourages the involvement of any interested Townspeople in Brookline's Fire Department. All interested people can contact any Department member for further information. Based on an evaluation of the adequacy of existing personnel to protect the Town's current development from fire, the Fire Chief feels the present level of service and also the system or organization used to govern them, is adequately doing the job. As future growth occurs, its location and amount will require a re-evaluation of the Department's ability to provide the same level of service without expanded personnel or through the use of paid positions. The accompanying map shows existing development within Brookline. Future development in outlying areas will increase the chance of fires taking place where response times will be longer than average.

#### Fire Department Equipment and Facilities

The adequacy of the facility presently housing the Brookline Fire Department is greatly enhanced by its south central location within the Town. The Fire Station's proximity to NH Route 13 is also very favorable. The 2400 square foot facility was built in 1968 to house the Department's expanding fleet of fire fighting vehicles. (Before taking over its present headquarters, the Department operated out of what now houses the Brookline Volunteer Ambulance Service.) Between 1979 and 1982, a 1400 square foot addition was built to provide space for meetings, training sessions, fund raising functions and storage of additional equipment. The new addition also houses the Department's collection of antique fire vehicles which the Town once actually operated.

The Brookline Fire Department vehicle and equipment roster presently includes:

<u>Type of Equipment</u>	<u>Town Costs (X \$1,000)</u>
- 1984, 1000 gallon capacity, 1000 gallon per minute (gpm) hose/pumper truck with 2500 feet of four inch hose coiled on a 3600 foot capacity rear, power operated reel.	\$66.63
- 1979, 1000 gallon capacity, 750 gpm, "attack" pumper truck	43.00
- 1968, 1000 gallon capacity, 750 gpm, "attack" pumper truck	16.47
- 1950, 500 gallon capacity, 500 gpm tanker	7.00
- 1969, 4-wheel drive forestry pickup	3.40
- 1967, 2800 gallon capacity tanker	1.00



Type of Equipment

- 2, 250 gpm, portable pumps
- 2 portable generators
- various mechanized saws
- 11 air packs
- 25 fire fighting uniforms
- hose inventory consisting of:
  - 3000 feet of four inch hose
  - 6000 feet of two and one half inch hose
  - 2000 feet of one and one-half inch hose
  - 3000 feet of one and one eighth inch hose (Forest Fire Use Only)

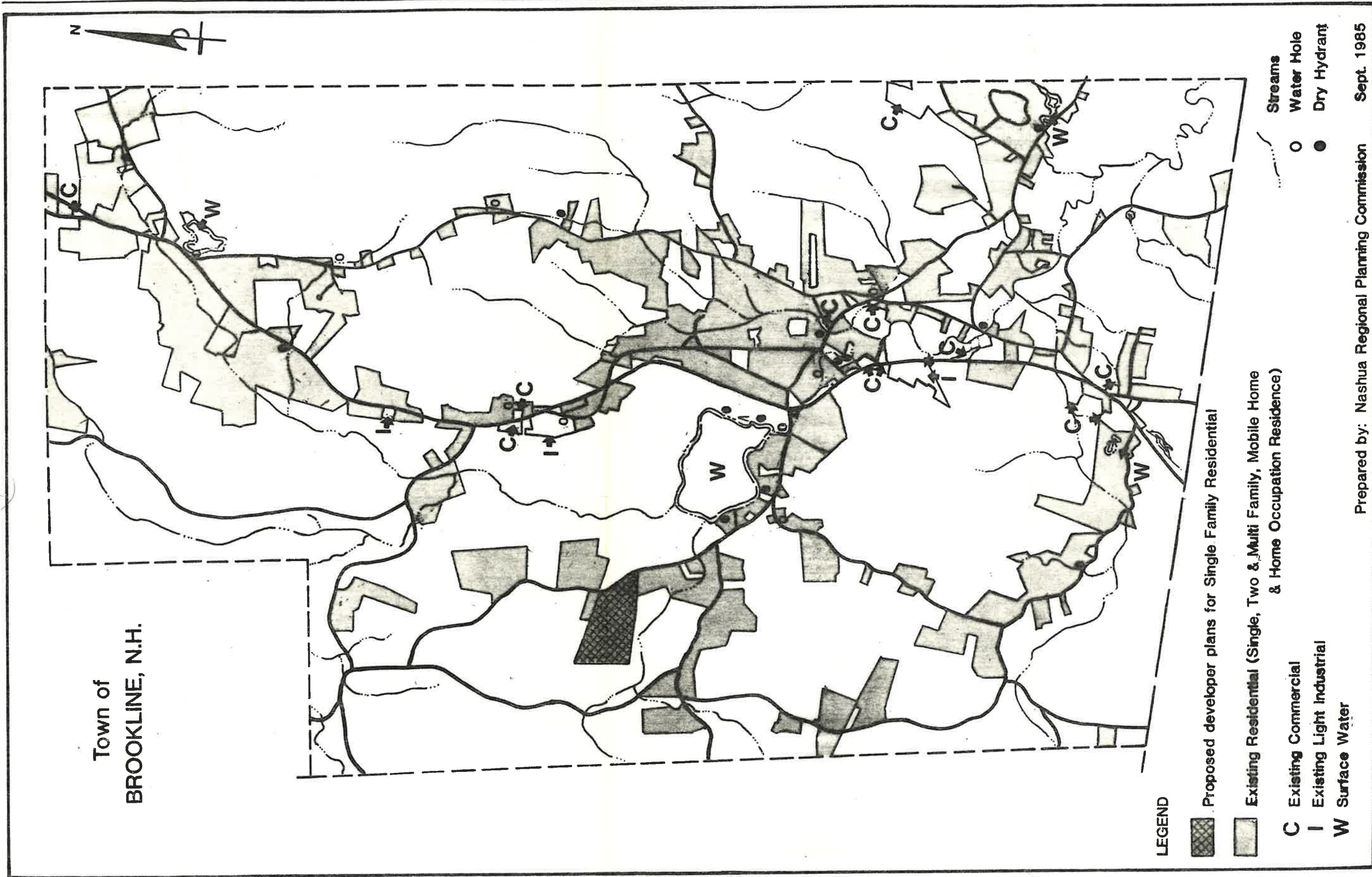
All the above equipment was purchased new except for the 1967, 2800 gallon tanker. All equipment is well taken care of under the Department's own maintenance program. Each piece of equipment is expected to age out of use rather than wear out before it needs to be replaced. Except for the 1967, 2800 gallon capacity tanker, all equipment is considered to be very adequate for the foreseeable future. The Fire Chief feels there will be a need to replace the tanker in about two years. Through Town appropriations and Department fund raising, money for the replacement tanker is now being raised annually. Also, all hose inventories are inspected on a yearly basis and replaced as needed. An additional 600 feet of four inch hose is to be purchased in the near future to fill the reel on the new hose/pumper truck. This would give the hose/pumper truck a total capacity of 3600 feet of four inch hose. The four inch hose, used above ground, is similar to what most towns with a hydrant system use under the ground.

The present facility is also considered to be adequate for present and future needs. No anticipated expansion of this facility is felt necessary at this time. This statement is supported by the fact that the Fire Station's present location, vehicle inventory, and level of service provided is very adequate in offering Town-wide fire protection. New development in the north portion of Town is adequately covered by the Department and a new substation in this part of Town is not felt to be necessary. The rate and magnitude of future development in the north section of Town will determine the need for a northern substation. Along with an increase in growth within this section of Town, the increase in traffic along NH Route 13 is expected to have a negative impact on the Department's response time to this area. Therefore, a substation may be warranted. The substation could house one of the Department's "attack" pumper trucks and one of the tankers.

The "bottom line" is that the Fire Department feels it is offering the very best fire protection service possible and that the residents of Brookline feel they are receiving the very best level of service possible. The Brookline Fire Department is proud of the growth it has accomplished in developing an organization capable of providing the Town with professional and fast response service. The residents of Brookline are also very pleased with the level of service being provided to them. Results of the community attitude survey showed that out of 380 respondents, 153 felt the present level of service as very good, 175 as good, 33 had no opinion, 12 didn't know, 9 gave no response, and only 2 felt it was poor or very poor.

The weighted average score per respondent comes out to be 3.46 out of a possible high of 4. (See Chapter V: Community Attitude Survey.) This score is the highest score all Town services and facilities which were evaluated.





BROOKLINE POLICE DEPARTMENT

Operating with only part-time staffing, many New Hampshire communities have, or are now considering, a change to full-time staffing. This is in response to greatly increasing community service needs, time necessary for processing case work and for administrative duties. New State regulations, like the doubling of the number of hours required for training, are also discouraging people from putting in the additional training time necessary in return for only part-time work.

The Brookline Police force consists of a part-time Police Chief who often logs 40-50 hours per week and six part-time officers. Three male part-time officers put in 15-20 hours per week while on patrol. Of the three part-time female officers, one is the Department Police Matron handling female arrests and Administrative Assistant duties. another does part-time patrol in the Town cruiser and the third is called when additional help is needed.

The Brookline Police Chief feel the type of police service being desired by the community, the need for increased patrolling, and the increasing accumulation of logged, part-time duty hours support the need for two full-time positions. One would cover the day shift while the other would handle the night shift. Part-time officers would still be necessary to cover weekends, vacation periods of the full-time staff people, and when additional support is needed. The accompanying Table presents annual totals for the various types of calls the Department has responded to.

TABLE IV-2  
BROOKLINE POLICE DEPARTMENT - ANNUAL ACTIVITY, 1975-1985\*

<u>Type of Call</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>
Abandoned Vehicles	-	-	-	-	-	-	-	-	-	-	10
Airplane Crash Invest.	-	-	-	-	-	-	-	2	-	-	0
Alarms Answered	-	-	-	-	-	-	-	22	10	26	13
Animal Complaints	-	-	-	-	-	-	-	-	-	-	13
Arrests	-	-	-	83	34	45	53	23	24	43	24
Arson Invest.	-	-	-	-	-	-	-	4	3	2	0
Assaults	-	-	5	22	6	12	25	3	5	8	1
Bad Checks/Forgery	-	-	-	2	-	3	2	-	-	-	2
Burglary and Theft (Breaking, Entering & Larceny)	38	33	39	57	31	41	46	35	26	27	17
Complaints, Private/ Domestic	939	972	900	1113	1135	1243	1200	197	327	208	17
Complaints, Criminal	10	9	12	76	84	87	53	27	16	44	25
Drownings	-	-	-	-	2	-	-	-	-	-	0
Emergency	46	39	44	-	-	-	-	-	-	-	0
Harassment	-	-	-	-	-	-	-	-	-	-	6
Homicide	1	-	-	-	-	-	-	-	-	-	0
Household Checks by Request	344	288	55	58	63	-	-	-	-	-	0
Incidents	-	-	-	-	-	-	-	-	-	-	28
Juvenile Cases	73	79	60	97	84	91	75	-	-	-	0



BROOKLINE POLICE DEPARTMENT - ANNUAL ACTIVITY, 1975-1985\*, Cont'd

<u>Type of Call</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>
Mutual Aid:											
Fire & Medical Assists	94	174	-	-	-	-	-	47	29	26	17
Assist to Other Towns	93	-	-	-	-	-	-	21	42	39	22
Missing Persons	21	18	2	6	5	4	6	9	10	9	5
Noise	-	-	-	-	-	-	-	-	-	-	13
OHRV	-	-	-	-	-	-	-	-	5	7	5
Open Door/Window											
(Attempt Breaking, Entering & Larceny)	14	19	8	-	-	-	-	-	-	-	7
Possession of Alcohol	-	-	-	-	-	-	-	-	-	-	3
Possession of Drugs	-	-	-	-	-	-	-	-	-	-	6
Property Damage	43	37	30	32	38	83	49	-	-	-	0
Reckless Conduct	-	-	-	-	-	-	-	-	-	-	1
Shots Fired	-	-	-	-	-	-	-	-	-	-	5
Suicide Attempts	-	-	-	4	7	4	3	-	-	-	0
Suicides	-	-	-	1	0	1	1	-	-	-	0
Suspicious Persons	-	-	-	-	-	-	-	-	-	-	9
Suspicious Vehicles	-	-	-	-	-	-	-	-	-	-	12
Wanted Persons											
Apprehended	12	8	4	-	-	-	-	-	-	-	-

BROOKLINE POLICE DEPARTMENT  
ANNUAL MOTOR VEHICLE ACTIVITY, 1975-1985\*

<u>Type of Call</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>
Accidents (#/Fatalities)	27	41	45/1	70/4	51/2	57/0	60/0	42/1	31	32	38
Driving After Suspension	-	-	-	-	-	-	-	-	-	-	5
Driving While Intoxicated	12	-	-	-	-	-	-	8	11	2	7
Motorist Assists	-	-	-	-	-	-	-	51	56	74	7
Motor Vehicle Complaints	168	135	115	130	138	185	146	53	46	57	15
Parking Tickets Issued	18	-	-	-	55	43	57	81	42	23	2
Summons	41	122	65	109	269	277	30	391	625	280	225
Warning and Defective Equipment Checked or											
Tags Issued	270	200	100	123	149	159	105	621	745	514	71
Vehicle Invest.(Stolen)	31	26	13	4	9	11	7	4	3	12	-
Vehicles Recovered (Stolen)	-	-	-	-	-	-	-	4	4	10	-

\* All figures for 1975 to 1984 were taken from respective Annual Town Reports. The 1985 figures cover from January through July and were gathered from current files by the Chief of Police. Unless specified by a zero figure, in some instances it was difficult to determine from the Town Reports if a type of activity actually did not happen or was included under another category.

The residents of Brookline appear to be satisfied with the level of service that has been provided. Results of the Community Attitude Survey show that out of 380 respondents, 47 felt the present level of service as



very good, 201 as good, 24 had no opinion, 22 didn't know, 17 gave no response, 53 felt it was poor, and 16 as very poor. The weighted average score per respondent comes out to be 2.88 out of a possible high of 4. (See Chapter V: Community Attitude Survey.) Out of a total of 14 community services being provided in Brookline, this score ranks the Police Department as eighth.

The Police Chief usually answers all day calls and does case work and other administrative functions. Other part-time officers fill in as needed and also are on call for the night shifts. Officers who are on call must be available for the entire shift they have agreed to take. Up until now, they have only been paid for the time taken to respond to a call, do follow-up case work, or patrol. The part-time, on-call arrangement presently being used in Brookline has changed due to the outcome of a recent Supreme Court case in Texas (Garcia vs. San Antonio Metropolitan Transit Authority). The Judge's decision has, in effect, required the Town to pay for the entire time when the Officer is on call and not just when working a case. The reasoning being that when an Officer is on call, it affects his or her personal life in that he or she must remain in the Town and not go elsewhere. With the Department's budget already being used to the maximum, the decision has a drastic affect on the type and amount of service the Brookline Police Department will be able to provide without having to increase its budget or provide full-time staffing. The Town's part-time Department will now be on duty from 6 PM to 6AM throughout the week. The NH State Police will provide coverage the rest of the time. The Police Chief no longer has the flexibility to schedule daytime police coverage, dispatch a cruiser to handle complaints and cover roadways to slow traffic. Due to State Police coverage limitations also arising from manpower problems, the resulting response time to daytime calls will, in all likelihood, increase over what it has been in the past.

#### Facilities and Equipment

The current, centrally located Brookline Police Department facility consists of a single room of approximately 120 square feet, in the basement of the Daniels Academy Building. Within this very limited area, the Police Department processes defendants, stores evidence, and administers its activities. There are two desks and two filing cabinets also in this room. One small closet is available for storage but it has long since been filled and additional space is greatly needed to store under lock and key all evidence collected for future case trials. A smaller room was added through renovations of the area near the Town Vault. This room is only 100 square feet and cannot be locked as it would prevent access to the Town Vault. There is uniform agreement that the present facility is inadequate. Plans have been completed to enlarge the first room and build a doorway to the room housing the Town Vault. A desk and table have been set up in the Town Vault room to provide a place for photo and finger printing equipment plus other supplies for processing defendants. Ideally, a room of 200-250 square feet is felt necessary to house the operations of the Police Department, above the space already available. This room would house one desk for Officer use, one for the Administrative Assistant, and area for filing cabinets and some storage. The existing office would be used by the Police Chief.

The Police Chief also mentioned there is a problem with after-hours access to the office area. When the Town Building is open, Officers use the front door and stairway to reach the basement hallway leading to the office. When the Town Building is not open, access is gained through basement doors to the lower meeting hall and through another door which leads into the hallway in front of the office. The problem arises when an Officer is bringing in a defendant after hours for processing while the lower meeting hall is in use. Those using the meeting room are disrupted at the sight and/or sounds of those being brought in. The problem could be alleviated by building a partitioned entrance way connecting the outside basement doors to the door leading into the hallway. Another solution would be to build a door in place of the window on the stair's first landing. By building stairs to this door on the outside, access to the office would be possible without encroaching on the available space within the lower meeting hall.

The vehicle being used by the Police Department as it's cruiser is a 1982 Ford LTD. The vehicle was purchased new and is in very good condition. The Police Chief feels this cruiser will need to be replaced in 1987 when it will be five years old. Presently, two personal vehicles are being used by Officers for police business when the cruiser is in use. There are often times when two vehicles are necessary to handle the work load. This includes multiple calls, travel to testify in court and transport defendants, and times of hazardous or heavy traffic as with ice storms and holidays. If a new vehicle is purchased, the present cruiser could be kept on for use as a second or back-up vehicle.

### BROOKLINE VOLUNTEER AMBULANCE SERVICE

Truly a volunteer emergency service, the Brookline Ambulance Service operates totally on volunteer efforts. The Ambulance Service does not charge for the professional service it provides and many volunteers would not offer their time if they did charge. The volunteers feel strongly that the time and effort they put in is their contribution to their community. The following sections look at various aspects of the Ambulance Service, its structure, what is involved, its adequacy, and future planning.

#### Ambulance Service Volunteers

Consisting of a dedicated 15-member volunteer force, the present Brookline Ambulance Service provides a professional and experienced public service to the Town. Of the 15 current members, approximately two-thirds have the EMT 1 and EMT 2 level certification. The remaining one-third have the Advance First Aid and CPR level of certification. With the present level of volunteer support, the Ambulance Service is able to provide high level emergency response service 24 hours a day, seven days a week, free of charge to all requesting it. However, this is not an easy task as the Ambulance Service is presently short-staffed on all shifts. Volunteer membership is about half the level felt necessary. To adequately cover all shifts, a volunteer force of about 30 is needed. With some members being unable to volunteer at certain times, this would leave a force of about 25 "active" members to draw from in scheduling all shifts.

During the day there are eight members on call at all times. Past years have had only four daytime members on call to provide the same service. Most of the volunteers are at home during this time, either homemakers, retired people, or second shift workers. One of the members is at work during the day shift and has his/her employer's approval to leave if called upon. Cooperation such as this from employers who have hired volunteer emergency service people is greatly needed. If the situation warrants, off duty volunteers can be called and a mutual aid call can be put out to a neighboring town such as Milford or Hollis.

The Ambulance Service is always looking into different ways to get new members and better fill their ranks. Along with volunteers having to work, the recent "Baby Boom Echo" has also affected attendance by taking away volunteers who have a new child at home to care for. The Ambulance Service has started efforts to arrange for child care volunteers to look after a person's children if they are called out. They are interested in having the Town's senior citizens become involved in this respect.

To help increase their volunteer numbers and to provide the necessary levels of training, the Ambulance Service offers "Open House" training sessions once a year. These sessions are open to all interested people who wish to begin their training in Advanced First Aid and CPR. Along with the Ambulance Service's monthly meetings, refresher courses, and new training, the "Open House" sessions allow all volunteers to be kept up-to-date in emergency service techniques. The yearly "Open House" sessions usually draw about 20 starters. About half do not finish after discovering what is involved in the course to learn the required materials. Of the ten who do finish, about seven usually join the Ambulance Service as new members. One might think that membership would soon be high if this rate of new members

kept up for a few years. However, the Ambulance Service may also lose 4-7 members during any given year. Those dropping their membership may move out of Town, start families, take on a new or different job, or just drop out from lack of interest. Lack of interest is more important than might be thought and unique in some ways to small Town Ambulance Services. The condition has been coined "Paradoxical Burnout" by the current president of the Ambulance Service. What happens is a person puts a lot of their time and energy into training before and during their time of service. With 60-80 calls being answered each year, (refer to the accompanying table), this averages less than a call a day, or 5-7 a month. The actual number of monthly calls seems to fluctuate from a low of 2-3 a month to a high of 11-12. The level of calls being responded to is very low compared to other Town Ambulance Services, but appears to be on the increase. (The Milford Ambulance Service averages ten times the number of calls that Brookline does.) The volunteer often does not get an opportunity to put into practice their training for extended periods. Subsequently, volunteer interest drops and after saying "what's the use", they drop out. When a call does come in, the newer members or those who haven't had any refresher training for a number of weeks, may also question their readiness and ability to provide the needed level of service. The ultimate loss of members shows the importance of routine training sessions and active participation. But the loss is more than just a body; it is a loss of dedicated hours of training and experience which is extremely valuable to the organization providing this service for the Town. The Brookline Ambulance Service is considering new ways to lessen the impact of this loss of trained members from lack of interest and service. Through their Mutual Aid Program with Milford (who's Ambulance Service is considered overworked), Brookline is increasing their assistance to Milford whenever needed. Hopefully this cooperative effort will benefit both parties by allowing Brookline volunteers to keep their training, experience, and confidence up while helping with some of the load that Milford is experiencing.

TABLE IV-3

BROOKLINE VOLUNTEER AMBULANCE SERVICE, 1978 - 1984

<u>Type of Call</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Motor Vehicle	22	16	12	7	17	15	15
Home Illness	35	37	37	37	35	37	42
Home Accidents *	23	15	23	14	13	28	24
Pediatric Runs **	1	8	0	7	1	1	3
Total	81	76	72	65	66	81	84

SOURCE: Brookline Volunteer Ambulance Service, Inc.

\* Included in Home Accidents are Ski Accidents.

\*\* Pediatric Runs are a sub-category which cut across the other three categories.

It appears that the Mutual Aid Agreements between neighboring towns has developed into something greatly beneficial to all involved. Neighboring Town Ambulance Services have joined together into a loose "association" to provide joint CPR and EMT training sessions, emergency methods



testing, and local/regional councils to advance their cause. Each neighboring Town's Ambulance Service has within it a core of very dedicated individuals who each have provided over ten years of voluntary, professional, emergency service. This core group has and continues to work together for the benefit of all.

#### Emergency Response Time

As with all organizations responding to an emergency, the time it takes for equipment and personnel to reach the scene is critical. The Brookline Ambulance Service average response time is under five minutes, usually between two and three minutes. This varies with the location where emergency service is needed and the time of day when the call comes in. Factors favoring a short response time include the central location of the station, the proximity to NH Route 13, and the nearby location of on-call volunteers. After a call is taken in, volunteers are paged, and through radio and telephone conversations know where to go and what each volunteer is responsible for. The Ambulance Service is very fortunate in that it has five members within the immediate vicinity of the station. This greatly speeds up the process of getting the ambulance on the road.

#### Ambulance Service Facilities and Equipment

Housed in what was one time the Brookline Fire Station, the Brookline Ambulance Service benefits from its centrally located headquarters on Main Street with easy access to NH Route 13.

The downstairs of the two-story facility offers one bay for parking the ambulance and some room for equipment storage. There are two rooms upstairs, one used for meetings, office space, and training sessions, while the other is used by the Fire Department for storage. The door to the parking bay initially had to be raised to allow the ambulance enough clearance to get in. The bays width allows only about one and one half feet of space on either side of the vehicle and about six feet of space at its rear where equipment is stored and loaded from. The space available for storing the ambulance is minimally sufficient at present while, the upstairs room is adequate for meeting and training needs.

The ambulance used for all emergency work is a 1976 Dodge demonstrator model purchased in 1976. The vehicle is presently nine years old. The Safety Service section of the NH Safety Department advises if an Ambulance Service has only one vehicle to rely on, it not be more than five years old. If it is a backup or secondary vehicle then its age is not a concern as long as it is in satisfactory running condition. Since the vehicle being used in Brookline is their only vehicle, its age is of concern to the Ambulance Service. The ambulance is also experiencing increased mechanical starting problems and because of this they are even more concerned. Being an emergency vehicle, its present condition is beginning to cause problems in answering emergency calls and therefore the vehicle needs to be evaluated and replaced if necessary.

As Brookline continues to grow and if there is the increase in the number and type of local and emergency calls as expected with a population increase, additional equipment may be necessary. Brookline's emergency

service needs should be re-evaluated in the next five years to consider the need for an additional rescue vehicle and equipment. Another bay in the building can be made available to house the rescue vehicle with some renovation. The specially equipped rescue vehicle and trained staff, along with the Town's well qualified Fire Department, would definitely expand the level of emergency service provided to the community and the region.

The Ambulance Service also makes use of a member's "volunteer" personal computer. The computer is used to schedule the on-call shifts, handle memos and correspondence, and keep all records of the operation. Should this begin to require a lot of user-time for the computer, then the Ambulance Service may wish to consider purchasing one of their own or in conjunction with the Fire Department or other Town Departments.

The Brookline community seems to be very satisfied with the level of service presently being offered. Results of the Community Attitude Survey show that out of 380 respondents, 143 felt the present level of service as very good, 145 good, 43 had no opinion, 23 didn't know, 15 gave no response, 9 felt it was poor, and 2 very poor. The weighted average score per respondent comes out to be 3.435 out of a high of 4. (See Chapter :Community Attitude Survey.) This score is second highest to only the Fire Department out of all Town services evaluated.

### BROOKLINE TOWN OFFICE FACILITIES

Brookline houses the majority of its Town offices and functions within the Daniels Academy Building (dedicated in 1913) located in the center of Town. Except for the Fire Department and the Ambulance Service, the building houses the Police Department, the Selectmen's Office, the Tax Collector's Office, the Public Library, the Town Vault, two meeting halls, and kitchen area.

The Selectmen's Office is located on the main floor and consists of approximately 400 square feet of space used for meetings and file storage. Connected to this office is a smaller room of about 200 square feet in size and used by the Selectmen's Secretary and Town Treasurer. Adjoining the Secretary's office is another room of similar size which is the location of the Tax Collector's Office. Also located on the main floor is the Public Library which has 1600 square feet available for its use. Brookline's Public Library is covered in a separate section of this Chapter.

The upper floor of the Daniels Academy Building consists of approximately 1800 square feet of floor space, with a raised stage area and balcony. The Town Fire Chief has rated the upper hall capacity at 180 people. The upper hall serves a variety of other Town functions. These include Annual Town Meetings, Grange activities, theater group performances, Church craft fairs and school functions, among others. The hall is also available for other public functions for a small rental fee.

The basement floor of the building also houses a variety of rooms and functions. On this floor is the lower hall, having approximately the same floor area as the upper hall. This includes kitchen facilities and an area for storage. The lower hall space is used for Grange meetings, Town Agency meetings, and voting. The Fire Chief has rated the capacity of this hall space at 100 people. The basement area also houses the Brookline Police Department. As with the Public Library, the Police Department is covered elsewhere in this Chapter. Besides the lower hall and Police Department, the basement floor contains the 36 square foot Town vault and rest rooms.

Not considering the Public Library and Police Department, and with the exception of the upper hall for Town meetings, the above facilities are considered barely adequate at this time. Attendance at Town-wide assemblies is quickly approaching, if not exceeding at times, the upper hall occupancy limit. A larger location capable of holding the attendants of future Town Meetings is being sought. At this time there is a cooperative Town/School Committee group exploring the possibility of constructing a "cafetorium" at the Brookline Elementary School. Should this materialize, the building would meet the needs of both the Elementary School and the Town. At present, Library space is considered very inadequate, based on space and structural limitations. If it is decided to relocate the Library facility, this would allow other Town offices to expand. There is also to the south of the building an unused parking area as big as the current building. Should expansion be necessary for the Town Offices, Police Department, and Public Library (if not relocated), then an expansion of the existing Daniels Academy Building could go into this vacant area.

## BROOKLINE SCHOOLS

### Introduction

The municipal school system is in many ways the most vital and important element of community life. Residents of the community as a whole are entrusted with the responsibility of providing public education for all children. The major thrust of public education is to provide the basic knowledge and learning skills which will facilitate, if not guarantee, life-long individual development and productivity.

As such, the municipal school system represents a significant commitment of resources to provide facilities, staff and materials which will enhance the educational experience for the community's youth. In Brookline, schools demand the most substantial expenditures of any government service. This is true in most, if not all, communities.

A brief look at the Town's tax rate breakdown will demonstrate the size of educational expenditures vs. all other community services. Over the decade from 1974 to 1983, the portion of every tax dollar which went to education ranged from a low of 78% in 1974 to a high of 93% in 1980 to 86% in 1983. In short then, a minimum of slightly over three times more money was raised to be spent on education alone, than was raised to be spent on all municipal services combined. This includes all public health and road expenditures at both the Town and County levels.

This section looks at how money has and should continue to be spent towards providing adequate facilities for each school to operate. School curriculum and staffing are concerns of respective school boards and not discussed here.

### Existing Facilities

#### Brookline Elementary School

The Brookline Elementary School is a one story concrete block building built on a concrete foundation slab, with 13,725 square feet of usable space. The building includes ten classrooms, a principal's office, a faculty room, a boiler room, and a multipurpose room. Based on State requirements the school could accommodate up to 250 students. Located on seven acres on Route 130, construction of the main, four classroom building was completed in 1962, with a six classroom addition that was completed in 1967. In 1982 half of the original flat roof was covered with a pitched roof and the remaining portion was completed in 1983.

The school offers a full academic curriculum as well as library services, art, physical education, special education, speech/language therapy, and remedial reading/math instruction with Title I tutors. The school employs ten full time teachers, one full time administrator, five part time teachers, and two Title I tutors. Other staff include part time secretary, part time nurse and full time custodian. The school also makes use the services of the Special Education Consortium of Milford for evaluation of students for Special Needs. The school uses an environmental educator on a part-time basis at local expense. The program was originally developed and run by the Beaver Brook Association of Hollis, NH.



The building currently serves 156 (1984) students in grades Readiness /one through six. Past, present, and projected future enrollment for grades Readiness/one through six are shown in the accompanying Table:

TABLE IV-4  
OCTOBER SCHOOL ENROLLMENTS: BROOKLINE ELEMENTARY SCHOOL GRADES 1-6  
1970-1990

Grade	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	30	28	35	25	31	38	30	37	32	30	26
2	20	31	27	40	27	26	34	32	37	29	20
3	44	21	33	28	35	30	29	31	32	35	31
4	37	44	20	33	31	35	33	30	32	36	34
5	42	38	39	19	31	36	39	33	30	32	37
6	29	42	43	44	21	36	39	40	37	32	32
Total	202	204	197	189	176	201	204	203	200	194	180

Grade	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	29	34	36	35	35	31	33	36	25	33
2	24	20	25	27	26	33	29	31	33	23
3	23	26	21	26	27	35	35	31	33	35
4	30	23	26	21	26	29	35	35	31	33
5	34	36	22	27	21	24	30	36	36	32
6	39	34	37	20	27	25	25	31	37	37
Total	179	173	167	156	162	177	187	200	195	193

SOURCE: 1970-1980 Figures - Superintendent of Schools  
1981-1984 Figures - Annual Town Reports  
1985-1989 Figures - SAU #41 Projections  
1990 Figures - SAU Averaging of Previous Eleven Years

The SAU #41 projected figures are based on using the Survival Ratio Method to determine the average change between total number of births (six years prior) and actual first year enrollments. The ratio is based on the previous years' experience, typically a 10-year average. Twelve years of actual birth/enrollment statistics are available. Using this data, an average ratio of 1.57 was determined. As actual birth figures are used for this method of enrollment projection, one can only project six years beyond the latest year of total births. In this case, enrollment projections have been made to the year 1990, based on 1984 birth statistics. The following Table shows past and projected birth and first year enrollment figures.

TABLE IV-5

PROJECTED GRADE 1 ENROLLMENTS BASED ON THE SURVIVAL RATIO METHOD

<u>Year of School</u> <u>IEntrance Age 6</u>	<u>Total #</u> <u>Births</u> <u>(Year)</u>	<u>Grade 1</u> <u>Enrollment</u> <u>(#Increase)</u>	<u>Year of School</u> <u>Entrance Age 6</u>	<u>Total #</u> <u>Births</u> <u>(Year)</u>	<u>G r a d e</u> <u>Enrollment</u> <u>(#Increase)</u>
1970	-(1964)	30	1981	21(1975)	29(+ 8)
1971	-(1965)	28	1982	17(1976)	34(+17)
1972	-(1966)	35	1983	24(1977)	36(+12)
1973	-(1967)	25	1984	16(1978)	35(+19)
1974	-(1968)	31	1985	22(1979)	*35(+13)
1975	-(1969)	38	1986	20(1980)	*31(+11)
1976	26(1970)	30(+ 4)	1987	21(1981)	*33(+12)
1977	23(1971)	37(+14)	1988	23(1982)	*36(+13)
1978	22(1972)	32(+10)	1989	16(1983)	*25(+19)
1979	28(1973)	30(+ 2)	1990	21(1984)	*33(+12)
1980	19(1974)	26(+ 7)			

\* SAU #41 Projected First Year Enrollment Figures

Projecting beyond 1990 to obtain reliable figures is difficult as no total birth figures are available for years beyond 1984. One may generalize from viewing total population change in relation to birth and death figures to see how in-migration may affect a Town's population and its school enrollment. The following Table shows population statistics recorded from 1970 to 1983. Population projections from the Office of State Planning are also included in five year increments starting in 1985.

TABLE IV-6

BROOKLINE POPULATION STATISTICS - 1970 - 2030

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Total											
Population	1167	1252	1288	1351	1397	1415	1425	1544	1698	1664	1766
# Change	-	85	36	63	46	18	10	119	154	(-34)	102
% Change	-	6.8	2.8	4.7	3.3	1.3	0.7	7.7	9.1	(-2.0)	5.8
# Births	26	23	22	31	21	24	19	25	19	22	27
# Deaths	10	11	11	10	7	10	6	12	10	9	12
Net Increase	16	12	11	21	14	14	13	13	9	13	15
Inc. Due to											
In-migration	-	73	25	42	32	4	(-3)	106	145	(-47)	87
% of Total											
Increase	-	85.9	69.4	66.7	69.6	22.2	(-30.0)	89.1	94.2	138.2	85.3

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>
Total									
Population	1821	1834	1846	2140	2450	2700	2910	3060	3220
# Change	55	13	12	186	160	173	103	108	113
% Change	3.0	0.7	0.7	9.2	7.3	7.3	4.2	4.2	4.2
# Births	26	25	24	-	-	-	-	-	-
# Deaths	8	12	11	-	-	-	-	-	-
Net Increase	18	13	13	-	-	-	-	-	-
Inc. Due to									
In-migration	37	0	(-1)	-	-	-	-	-	-
% of Total									
Increase	67.3	0	108.3	-	-	-	-	-	-

A slight immediate increase is seen in school enrollment figures for Grade 6 during the year of high in-migration over Grade 5 the year before. The immediate increase may be due to school age children (Grade 6) being brought into the area. However, while other grades' enrollment figures for the same period stayed the same or increased slightly, some unexpectedly dropped as well. The effects of in-migration are better revealed in the previous Table showing Grade 1 enrollments based on the Survival Ratio Method. Larger differences between the number of births six years prior and the Grade 1 school enrollments are seen for the years 1977-78, 82, and 84. The difference is likely due to in-migration of school age children.

Based on an estimated capacity of 250 students, it appears that the existing facility will hold future projected numbers of students for Grades 1 through 6. Enrollment is projected to increase from its present figure of 156 students (1984) to a high of 200 students (1988). After 1988, enrollment totals are projected to decrease.

Except for the lack of cafeteria, auditorium and gymnasium space, the existing facilities appear to be adequate for projected needs. The Brookline School Board has appointed a Building Committee to look into the



building of a cafetorium and related service areas at the Elementary School. Such an addition would provide needed space and facilities for the school to provide a school hot lunch program, assembly functions, better physical education classes, custodial and storage space, special education space, library facilities, an art room, and teacher room.

#### Hollis Area Junior and Senior High Schools

As a result of a 20-year Area Agreement between Hollis and Brookline entered into in February 1969, Brookline students in grades 7 and 8 attend Hollis Junior High School and grades 9 through 12 attend Hollis Area High School. The agreement has allowed students from both Towns to enjoy a comprehensive high school/college preparatory curriculum including studies in english, math, social studies, science, foreign language, industrial arts, home economics, business, physical education and music.

Past, present, and projected enrollment figures for Grades 7 through 12 are presented in the accompanying Table. Grades 7-8 reached a combined peak of 88 students in 1974 and in 1984 had 67 students. Based on lower numbers of upcoming students, projected enrollments are expected to drop to an average of 53 students over the next six years. The low figures being 47 students in both 1986 and 1988, with the high being 65 students in 1990. The 1990 projected figure of 65 students will be the number of spaces needed for the first year after the contract runs out in 1989.

Grades 9 - 12 reached a combined peak of 146 students in 1976 and 1977, while in 1984 there were 118 students. Also based on lower numbers of upcoming students, projected enrollments are also expected to drop considerably after reaching a peak of 125 students in 1986. The 80 projected figure in 1990 will be the number of student spaces needed for the first year after the contract runs out in 1989.

TABLE IV-7

OCTOBER SCHOOL ENROLLMENTS: BROOKLINE STUDENTS IN HOLLIS AREA JUNIOR AND SENIOR HIGH SCHOOLS, 1970-1990, GRADES 7-12

<u>Grade</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
7	42	29	42	43	45	26	38	41	37	36	30
8	20	38	33	37	43	48	29	40	43	34	33
<u>Total</u> 7 - 8	62	67	75	80	88	74	67	81	80	70	63

9	30	22	41	33	37	43	51	28	38	40	31
10	23	24	24	39	28	10	42	43	29	35	36
11	17	22	23	19	33	25	34	42	39	28	31
12	14	16	22	23	15	34	19	33	29	36	26
<u>Total</u> 9 - 12	84	84	110	114	113	112	146	146	135	139	124

<u>Total</u> 7 - 12	146	151	185	194	201	186	213	227	215	209	187
------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

<u>Total</u> 1 - 12	348	355	382	383	377	387	417	430	415	403	367
------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

<u>Grade</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
7	30	36	33	35	20	28	24	24	30	36
8	28	34	37	32	35	19	27	23	23	29
<u>Total</u> 7 - 8	58	70	70	67	55	47	51	47	53	65

9	28	26	33	36	31	30	18	25	20	20
10	33	25	26	33	36	30	30	18	25	20
11	37	31	31	21	33	34	29	29	17	24
12	26	32	26	28	21	31	31	36	26	16
<u>Total</u> 9 - 12	124	114	116	118	121	125	108	98	88	80

<u>Total</u> 7 - 12	182	184	186	185	176	172	159	145	141	145
------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

<u>Total</u> 1 - 12	361	357	353	341	338	349	346	345	336	338
------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Source: 1970 - 80 Figures: Superintendent of Schools  
 1981 - 84 Figures: Annual Town Reports  
 1985 - 89 Figures: SAU #41 Projections  
 1990 Figures: SAU #41 Average of Previous Eleven Years

What happens in 1990 when the contract runs out is the big dollar question. There is interest in the Town to bring Grades 7 - 8 back to Brookline. The Building Study Committee looking into the Elementary School cafetorium is also considering the possibility of further expansion of the Elementary School to accommodate the projected 60 students in 1990. With this year's charges coming to \$4000 per student, plus transportation costs, the Building Committee is in hopes of finding a less expensive alternative in bringing Grades 7 and 8 back.

At a recent SAU meeting, Hollis favored Brookline doing this if they could. Hollis is in the position where it will either have to expand its Elementary School to handle expected incoming students or rearrange the Junior High School to include Grades 4 - 8. If Brookline were able to provide additional school facilities which would allow them to take Grades 7 - 8 out of the Hollis Junior High School, then Hollis may decide to go with the second and less expensive of the two above mentioned options.

There are no plans or interest at present to bring Grades 9-12 back to Brookline. All the special programs offered at Hollis High School (Industrial Arts, Language, etc.) require large numbers of students to offset the costs involved. If Brookline were to try to duplicate the same programs as provided at the Hollis High School for its projected 80 students, it would not be economically able to afford or justify the costs. There also does not appear to be any problem with continuing to send Grades 9 - 12 to Hollis after 1990. An addition was recently added to the High School to meet the projected greater numbers of incoming students. Present enrollments have yet to exceed the projections expected two years ago. For this reason, it appears there will be adequate space to handle Brookline's projected 80 high school students in 1990 at the Hollis High School.

#### Special Education

Special Education Services are provided outside of the Brookline Elementary and Hollis High School Districts to those students determined to be in need. Costs involved in providing these services include counseling, speech therapy, transportation, and Special Education Consortium of Milford costs. The following Table shows the number of students provided for and the costs involved. Costs vary considerably depending on the number of students involved and the type of service provided.

Up until 1983, the number of students shown were only those students sent out of the district for special services that the Town had to pay for. Also up until 1983, there was total Federal subsidization of counseling, speech and language therapy costs. The number of students involved are not shown, as no costs were paid by the Town. With the end of Federal subsidization in 1983, Brookline has had to pay for its share of the costs of providing the Special Education services. This is the reason for the large jump in expenditures between 1982 and 1983. Since Brookline is paying for all services provided to its students, the total number of students receiving special education services also shows an increase.

TABLE IV-8  
BROOKLINE SPECIAL EDUCATION - OUT-OF-DISTRICT

<u>Year</u>	<u># Students*</u>	<u>\$ Expenditures</u>
73	1(h)	885.49
74	2(h)	2,375.00
75	3(h)	3,555.55
76	4(1e,3h)	6,288.72
77	4(1e,3h)	4,071.84
78	5(3e,2h)	15,101.07
79	6(3e,3h)	14,217.45
80	8(2e,5h,1ph)	27,691.88
81	4(3e,1h)	26,782.64
82	3(2e,1h)	30,954.00
83	21(12 out-of-district 9 counseling)	134,380.36
84	16(10 out-of-district 6 counseling)	147,078.79

\* - Up until 1983, the number of students included here are those sent out of-the-district to receive special education and does not include the number of students receiving counseling.

e = elementary school level  
h = high school level  
ph = post high school level

BROOKLINE PUBLIC LIBRARY

The Brookline Public Library was founded in 1877, an outgrowth of the Young Men's Library Association of Brookline (1861) and the Social Library of Brookline (1823). The library was originally housed in the rear of the E.E. Tarbell Store. In 1894 the library was moved to the East Room of the Milford Street Village School and in 1914 moved to the Daniels Academy Building. Within the Daniels Academy Building, the library first occupied the present Library Children's Room, but was later moved to the current Selectmen's Office. In 1968, the library was moved back to it's present location and expanded. The following discussion describes what the library has grown to since this last move and how it sees it's future course.

Use of Space

The Brookline Public Library presently occupies 1,602 square feet of space. Of this total, the Adult Room area takes up 690 square feet and the Children's Room area takes up 544 square feet. The circulation and work area totals 228 square feet in size while bathroom and storage areas together total 140 square feet.

Within the Adult Room area, space taken up by library facilities, materials, and/or equipment is as follows:

TABLE IV-9

<u>Adult Room Area</u>	<u>690.00 Square Feet, Total</u>		
Wall Shelving	41.25	square feet	
Floor Shelving and Aisles	126.00	"	"
Record Cabinet	9.50	"	"
Magazine Racks	14.00	"	"
Paperback Racks	4.00	"	"
Reference Bookcase	1.35	"	"
Two Tables with four chairs each (additional chairs can be taken from storage to seat eight per table)	45.00	"	"
Table holding paperbacks	3.00	"	"
Bookcase for NH RSA Law Books	1.90	"	"
Dictionary Rack	2.00	"	"
<b>Total Occupied Floor Area</b>	<b>248.00</b>	<b>"</b>	<b>"</b>

The remainder of the floor space in this area (442 square feet) is necessary for allowing access to wall shelving; dictionary, magazine and paperback racks; record cabinet; reference and RSA bookcases; and sitting at the tables.

Within the Children's Room area, space taken up by facilities, materials, and/or equipment is as follows:

TABLE IV-10

<u>Children's Room Area</u>	<u>544.00 Square Feet, Total</u>
Wall Shelving	25.00 square feet
Floor Shelving and Aisles	64.20 " "
One Table and Six Chairs	28.25 " "
File Cabinets	5.00 " "
Card Catalogs	7.75 " "
Record Cabinet	4.00 " "
Display Case	5.80 " "
<u>Total Occupied Floor Area</u>	<u>140.00 " "</u>

The remainder of the floor space in this area (404 square feet) is necessary for allowing access to wall shelving, record and file cabinets, card catalog, display case, and sitting at the table or on the floor.

The circulation and work area has available a total of 228 square feet. Within this area is a circulation desk, a file cabinet, a flat work area, some storage space, and two wall bookcases which together take up 5.5 square feet. This area generally offers enough space for only one person to operate at a time.

Finally, the bathroom and storage areas, taking up 140 square feet, consist of two closets for storage and the bathroom area. For lack of additional storage space, the bathroom area is also being used for some storage. One closet is used primarily for magazine storage. The library presently is receiving 49 magazines and four newspapers. Magazines are retained for an average of only two years (depending on title and popularity) and not longer because of the lack of space to store them. This closet area also houses the library's 20 extra folding chairs and contains 45 linear feet of shelving. There is no additional floor space available for any more. The other closet, also used for storage, holds the story hour materials and library supplies. The closet is full, with no unused floor space or room for additional shelving. The bathroom area would be adequate for the library's needs except that, as mentioned earlier, it is also used for storage due to lack of space elsewhere.

Every section of the library needs area for expansion. New volumes are being added, new shelves needed to hold them, more people needing to use the work area, and more materials needing to be stored.

The library is now averaging about 500 new volumes added to its collection each year. (Refer to the accompanying Table). This does not include records, tapes, and video cassettes which are also increasing in numbers each year. Presently (1984 count) there are 11,040 volumes in the collection and only 1,044 linear feet of shelf space to hold them. The American Library Association (ALA 1962) guidelines recommend 1,300 linear feet of shelving per 10,000 volumes. The ALA recommendations should be viewed as minimums, as the ALA and the NH State Library are in the process of revising their minimum standards for public libraries. Future guidelines are almost sure to be revised upwards to some degree to better address today's needs.



TABLE IV-11

BROOKLINE PUBLIC LIBRARY ANNUAL STATISTICS - 1975-1984

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Volumes in Library	6673	7023	7593	8159	8622	9188	9531	9985	10426	11040
Records, Cassettes, Videos	199	257	262	343	367	382	433	491	583	829
Registered Patrons	683	694	724	706	704	726	709	723	742	688
Adult Circulation	7940	7894	7950	8560	7828	7055	6918	7457	7220	7220
Children Circulation	6606	6024	4916	5948	6043	4814	5086	5292	4991	4694
Magazine Circulation	1016	1135	1073	1490	1710	1893	1975	2058	2151	1853
Records, Cassettes, & other Circulation	515	466	524	704	843	765	878	848	848	1078
Total Circulation	16077	15519	14473	16702	16424	14427	14857	15655	15210	14745
<u>Inter-Library Loan</u>										
Borrowed	-	-	-	-	-	131	170	131	92	94
Loaned	-	-	-	-	-	79	105	68	128	135
Total \$ Expenditures	3567	5520	6908	7688	8400	9799	10837	9742	10906	11110

With the present number of volumes, the library should have a total of 1,345 linear feet of shelving, or 391 linear feet more than at present. The only way the library is able to shelve the number of new books acquired each year, is to extensively "weed out" and remove books from circulation. Some weeding is necessary to keep the collection current. However, the weeding and removal of books should not have to be done to the extent it is, just to make room for new additions. Considering a linear projection of 500 books added to the collection each year with no removal of existing volumes, the projected shelving requirements to year 1990 are estimated to be:

TABLE IV-12

<u>Year</u>	<u>Total # of Volumes</u>	<u># Linear Feet of Shelving</u>	<u>Year</u>	<u>Total # of Volumes</u>	<u># Linear Feet of Shelving</u>
1984	11,040	1,435	1988	13,040	1,695
1985	11,540	1,500	1989	13,540	1,760
1986	12,040	1,565	1900	14,040	1,825
1987	12,540	1,630			

This indicates to be an additional 65 feet of linear feet of shelving are needed each year. A minimum of another 400-500 square feet of floor space is felt needed to expand the existing shelving area and adequately display the library's present collection. The library facility has enough floor space, at present, for only one low set of shelving. The added shelving would provide approximately another 30-35 linear feet of new shelf space. However, the floor weight capacity of the library has been exceeded and cannot hold any additional volumes and shelving. This has been determined from a structural engineering analysis conducted on the first floor area in early 1985. The study found the first floor live-load capacity to be approximately 40 pounds per square foot (psf). The current required floor live-load capacity for new libraries is 150 psf for stack areas and 60 psf for reading areas. Actual first floor live-loads from the existing

seven foot high stacks and the load from library users in the open space between stacks has been determined to be 90 psf (125% overloaded). Therefore, no new shelving can be installed to provide additional space for existing and future volumes.

Based on the results of the study, the consulting engineer suggests immediate steps be taken to decrease the floor's weight load. Existing stacks should be redistributed to the perimeter of the stack and reading room areas. If the stack height is limited to four feet over the present stack area, then the actual floor load would be approximately 60 psf (50% overload versus 125% at present). Being only a short term solution, a long term solution to the floor overloading problem is necessary and could include relocation of the library or strengthening of the first floor's structure. The last option would include the addition of new support beams, columns and footings to reduce the span of the floor joists.

Besides space for shelving new books, additional space is needed in the circulation and work area. The space is needed to help process and keep track of all the books, magazines, records, etc., that are checked in and out of the library. Additional space is necessary for filing and circulation storage. As it is now, work space is about half what the Librarian feels is needed. The work area and desk space are so small, that it is very difficult for two people to work there at the same time.

As modernization of how circulation and general records-keeping continues, the use of a personal computer is a consideration for the future. A minimal expenditure for such an item would surely help speed up the process now taken. This would free up more of the Library staff's time for them to perform other needed services, like handling additional reference requests and providing library programs for the patrons. Circulation and number of registered patrons can be higher than they are now. (See previous Table.) A combination of factors including an expanded library collection, additional children's programs, greater public assistance with reference requests can all help boost these figures.

The library is also part of the Hillstown Cooperative and has access to the NH State Library. If the library does not have the book or item requested, most can be obtained through the existing exchange program. Belonging to the Cooperative, allows greater purchasing power for member libraries. Purchasing as a group through the Cooperative, a library can obtain up to a 42% discount on the books it buys. Without the Cooperative, a library could only get a discount of up to 25%. This has definitely helped limited library dollars go a lot further in providing materials for its patrons.

The residents of Brookline seem to be very pleased with the level of service supplied to them by the Public Library. Results of the community attitude survey show that out of 380 respondents, 93 felt the present level of service as very good, 200 as good, 27 had no opinion, 28 didn't know, 13 gave no response, 16 said it was poor, and 3 very poor. The weighted average score per resident figures out to be 3.228 out of a possible high of 4. (See Chapter : Community Attitude Survey.) In ranking the scores received by each community service, the Brookline Public Library placed third after the Fire Department and Ambulance Service.

### Library Staffing

The duties of running the Brookline Public Library are, at present, all handled by part-time staffing. The Librarian, having provided 17 years of dedicated and professional service, works 18 hours per week, and the Assistant Librarian, with eight years of service, works 11 hours per week. Four other volunteer workers complete the library staff and each works a two hour night shift every other week. Working together, the staff keeps the library open to the public 24 hours per week. This is up from 19 hours per week offered for the past eight years. The library's hours of operation are Monday: 7 - 9 PM; Tuesday: 10 AM - 5 PM; Wednesday: 7 - 9 PM; Thursday: 10 AM - 5 PM; Friday: 2 - 5 PM; and Saturday: 10 AM - 12 Noon. To adequately keep up with the present work load, the Librarian feels the library needs to be open approximately 25 hours per week. Should patron usership increase with an expanded library collection, adding a few more hours to the schedule may be desired to provide greater access to the public and allow the staff to handle the work load.

The Trustees of the Brookline Public Library continue to express great concern for the current facility's limited space for growth. Additional space is felt to be required shortly in order to permit the library to serve the Town adequately. The 600-700 additional square feet of floor area recommended for expansion is not available in the present building due to structural and other user limitations. Consideration of options available to alleviate the situation are now taking place to some degree.



### BROOKLINE RECREATION FACILITIES AND CONSERVATION AREAS

By providing recreation facilities and conservation lands, a Town gives its residents a great opportunity to enjoy themselves and the natural resources within the community. Brookline is very fortunate to have areas of forest, open space, and water resources within its boundaries to take advantage of.

#### Recreation/Conservation Inventory

An inventory of Brookline's recreation and conservation areas was conducted in 1983. After additional updating, the information from this inventory is presented in Table IV-13 and used in the following discussion.

#### Brookline Elementary School Playground

The playground area of the Elementary School covers one and one half acres of the seven acre parcel. Within this area there is a playground equipped with swings, monkey bars, and a merry-go-round. The area also includes two ball fields and an outside basketball court. Though owned and maintained by the Elementary School, Town use is encouraged.

#### Brookline Ball Park

Owned and maintained by the Town, the four acre Brookline Ball Park provides both a baseball and a softball playing field. A utility building and team benches are the only structures on the grounds. Existing parking can accommodate 60-80 cars. Plans are presently being drawn up to re-design the parking lot area to more efficiently utilize existing space. By doing so, an additional 20 cars should be able to parked there.

Not all of the area is currently being utilized for recreation. There remains enough open space on the lot for two tennis courts to be built. Brookline presently does not have any tennis court facilities and current standards based on its population suggest a Town of its size have at least one or two playing courts. (Refer to Table IV-15, comparing existing facilities to current needs.) Consideration should be given to the possibility of providing tennis courts at this or some other location in the future by the Town's Recreation Commission.

#### Lake Potanipo and the Max Cohen Memorial Grove

Providing approximately 240 acres of state-managed surface water to enjoy, Lake Potanipo offers boating, fishing, and swimming to the Brookline community. Any body of water over ten acres in size is considered a "great pond" and falls under State regulations for protection and public access requirements. Access to the lake for boating is over a designated right-of-way where a gravel, public boat launching area has been constructed. Officially, there is no area at the boat ramp for parking of vehicles and boat trailers. Across the road from the boat launch is a vacant lot which most people use to park. As many as 20-30 cars can be found parked on the property during a busy weekend day. Should the owner of the lot decide to discontinue allowing its use or develop it, then a parking lot will not be available.

TABLE IV-13

BROOKLINE RECREATIONAL FACILITIES ANALYSIS  
EXISTING FACILITIES INVENTORY (1985)

<u>NAME OF FACILITY</u>	<u>LAND AREA</u>	<u>CONSERVATION - RECREATION USE/IMPROVEMENTS</u>	<u>OWNERSHIP</u>
Brookline Elementary School	1.5 acres Open Space Two Ball Fields	Playground with equipment Outside Basketball court	School (Town access)
Brookline Youth Center	-	Gymnasium	Church of Christ (No Town access)
Brookline Ball Park	4 Acres	1 Softball Field 1 Baseball Field Utility Building Parking: 60-80 cars	Town
Max Cohen Memorial Grove	1.5 acres	1.0 acre swimming (250' Lake frontage) 0.25 acre Beach area 0.30 acre picnic area with 5 tables Parking - 60 cars	Town
Lake Potanipo	244 acres water	Boating/sailing and fishing Gravel boat launching ROW, No parking	State
Melendy Pond	19.5 acres water 265.7 acres land	Boat launch area Boating/sailing and fishing 27 long-term lease summer cottages	Town
Taylor Pond	22 acres water 70 acres land	Natural conservation area Wildlife sanctuary - Education, Public ROW to Pond	Deed of Dedication to Town
Town Land near Melendy Pond	109.9 acres	Natural conservation area	Town
Campgrounds: Field & Stream Trailer Park		54 Trailer sites with hook- ups - all with water and electricity, some with sewer	Private
E. E. Smith Lot	10 acres	Natural conservation area	Town
Conservation Easement Robert Bourassa Sub- division	9 acres	Conservation easement for wetland protection, hiking and fishing access.	Town

<u>NAME OF FACILITY</u>	<u>LAND AREA</u>	<u>CONSERVATION - RECREATION USE/IMPROVEMENTS</u>	<u>OWNERSHIP</u>
Conservation Easement Thurston Subdivision	Approx. 1.1 acres	Conservation easement for wetland protection, hiking and fishing access.	Town
Conservation Easement Millbrook Estates Subdivision	Approx. 0.9 acres	Conservation easement for wetland protection, hiking and fishing access.	Town
Restrictive Deed Covenants - Millbrook Estates Subdivision	Approx. 24.5 acres	Wetland protection.	-
Dame Lot	50 acres	Natural conservation area	Nissitissit River Land Trust
Langdell Lot	32 acres	" " "	" "
Jackson Lot	9 acres	" " "	" "
Gilson Meadow	2 acres	" " "	" "
B&M Railroad	2-1/2 acres	" " "	" "
Corey Land	2 acres	" " "	" "
Fessenden Lots	5 acres	" " "	" "
Shattuck Lot	3 acres	" " "	" "
Blood Land	33 acres	" " "	Beaver Brook Association
Kopka Land	20 acres	" " "	" "
Hopkins Land	7 acres	" " "	" "
B&M Railroad	10 acres	" " "	" "
Beaver Hill Land	8 acres	" " "	" "
Conservation Easement Moran Land	3 acres	Conservation easement for wetland protection	" "
Conservation Easement Nowak Land	13 acres	Conservation easement for wetland protection	" "

Additional recreation use is made of Lake Potanipo from a Town-owned lake-shore park known as the Max Cohen Memorial Grove. Within this one



and one-half acre area, there is approximately 0.3 acres for picnicking or day use, with 5 picnic tables provided. Along the property's 250 feet of lake frontage the property has, there is approximately one-quarter acre of public beach and one acre of buoyed-off swimming area. There is parking at the site for approximately 60 vehicles. A small utility shed is being proposed for this site to provide storage area for equipment and maintenance tools.

#### Melendy Pond

Town-owned and managed under the Melendy Pond Authority, this 265.7 acres of land and 19.5 acres of water provides summer recreation for those leasing the existing camp lots. There are 36 (50' X 75') lots on the property within a 3.1 acre area that are leased out on a long term basis for summer use rather than as primary residences. With rents changing every five years, the buildings and improvements are taxed to the individual lease holders.

The 19.5 acres of surface water provide recreation to both people who lease camp lots, and to Brookline residents. There is one boat launch area at the edge of the lot and a 30' X 30' sandy beach. No area is provided for parking of vehicles at this boat launch/beach area. There is another beach area on the opposite side of the lake with 50 feet of lake frontage. The area's use is limited to only the people leasing lots from the Melendy Pond Authority.

The remaining 262.6 acres of land being managed by the Melendy Pond Authority is primarily forest. There are no existing recreational trails within this forested area. The Brookline Conservation Commission is considering the possibility of establishing a recreational trail system in this area for community use.

#### Town Land Near Melendy Pond

Abutting the property managed by the Melendy Pond Authority is a 109.9 acre parcel of land also owned by the Town. Managed by the Brookline Conservation Commission, the property consists of mostly forest vegetation and no recreation improvements as of yet. Future management considerations could include hiking trails and tree growth management practices.

#### Taylor Pond

Termed Brookline's "best kept secret" by the Town's Conservation Commission, Taylor Pond is a 92 acre parcel of forested/open land and water. Certain rights, easements, and interests have been deeded to the Town by the owner's. Through a deed-of-dedication process, the owners intent is for the Town to develop the area to provide public recreation for Town members and protect the natural and water resources of the area. With 70 acres of land and 22 acres of surface water, the area has considerable nature education and wildlife sanctuary potential. The existence of a dedicated public right-of-way to the pond and the addition of a future nature trail system will allow public recreation (canoeing, hiking, and fishing) to occur within this sensitive, conservation area.

### Conservation Easements

In response to the need for protection of the Town's major wetland and water resource areas from the effects of improper development, conservation easements have been sought. A total of nine acres of land within the 33 acre Robert Bourassa subdivision on North Mason Road has been deeded to the Town through a conservation easement. The conservation land "buffer" protects both Spaulding and Scabbard Mill Brooks which flow through the property in addition to their adjacent wetland areas. Besides protecting the water/wetland resource, the easement allows public access to the brooks for fishing and hiking along their banks.

Additional conservation easements have been granted within both the Thurston and Millbrook Estates Subdivisions. Within the Thurston Subdivision, (west of NH Route 13 and southwest of Melendy Pond) approximately 1.1 acres of land has been given in a conservation easement to the Town for the protection of Scabbard Mill Brook. The easement extends ten feet along both sides of the Brook and also includes a small area to the rear of the subdivision, adjacent to a stream entering Scabbard Mill Brook to the southwest.

Within the Millbrook Estates Subdivision, (east of NH Route 13 and north of Hood Road) approximately 25.4 acres of wetland area has been given added protection. A conservation easement of approximately 0.9 acres has been given to the Town along Scabbard Mill Brook. Also, approximately 24.5 acres of wetland area has had restrictive covenants attached to all property deeds. The covenants are designed to prevent damage to sensitive wetland areas within each lot that are all inter-connected within the subdivision. As with all conservation easements, the Brookline Conservation Commission has been given the responsibility and authority to enforce any and all provisions of the easements and deed covenants.

### Nissitissit River Land Trust

Formed to protect natural conservation lands along the Nissitissit River, the Nissitissit River Land Trust owns and manages land areas in both Brookline and Hollis. Within Brookline, the Land Trust owns and manages eight parcels of land totalling 105-1/2 acres.

### Beaver Brook Association

Also formed to protect conservation lands in Brookline, the Beaver Brook Association holds title to and conservation easements on a number of parcels. The Association owns five areas totalling 78 acres and two conservation easements totalling 16 acres.

### Additional Recreation Facilities

Besides the above mentioned facilities, there exists in Brookline a private trailer campground called Field and Stream Travel Trailer Park. Located on Dupaw Road, the park has 54 trailer sites available. All sites have water and electrical hookups. A number of the sites also have septic system connection facilities. The park also has a natural pond for its campers to swim in.

Within a fifty mile radius of Brookline, there are also other recreational facilities not found in Brookline. For downhill skiing there is Temple Mountain near Temple, NH and Crotched Mountain near Franconia, NH. For cross-country skiing there is Big Bear Ski Area west of Brookline on the New Hampshire/Massachusetts border and other facilities south of Brookline just over the border in Massachusetts. For hiking, swimming, and/or camping there is Silver Lake State Park in Hollis, NH; Miller State Park east of Peterborough, NH; Greenfield State Park near Greenfield, NH; Monadnock State Park west of Jaffrey, NH; and Annett State Forest near Squantum, NH. Besides the area's lakes for canoeing, there are the Souhegan, Nashua, and Merrimack Rivers which offer a wide range of canoeing pleasure.

#### Analysis of Existing Facilities and Current Needs

The NH Outdoor Recreation Plan (1977) outlines a suggested range of recreation facilities or standards which can be used in assessing a Town's future recreation needs. Estimates are calculated using recreation facility "standards" generated by the NH Office of State Planning. These standards reflect the "norm" for each type of facility found in NH communities - as determined through an extensive survey process. As such, they are less "requirements" as they are "indications of average performance" to which a community may be compared. Over- or under-abundance of facility may not be cause for alarm, however a community should assess whether any such surplus or shortfall is justifiable - given the recreational preferences of the residents. Table IV-14 lists common recreation facilities to consider and their respective range of suggested amounts based on a given population size. Based on these suggested standards and Brookline's current population, Table IV-15 compares the Town's existing facilities to the suggested range of standards developed for Brookline. Resulting from this comparison are the suggested areas and levels of current recreational needs of the Town. The current needs column of Table IV-15 shows suggested areas where the Town may be deficient in recreational facilities based on its population. Suggested areas of recreational improvements are : Tennis Courts - 1 to 2; Hard Courts - 5 to 7; Playgrounds - 5.5 to 9.0 additional acres with some equipment; Picnic area - 1.3 to 3.7 additional acres with 11 to 15 picnic tables; Outdoor Ice Areas - 4,000 - 14,000 square feet; and Gymnasium - 1.0 (0.2 to 0.6) facility.

To project Brookline's recreational needs farther into the future, suggested standards can be based on Office of State Planning population projections. Table IV-16 extends Brookline's suggested recreation facility needs to the years 1990, 1995, and 2000, based on the Town's projected population for these years. This Table may be used as a guide to consider in planning to provide the community with recreational opportunities in the future.

TABLE IV-14  
RECREATION FACILITY SUPPLY STANDARDS\*

STANDARDS - RANGE:

Facility (unit of measure)	Units Per 1,000 persons	Population	Persons Per Unit
Ballfields (number)	.6 to 1.0		1,000 to 1,600
Tennis Courts (number)	.5 to 1.5		660 to 2,000
Hard Court Games (courts)	1.0 to 4.0		250 to 1,000
Playgrounds (number)	.2 to 2.0		550 to 5,000
(acres)	1.3 to 3.5		290 to 770
Parks (acres)	1.0 to 20		50 to 1,000
Picnic Areas (acres)	.2 to 10		200 to 5,000
Picnic Tables (number)	2.0 to 10		100 to 500
Campgrounds (acres)**	1.5 to 3.5		280 to 670
Campsites (number)**	5.0 to 1.5		67 to 200
Wilderness Camping (acres)**	100 to 260		4 to 10
Boating Areas (acres)**	23 to 95		11 to 43
Sailing Areas (acres)**	8 to 15		67 to 125
Beaches (acres)	.1 to 1.5		660 to 10,000
Outdoor Swimming Pools (number)	0.7 to .4		2,500 to 14,820
(sq.ft.)	200 to 500		2 to 5
Indoor Swimming Pools (number)	.05 to .2		5,000 to 20,000
Outdoor Ice Areas (number)	.2 to .5		1,000 to 5,000
(sq.ft.)	2000 to 7000		.14 to .5
Indoor Ice Areas (number)	.02 to .5		2,000 to 5,000
Gymnasiums (number)	.2 to 1.0		1,000 to 5,000
18-Hole Golf Course (number)	.02 to .03		33,000 to 50,000
Downhill Ski Areas (acres)	.1 to .5		2,000 to 10,000

\* Source: NH Outdoor Recreation Plan, 1977  
\*\* Standard suggested for use at regional scale.

TABLE IV-15

ANALYSIS OF EXISTING FACILITIES  
BROOKLINE 1985

Facility	Current Standards (by population)	Existing Facilities	Current Needs
Ballfields	1.0 to 1.2	4	-
Tennis Courts	1.0 to 1.5	0	1 to 2
Hard Courts	6.0 to 8.0	1	5.0 to 7.0
Playgrounds (number)	0.6 to 0.8	1	-
(acres)	7.0 to 10.5	1.5	5.5 to 9.0
Parks (acres) Active	32 to 40	4.3	-
Open space		119 land/ 286 water	
Picnic Areas (acres)	1.6 to 4.0	0.3	1.3 to 3.7
Picnic tables	16 to 20	5	11 to 15
Beach (acres)	0.3 to 0.5	0.5	-
Outdoor Ice Areas	0.3 to 1.0	-	0.3 to 1.0
(square feet)	4,000 to 14,000	-	4,000 to 14,000
Gymnasium	0.2 to 0.6	0	0.2 to 0.6

TABLE IV-16

PROJECTED RECREATIONAL FACILITY REQUIREMENTS\*  
BROOKLINE 1985 - 2000

Year	Current 1984	Projected Recreation Needs**			
		1985	1990	1995	2000
Population ***	1870	2032	2192	2365	2468
<u>Type of Facility</u>					
Ballfields (no.)	4	1-2	1-2	1-2	1-2
Tennis Courts (no.)	0	1-3	1-3	1-4	1-4
Hard Courts (no.)	1	2-8	2-9	2-9	2-10
Playgrounds (no.)	1	0-4	0-4	0-5	0-5
Playgrounds (acres)	1.5	3-7	3-8	3-8	3-9
Parks (acres) Active	4.3	2-41	2-44	2-47	2-49
Open Space	119 land				
Picnic Areas (acres)	0.3	0-10	0-11	0-12	0-12
Picnic Tables (no.)	5	4-20	4-20	5-25	5-25
Beaches (acres)	0.5	0	0	0	0
Outdoor Ice Areas (no.)	0	0-1	0-1	0-1	0-1
Gymnasium (no.)	0	0-2	0-2	0-2	0-2
Boating Areas (acres)	286	16-30	18-33	19-35	20-37

\* NH Outdoor Recreation Plan, 1977

\*\* Standard suggested for use at regional scale.

\*\*\* OSP Population Projections - 1981

### SOLID WASTE DISPOSAL

Brookline is a member of the Souhegan Regional Landfill District which also serve the towns of Amherst, Hollis and Mont Vernon. The sanitary landfill facility is located on a 37 acre tract off of Route 101 in Amherst. Transfer stations are located in the other three towns. The Brookline facility, opened in March of 1976, consists of 35 acres just off of Route 13 on North Mason Road.

At the transfer station, waste is dumped by residents directly into a trailer, compacted, and delivered to the landfill compacted. Commercial haulers of residential and nonresidential waste bring loads directly to the landfill. At the landfill, waste is bulldozed into place and is spray covered with a plasticized film barrier. Hazardous substances, tires, manure and empty hazardous substance containers are not accepted at either the transfer station or the landfill. Stumps and demolition materials are periodically burned at the transfer facility site. There is no recycling activity at either of the facilities.

Recent monitoring has revealed some leachate beneath the Amherst landfill site, but it is not considered dangerous at this time. The leachate has been found to be non-toxic and, though in the soil beneath the landfill, is not in a location that threatens any groundwater resources. The continued monitoring necessary, however, will put a strain on the budget of the district. The landfill is situated near wetland areas, and soils on the site range from well drained to poorly drained. Soils having rapid to excessively rapid permeability are posing the greatest potential threat for groundwater contamination.

In 1981 the Office of State Planning estimated a remaining life of 9 to 13 years for the landfill; in 1985, then, there would be 5 to 9 years remaining<sup>1</sup>. However, this estimate was made based on the assumption that the four towns would continue to produce waste at the 1981 rate. Expectedly, as the population of the four towns has grown, the quantity of waste generated has increased substantially. Thus, projected increases in population for the four member towns will result in increased volumes of waste to be disposed of at the landfill. Based on projected increasing annual<sup>2</sup> waste generation, the remaining life of the facility is 3 to 7 years<sup>2</sup>.

The transfer station technology is the most flexible, least limited disposal method available. Because most of the waste is simply hauled away, there appears to be virtually no capacity limit on this facility. We generally assume that when the waste flow increases, the contractor simply has to haul the full trailers away more frequently. To some extent this is true. The contractor, however, does have other similar obligations and a limited number of hauling trucks and manpower. In addition, the Souhegan landfill has a limited capacity in the face of an increasing stream of waste. There could be potential closure in the near future of this facility due to the hazard of groundwater contamination, and increasingly stricter state and federal regulations and the site reaching capacity.

---

<sup>1</sup> Solid Waste Management Plan for New Hampshire, 1981.

<sup>2</sup> Phase I: Data and Inventory (first draft), Nashua Regional Solid Waste Planning District, January 1985,



### Cost and Technology

The fact that Brookline's waste is "on wheels" allows a continued flexibility in the disposal of waste that is hauled away. There is some waste, too, that is not acceptable for the landfill. Brush is periodically burned at the transfer station, heavy metals are separated out and taken by a scrap dealer, and tires are simply stockpiled at the facility. Hazardous waste, stumps, and most construction material is not accepted at the transfer station. Generally stumps and construction material must be burned by the contractors after obtaining a state permit.

There are two factors which will have some effect on the continued success of the facility: waste quantities and disposal cost. Both capacity and cost to dispose of the waste is of concern in the near future. The quantity of waste processed is directly related to the cost of operating the facility. At three pounds of waste per capita per day, each additional resident will generate 1095 pounds annually. New residents will speed up the filling of the land fill as well as raising the overall costs involved in handling the wastes.

The largest cost to be anticipated is the cost to safely close and seal the landfill when it reaches capacity. Safely closing a landfill, and the continued monitoring of the facility for several years (as required by the NH Bureau of Solid Waste) can cost well over one million dollars.

### Nashua Regional Solid Waste Management District

The Town of Brookline along with the City of Nashua and the Towns of Amherst, Milford, Hollis, Hudson, Merrimack, Mont Vernon, and Windham, is a member of the Nashua Regional Solid Waste Management District. The District was formed at the direction of the legislature, which required all communities in the state to join in an inter-municipal solid waste planning district (except those with an "approved facility"). Chapter 149-M requires the formation of a solid waste management plan by the district. The "Nashua Regional Solid Waste Management District Plan, Phase I - Data and Inventory", (January, 1985) contained the following information: 1) current and projected population, volume and type of waste, for the district; 2) location, type and adequacy of current method of disposal for each town; 3) identification of the issues facing each town and the entire district; 4) identification and assessment of the alternative methods of disposal.

The representatives to the district from the towns have become quite knowledgeable about the subject of solid waste disposal, and after much discussion and thought, have concluded that the best alternative for all of the towns in the district is the development of a single, regional waste to energy (resource recovery) facility.

A few of the communities have substantial capacity remaining in their landfills, but overall the remaining lifespan, utilizing only the landfill technology, is only a few years. Energy recovery, in its most standard form is very similar to the incineration process. Materials are burned and the volume of waste is reduced by approximately 80%. This reduction will substantially extend the life of the useable landfills so that ash from the entire district area can be disposed of for at least 20 years. In addition

to reducing the volume of waste, heat that is produced in the burning process is captured and used to produce energy, which in turn is sold to the utility company in order to reduce disposal costs. This size facility would not be modular and would therefore burn waste at a higher temperature; it would be able to burn all types of solid waste provided by the district communities and would produce an ash that is cleaner and safer to landfill.

At this point, the City of Nashua has decided to take the lead in the District, and is beginning to conduct a financial feasibility study. Nashua's action has been endorsed by the District, and most of the Boards of Selectmen, as the most economic, efficient way to approach the project. Statewide experience indicates that leadership by a major city can significantly reduce the time and cost of the planning stage.

## CHAPTER V

### COMMUNITY ATTITUDE SURVEY

As part of the Brookline Master Plan process, a Community Attitude Survey was conducted, primarily for the purpose of guiding the goal-setting process of the Plan. The Master Plan Committee and Planning Board felt that the Plan's goals and objectives should be based upon the widest possible community input.

Consequently, a survey was developed, and over 550 copies were distributed to Brookline households. An attempt was made to deliver surveys to every household in Town on Saturday, July 21, 1984. Respondents were asked to complete the 7-page, 55-question survey and leave it to be picked up later in the day, or mail it back within two weeks.

Of the more than 550 surveys distributed, 380 had been returned with valid responses, representing a response rate of over 69 percent of the Town's households. Because of the smallness of Brookline's population, it was decided that all households could be surveyed, rather than selecting a "sample" of households to receive surveys. For this reason, we do not believe there is an obvious or significant sampling error in the response. We must assume that the only significant sampling error would be that the responses simply represent the opinions of residents who are more concerned with the issues addressed in the survey than those who did not respond.

To interpret the survey results, all responses were computer coded and keypunched for entry and analysis which yielded simple frequencies for all questions and cross-tabulations for other, selected questions. For many questions, similar responses were combined to make interpretation less complicated and to show trends more clearly (i.e. very good and good were combined, as were poor and very poor). The results of the survey have been entered on a copy of the survey, which is contained as Appendix B of this document.

The following summarizes the significant findings of the survey analysis. It is organized in sections dealing with opinions on land use (residential, commercial and industrial), Town services and facilities, and population characteristics/demographics.

#### A. Land Use:

1. Residential: Questions #1, 4, 5, 12-16, 40, and 50 dealt with residential land uses of one form or another. Question #1 reveals that residents, in general, feel that residential growth over the previous 5 years (1979-1984) was "about right" (56.5%) or "too fast" (21.7%). Combining similar responses shows that only 5.9% felt residential growth was "too slow" or "much too slow", while 29.5% said "too fast" or "much too fast".

Responses to questions #4 and 5 show little variation from current residential lot size and frontage requirements indicating satisfaction with such requirements. However, there was some support for reduced frontage requirements and for variable lot size based on soil capabilities (14.1% of respondents).

With respect to mobile homes; there was greater support expressed for mobile homes on individual lots than for mobile home parks (compare #12 and #13 where 5.2% more respondents would "encourage" mobile homes on individual lots than in parks). Although nearly one-half of respondents would "prohibit or very strictly regulate" any type of mobile home development, slightly fewer respondents feel that way about such units on individual lots.

Questions #14 and 15, regarding apartments/multi-family and "cluster" housing, yielded mild support for those housing types. While those who would "encourage" such styles were only 10 to 11 percent of respondents, combining the "encourage" and "allow only with restrictions" responses shows 55.1% of respondents viewed apartments/multi-family favorably and 46.7% supporting "cluster" housing. However, 43.4% would "prohibit or very strictly regulate" apartments/multi-family, and 49.7% said the same regarding "cluster" housing.

Question #16 produced interesting results as well. While not exclusively a residential land use question, the responses strongly indicate that Brookline residents want their community to "stay the same" or become even more of a residential "bedroom" community. Since Brookline is already overwhelmingly residential in character, the 26.6% who indicated Brookline should become more of a residential "bedroom" community could be logically combined with the 44.0% who indicated Brookline should "stay the same", resulting in 70.6% of respondents favoring continuation of Brookline's residential character!

Question #40, which attempts to gauge the level of support or opposition to formation of an historic district, showed quite strong support for the concept. Respondents who "strongly agree" with the idea numbered 100, or 26.7%, and those who "agree" were 38.8% of respondents. Together, those who "agree" and "strongly agree" constitute 65.5% (245 of 374) of all respondents. Those who "disagree" (43 or 11.5%) and "strongly disagree" (32 or 8.6%) total 75 respondents, or 20.1% of all who responded to the question.

Question #50 asks respondents what type of housing they currently occupy. The results show that 86% (320 of 373) reside in single family homes which they own.

## 2. Commercial:

Questions #2, 8-11, 16, 32-35, and 43 dealt with commercial land use issues. Question #2 reveals that nearly half of respondents (47.3%) felt that the rate of commercial growth has been "about right". Only 5.9% said either "too fast" or "much too fast" compared with 39.9% who felt the rate was "too slow" or "much too slow". While perhaps not a mandate for rapid commercial growth of the Town, this nonetheless indicates fairly strong support for broadening the Town's commercial base.

The sentiment is not as clearly expressed in questions #8-11: here respondents strongly express their desire to "prohibit or very strictly regulate" both "strip development" (52.0% or 186) and "shopping centers/mini-malls" (60.4% or 215). Fewer respondents indicated a desire to "allow only with restrictions" (122 or 34.1% for "strip development" and 102 or 28.7% for "shopping centers"). The discrepancy between question #2 and #'s 8 and 9 may be attributable to the wording of questions 8 and 9 which perhaps conjure negative images of commercial development. Also, this may simply mean that such uses should be strictly regulated and not necessarily prohibited, as both were listed as one option.

Cross-tabulation of this question with question #43 sheds some light on this discrepancy. Question #43 asks where new businesses should be located in Brookline. Among the possible responses are several areas of Rt. 13, anywhere on Rt. 13, and "nowhere, we have enough already". Logically, one would expect persons who truly wish to prohibit new commercial land uses to also choose the "nowhere" option. However, cross-tabulations of questions 8 and 9 with question 43 shows that only 19% of those would "prohibit or very strictly regulate" such uses also said that such uses should go "nowhere, we have enough already". Instead, 23% said stores should go "anywhere" on Rt. 13, and 45% went so far as to select one of the three specific areas on Rt. 13, even though they had previously stated in questions 8 and 9 that they should be prohibited or very strictly regulated!

The most reasonable conclusion from the above analysis is that residents feel commercial growth has been too slow, that it should be permitted to occur somewhere on Rt. 13, in some form, and that it should be very strictly regulated, but not prohibited.

Question #10 asks how business and professional offices should be treated ("encourage", "allow with restrictions", "prohibit or very strictly regulate"). Here the response was quite favorable, with 37.7% saying "encourage with restrictions". Only 14.8% chose the "prohibit or very strictly regulate" option.

Home occupations received an even more favorable response: one-half of all respondents (50.0% or 185) chose the "encourage" option here and another 40.3% selected the "allow only with restrictions" choice. Home occupations are viewed as the most preferred form of commercial land use, according to the survey results.

Question #16, discussed earlier under residential, asks what type of Town Brookline should try to become in the future. Among the options is "more of a shopping and service center". The survey results show this to be the least preferred choice of respondents. This should not be interpreted as meaning commercial uses are not desired -- other responses indicate that they are -- but rather as saying that such uses should be of lower priority, or should not overwhelm other, more strongly desired uses, such as residential, or as we shall see, light industry/assembly.



Question #'s 32-35 ask respondents where they usually go for certain goods, services or activities, and offers options such as Brookline, Milford, Nashua, etc. Question #32 asks where respondents go for work/employment. Of the 308 responses, 36.7% show Nashua as their place of work, followed by Massachusetts (20.8%), Brookline (11.4%) and Milford (9.7%) as other, less popular places of employment.

Question #33 asks where people go for their weekly food and groceries. Of the 353 responses, 64.6% (228 of 353) shop in Nashua, followed by 21.3% who shop in Milford. These two commercial centers account for over 86% of Brookline's shopping trips for weekly food and groceries. Amherst and Merrimack trail far behind with 4.5 and 3.7% respectively. Question #34 shows that residents purchase big-ticket items such as furniture and appliances in Nashua (64.7%) and Manchester (22.5%) almost exclusively (87.2% of all respondents). Milford is named as third most popular location for such purchases by 5.8%. Question #35 asks where respondents do their banking. For this service, respondents cite a variety of locations; 34.6% go to Nashua, 27.8% said Milford, 15.4% use Hollis, 10.1% bank in Brookline, and 3.3% said Amherst. These five towns account for 91.2% of Brookline's banking locations.

Question #43, referred to earlier, asks residents where new business (stores and offices) should be located, and offers several options for responses, including three sections of Rt. 13 (near Milford, near Massachusetts, and near Brookline Center), "anywhere on Rt. 13", "other" with a fill-in option, and "nowhere, we have enough already". Responses to this question were among the most interesting in the survey: nearly identical numbers of respondents expressed a preference for either end of Rt. 13 (56 or 15.3% said near Milford, 55 or 15.1% said near Massachusetts). Another 39 respondents, or 10.7%, said near Brookline Center, and 137, or 37.5% of respondents said anywhere on Rt. 13! While 26, or 7.1% offered other locations (primarily on Rt. 130), only 11.8% of respondents (26) said "nowhere, we have enough already".

### 3. Industrial:

Questions #3, 6, 7, 16, 41 and 44 dealt with Industrial Land Use issues. Responses to question #3 indicate that, like commercial land uses, residents believe the rate of industrial growth has been "about right" (42.7%), but according to 38.7% of respondents, it has been "too slow"/"much too slow". Only 9.2% of respondents said either "much too fast" (3%) or "too fast" (6.2%).

Questions 6 and 7 ask residents how Brookline should treat "heavy industry (manufacturing)" and "light industry (assembly)". Respondents were apparently able to make the distinction between the two, as "heavy industry" was viewed quite negatively; 7% said "encourage", 31.8% said "allow only with restrictions", and 59% said "prohibit or very strictly regulate" heavy industry or



manufacturing. Light industry or assembly, however, was quite favorably viewed, when compared to heavy industry; 27.1% said "encourage with few restrictions", and only 18.4%, or 68 respondents of 369, said such uses should be prohibited or very strictly regulated.

There is apparently some strong support for allowing light industrial/assembly land uses in Brookline. Over 80% of respondents choose the "encourage" or "allow with restrictions" options; only home occupations and offices received a more favorable response when combining the two least objectionable responses, and light industry was the third highest in "encourage" responses, and third lowest in "prohibit" responses.

Question #41 shows some support for encouraging industry as well. Here, respondents were asked to choose from three statements the one which best approximates their view of industrial development. Two statements were, by design, biased positively and negatively and one was meant to be neutral on the topic of these responses. 194 respondents, or 51.6% chose the neutral response ("be cautious"), 74 respondents or 19.7% chose the negative statement ("not allow") and 103 residents, or 27.4% chose the positive statement ("encourage"). While not overwhelming, this does indicate that residents would support efforts to cautiously allow light industrial/assembly uses in an effort to broaden the tax base.

Question #44 asks respondents to state a preferred location for future industrial development, and offers the choices of; 3 areas of Rt. 13 (near Milford, near Massachusetts, and near Brookline Center), "anywhere on Rt. 13 from Milford to Massachusetts", "other" to be filled-in with a suggestion, and "nowhere, we have enough already". One-quarter (25.0% or 93) of the respondents said "nowhere, we have enough already". Another 7.8% offered another suggested location under the "other" response, and 30.7% said such uses should go "anywhere on Rt. 13 from Milford to Massachusetts". Relatively few selected the Rt. 13 near Brookline Center option (9 respondents, or 2.4%). However, the two ends of Rt. 13 were selected by nearly identical numbers of respondents; 59 or 15.9% said near Milford, and 54 or 14.5% said near Massachusetts.

#### Land Use Conclusions

The conclusions from the survey regarding land use issues can be summarized as follows:

- (1) Residents feel that the rate of residential growth has been too fast (question #1), but prefer residential growth more strongly than other types (question #16).
- (2) Survey respondents appear to desire a cautious expansion of some commercial and light industrial land uses to broaden the tax base, but also want such commercial uses to be very strictly regulated (questions #2, 3, 6-11, 16, 41, 43, and 44).

- (3) Strong support was expressed for the establishment of an historic district (question #40).
- (4) Rt. 13, in general, was identified as the desired location of businesses and light industry, although light industry was not desired near Brookline Center on Rt. 13 (questions #43 and 44).
- (5) Light industry/assembly was clearly preferred over heavy industry/manufacturing (questions # 6 and 7).

B. Town Services and Facilities

Questions #17-31 dealt with how well the residents of Brookline feel the Town has provided necessary services and facilities for them. Town services and facilities covered in the survey included:

Protection Services

- Police
- Fire
- Ambulance
- Traffic Flow and Control

Facilities

- Public Library
- Public Schools
- Parks and Recreation
- Open Space

General Town Services

- |                             |                       |
|-----------------------------|-----------------------|
| - Summer Road Maintenance   | - Recreation Programs |
| - Winter Snow Removal       | - Zoning Enforcement  |
| - Solid Waste               | - Planning            |
| - Town Government Functions |                       |

The first step in evaluating the response was to generate simple frequencies for each service (number of persons rating each service as "very good", "good", "poor", or "very poor"). The results of this are shown below:

Question: How well or poorly do you think the Town of Brookline has provided the following services to its residents? (Check one for each service.)

TABLE V-1

	Very Good	Good	No Opinion	Poor	Very Poor	Don't Know	No Response
17. police protection	47	201	24	53	16	22	17
18. fire protection	153	171	33	1	1	12	9
19. ambulance service	143	145	43	9	2	23	15
20. summer road maintenance (paving & repair)	31	183	11	75	41	22	17
21. winter snow removal	56	172	17	72	38	11	14
22. recreation programs	26	144	47	53	24	71	15
23. open space for parks and recreation	39	165	37	68	16	42	13
24. public library	93	200	27	16	3	28	13
25. zoning enforcement	18	129	64	71	16	62	20
26. planning	12	107	65	84	17	75	20
27. traffic flow & control	32	219	19	33	8	49	20
28. solid waste disposal	50	190	42	28	12	38	20
29. public schools	66	166	42	34	12	44	16
30. general government functions (Town Hall)	32	212	30	44	6	46	10

One way of analyzing the raw data is to compare the number of responses. A more commonly used method that can be applied to this type of data is the "weighted average" method. By using this method, a weighted-average score is determined from the data for each type of service. Each weighted-average score is compared to a numerical performance scale of 4 ("very good") to 1 ("very Poor"), and an overall performance rating is determined.

The weighted-average method involves the following steps:

1. Assign 4 points for every "Very Good" response, 3 for every "Good" response, 2 for every "Poor" response, and 1 for every "Very Poor" response. ("No opinion" and "Don't Know" are not used in this method.) Using police protection as an example, this would involve 4 X 47 "Very Good" responses, 3 X 201 "Good" responses, 2 X 53 "Poor" responses and 1 X 16 "Very Poor" responses.
2. Sum the total number of points assigned to each of the four possible answers. (188 + 603 + 106 + 16 = 913 total points)
3. Divide this number by the number of valid responses for that particular service question. ( 913 ÷ (47 + 201 + 53 + 16) = 913 ÷ 317 = 2.88)
4. The resulting "weighted-average" number for police protection (2.88) is compared to the numerical performance scale of 4 ("very Good") to 1 ("very Poor"). By this method, police performance has been rated by the results of the Community Attitude Survey as being just below "Good",

This method has been applied to each of the services covered in the survey. The resulting weighted-averages are shown in the following Table. The community services are listed or ranked in order of highest value received.

TABLE V-2

<u>Rank</u>	<u>Service</u>	<u>Total Score</u>	<u>Responses</u>	<u>Weighted Score</u>
1	Fire Protection	1128	326	3.460
2	Ambulance Service	1027	299	3.435
3	Public Library	1007	312	3.228
4	Public Schools	842	278	3.029
5	Solid Waste Disposal	838	280	2.993
6	Traffic Flow and Control	859	292	2.942
7	General Government Functions Town Hall	858	294	2.918
8	Police Protection	913	317	2.880
9	Open Space for Parks and Recreation	803	288	2.788
10	Winter Snow Removal	922	388	2.728
11	Recreation Programs	666	247	2.696
12	Zoning Enforcement	617	234	2.627
13	Summer Road Maintenance (paving and repair)	864	330	2.618
14	Planning	554	220	2.518

Looking at Brookline's four listed protection services, fire protection received the highest (3.46) weighted average and ambulance service the second highest (3.43) of all other community services. This result is likely due to continued and dedicated efforts of Town officers and residents in developing an organized and effective service program. Of the other two protection services, traffic flow and control and police protection were rated as almost "Good", (2.94 and 2.88 respectively).

Of the three Town facilities provided to Brookline residents, the public library and public schools rated third and fourth overall, (3.23 and 3.03 respectively). The Town's existing land and facilities providing park and recreation open space and rated ninth overall with 2.79.

The remaining seven services covered in the survey dealt with general Town functions. Of these seven, solid waste disposal ranked fifth with 2.99 and government (Town Hall) functions as seventh with 2.92, winter snow removal ranked tenth with 2.73, and summer road maintenance as thirteenth with 2.62. Zoning enforcement ranked twelfth with 2.64 and planning as fourteenth with 2.52. The final service, Town provided recreation programs ranked eleventh with 2.70.

### Town Services and Facilities Conclusions

Based on a score of 4 being "Very Good", 3 being "Good", 2 as "Poor", and 1 as "Very Poor", a comparison of all calculated weighted averages does appear to be favorable overall. Considering the median or average value to be 2.50 (half way between "Good" and "Poor"), no Town service or facility scored below this. These figures reveal which service the community feels is being provided with the greatest "expected" level of service. In filling out the survey, each resident compares the level of services received to that they "expect" for the taxes they pay each year. Whether the expectation is reasonable is another matter. One has to consider that often much of a community's population increase is from in-migration. These people may have had a different type or level of service where they lived before and are used to or expect a similar level of service wherever they move to.

Expanding on the possible facilities improvements, the recommendations at the end of each section of the Community Facilities Chapter help to point out which services need more attention. Brookline should consider directing more attention to the needs of the Police Department and Ambulance Service. Each service is experiencing staffing problems that are making it difficult for them to maintain an essential level of Town service.

Additional attention needs to be directed to space problems within the existing Town meeting hall and the Public Library. The existing meeting hall is not large enough to hold Townwide assemblies. The Public Library has insufficient room for any future growth and is structurally over capacity as it exists now.

The inadequacy of the meeting hall could be addressed along with needed expansion of the public schools. New additions to the existing Elementary School are being considered to house and provide needed facilities for the current elementary classes. The transfer of Brookline's Junior High students from the Hollis Junior High School is also under consideration and would involve even more additional expansion of existing facilities.

Brookline may also wish to consider providing a wide variety of more accessible, active-recreation facilities within the Town. This may include hiking or biking trails, tennis courts, playgrounds, and picnic areas.

Finally, the Town should begin to turn its attention to addressing the future closing of the Souhegan Regional Landfill. The required costs involved in closing the landfill, along with finding an alternative disposal plan, are two things Brookline is going to have to address in the not so distant future.

As with all communities, some form of taxation pays for the services residents receive. In Brookline, property taxes provide the revenue source. Question #31 asked how each resident felt about the level of services they received compared to the amount of taxes they paid. Out of 363 respondents, 140 (38.6%) felt their property taxes must be increased only as needed to maintain existing levels of municipal services. Maintaining existing levels of service is costing Towns increasingly more money these days. Almost 39% felt the level of service was adequate and would pay higher taxes to have it continued. Another 89 respondents (24.5%) felt that their property taxes should remain the same, even if it means slightly reduced municipal services. Forty-six respondents (12.7%) felt that their property taxes must be reduced, even if it means greatly reduced municipal services, while 38 respondents (10.5%) felt that their property taxes must be increased in order to improve municipal services. In more rural communities it is usually Town school and road conditions that residents look at when considering where their tax dollars go. This is understandable as both these services require a large amount of Town tax revenues (and could likely use much more than is available). Also, police and fire departments take large amounts of tax dollars to operate as well.

C. Population Characteristics/Demographics

Questions #45-51 dealt with Brookline's population characteristics and demographics. Question #45 asked in which age group the respondents belonged. In comparing the percentage each group makes up of the total number of respondents, the figures show a good representative spread among all groups. Comparing each age group's percent of respondents to its percent of population from the 1980 Census shows how representative the survey was as most age groups were well represented. This does indicate that young persons did not respond to the survey at as high a rate as those 35 or older.

TABLE V-4

Age Group	Brookline Survey (1984)		1980 Census	
	#	%	#	%
18 - 24	8	2.1	158	13.4
25 - 35	84	22.4	346	29.2
35 - 44	118	31.5	265	22.4
45 - 55	68	18.1	165	14.0
55 - 65	54	14.4	118	10.0
65+	43	11.5	130	11.0
Total	375	100.0	1182	100.0

Question #46 asked the number of persons in each age group residing in the households surveyed. The results are again compared to the 1980 Census as done previously.



TABLE V-4

Age Group	Brookline Survey (1984)			1980 Census		
	#	-	%	#	-	%
0 - 5	102	-	9.0	141	-	8.0
6 - 17	243	-	21.4	442	-	25.0
18 - 24	103	-	9.1	158	-	9.0
25 - 34	195	-	17.2	346	-	19.6
35 - 44	225	-	19.8	265	-	15.0
45 - 54	115	-	10.1	166	-	9.4
55 - 64	84	-	7.4	118	-	6.6
65+	68	-	6.0	130	-	7.4
Total	1135	-	100.0	1766	-	100.0

The percent comparison appears very close. Two factors must be considered when viewing these figures. First, the percentage of households surveyed. Remember, 100% of Brookline households were surveyed with a total of 550 surveys distributed and 380 (69.1%) returned with valid responses. Taking this one step further, if 69.1% of the households represent 1135 people, then a 100% sample is estimated to total 1643 people. Comparing this to the Office of State Planning 1984 population estimate of 1926, the value is lower. However, the value is within reason when you consider 1) that maybe the 70 households not represented were larger than the average size; and 2) that there are inherent difficulties in estimating populations of towns with less than 10,000 populations.

Second, the year of the sample was different than the year of the Census. As the 1980 Census figures were the most recent available with a detailed age group breakdown, they were used in this comparison. To compare the total population figure obtained from the survey (1135) to the 1984 estimated population one should refer to State estimates as presented in the following Table.

TABLE V-5

Year	Source	# Population	# Difference	% Increase
1980	Census	1766	-	-
1981	OSP	1797	31	1.73
1982	OSP	1831	334	1.86
1983	OSP	1870	39	2.09
1984	OSP	1926	56	2.91
1985	OSP	1977	51	2.58

If there were (as estimated) 1926 people in 1984 and 1135 were recorded by respondents, this represents 59% of the total population as covered by the survey's 69% of the sample.

Questions #47 and 48 dealt with length of time respondents had lived in Brookline and also the age of the structure they lived in at that time. A total of 16.5% of the respondents had lived in Brookline for less than three years. Another 16.2% had lived in Town from 3-5 years. This equals 32.7% of all respondents having lived in Town for five years or less. Another 21.6% had lived in Town for 6-10 years, 11.4% for 11-15 years, 8.9% for 15-20 years, and 25.4% for 20 years or more.

Question #48 shows approximately half of those who lived in Town less than five years (32.7%) resided in homes less than five years old (16%). It appears in-migrants are equally occupying both new homes and existing homes on the real estate market. Twenty-nine percent lived in homes 5-15 years old, 20% in homes 15-40 years, 7% in homes 40-75 years old, 26% in homes over 75 years. This last category corresponds to other survey questions relating to historic preservation. With over a quarter of Town residents living in older or historic structures, it appears to be at least one reason for the high response concerning the needs for historic preservation.

A total of 366 responses were given to Question #49 regarding occupation. Fifty-seven respondents said their occupation was industrial/manufacturing, 15 in sales, 22 in building/construction, 7 as clerical, 145 as professional/managerial, 46 self employed, 9 as homemakers, 47 retired, and 18 as "other".

Relating to housing in Brookline, Question #50 dealt with owner/renter occupancy. A total of 86.0% of respondents owned their own single family home and another 5.9% owned a mobile home or part of a multi-family home. As the 1980 census showed that 84.7% of all occupied housing units in Brookline were owner-occupied, again this appears to be representative of the overall picture. Another 8.3% of all respondents either rented the unit they occupied or were in the "other" category. The 1980 Census showed that 15.3% of all occupied housing units were rented. Either the sample is not representing renters as well as homeowners, or the owner/renter make-up has changed a great deal since the Census, due to recent housing trends. Most likely is that renters did not respond to the survey as the issues it addressed were not of interest.

Question #51 dealt with total family income of the respondent households surveyed. Because of the overlapping categories between the survey and the Census, it is difficult to get the detailed comparison as covered by each individual source. Categories have been combined within both sources to provide the best comparison and presented below:

TABLE V-6

Income Range	Brookline Survey (1984)		1980 Census	
	#	%	#	%
less than \$ 10,000	18	6.1	92	16.5
\$10,000 - \$ 30,000	107	36.4	320	57.4
\$30,001 - \$ 50,000	109	37.1	119	21.3
\$50,000+	60	20.4	27	4.8
Total	294	100.0	558	100.0

After comparing the information presented, it appears likely that recent population growth since 1980 has had the greatest impact on the changes recorded by the 1984 survey. Percentages for the less than \$10,000 income range appeared to take a big drop as did the percentages for the \$10,000 - \$30,000 range. On the other hand, the percentages for the \$30,001 - \$50,000 and \$50,001+ categories rose considerably since the Census. This change in household incomes may have been influenced by either a) the two-worker households (husband and wife); b) in-migration of professional and other higher-salaried workers; c) the need for greater household incomes to be able to afford to live in the region as a result of recent growth demands and rising housing costs; and overall inflation. There is also a suspected tendency for respondents to overstate their incomes.

The last two survey Questions, #52 and 53, dealt with overall community concerns as to what problems Brookline faces and what are the Town's greatest assets. Of the approximately 85% respondents answering the questions, consensus is that the problems include managing growth properly by protecting natural resources and rural character, keeping tax increases down, regulating commercial and industrial development, providing Town services at the lowest cost, and managing recent increases in residential growth to minimize community impacts. Brookline's assets were felt to include its rural, small-town character, adequate services and facilities, valuable natural resources, and a community that cares!



## CHAPTER VI

### GOALS, OBJECTIVES AND RECOMMENDATIONS

This chapter presents the goals and objectives of the Master Plan Committee and Planning Board for how Brookline should develop and grow in the future. Also contained are specific recommendations for how to achieve these goals and objectives.

The goals and objectives contained in this chapter are derived primarily from two sources: (1) the Master Plan Committee and Planning Board discussions and findings of previous chapters, and (2) the opinions of residents, revealed in the community attitude survey, also discussed in this plan.

For each topic a goal statement is given, followed by one or more objectives under that goal. For each objective there is a brief "Rationale" section describing the reasons for it and the sources from which it is derived. This is followed by one or more recommendations for future action by the Town or its Boards to achieve the objective(s).

The following topics are included: Natural Resources, Community Facilities and Services, and Land Use, which is divided into sections on Residential, Commercial and Industrial Land Uses as well as a Community Growth section.

#### NATURAL RESOURCES

Goal: To preserve, to the extent State authorization allows, the sensitive natural resources of Brookline and protect such resources from the adverse impacts of development for their future enjoyment and use by the public.

Objective: To preserve and protect the quality of Brookline's water resources, whether occurring as surface water or ground-water, from contamination.

Rationale: While the threats to water contamination are numerous, cautious review of development proposals and a rational land use plan can prevent many of the problems other communities have suffered. Although Brookline does not (and will not in the near future) have a community water supply system, the availability of a potable water supply is critical for human survival and future town growth. While The Community Attitude Survey did not address water quality in particular, the preservation and protection of water resources is simply good planning.

#### Recommendations:

- (1) Brookline should follow-up on the regional aquifer delineation study by acting to preserve known aquifers through aquifer protection zoning and land use regulations.

- (2) Brookline should review, and revise where necessary, its subdivision and site plan review regulations to more thoroughly protect water resources, paying particular attention to septic system requirements, erosion controls, site coverage restrictions, and setbacks from surface waters.
- (3) Brookline should consider performing assessments of its two large water bodies through the Lay Lake Monitoring Program of the WSPCC and University of New Hampshire to determine current or future problems, as Hollis, Merrimack and Amherst have done.

Objective: To more closely relate land uses to the land's capability to support development, and prevent intensive land uses from locating on soils and slopes unsuitable for such uses.

Rationale: Brookline is not blessed with an abundance of the soil types which are most well-suited for development. In fact, most of Brookline's soils (approximately 80%) are rated by the Soil Conservation Service as having "severe" limitations for the safe operation of septic systems. Additionally, substantial areas are wetland, floodplain, excessively sloped, and have shallow soil layers over bedrock. Some of these areas are unsuitable for development of almost any type and should be preserved; not necessarily for their aesthetic or environmental qualities (although that is clearly a consideration, especially for wetlands, and floodplains) but because their development may ultimately cost the Town money and will often cause problems for the occupants of such developments.

Recommendations:

- (1) Brookline should consider revising its land use regulations and zoning to require variable lot sizes based on soil and slope conditions (see Residential Land Use, this chapter).
- (2) Brookline should develop and adopt wetland and floodplain protection ordinances to insure these are removed from the pool of developable land, except for a very narrow range of uses allowed by special exception, with adequate appeal processes provided.
- (3) Brookline should review its site plan review regulations and zoning to determine the land capability of areas currently used for and proposed for use by commerce and industry.



Objective: To preserve and protect natural resource areas of open space and conservation lands within the Town of Brookline, including wetlands, forest lands, recreation lands, scenic area, and other unique and/or sensitive resources.

Rationale: Natural resources are a finite entity. What there is in a Town is likely all there will be. Attention needs to be focused on the best natural resources that exist today. Areas of wetlands, forest lands, recreation lands, scenic vistas, etc., are invaluable to any Town that is fortunate enough to have such areas within its boundaries. When managed properly, these areas can offer a wealth of recreation potential (hiking, swimming, boating, fishing), nature education (outdoor classrooms), natural habitat (for land and water plants and animals), aquifer protection/recharge (open space, water purification), scenic vistas (from hilltop lookouts, toward surrounding hills), and forest resources (offering all of the above plus forest management benefits). As there are considerable acreages of these areas within Brookline, the Town should plan accordingly for their protection, preservation, and optimum use based on community need.

Recommendation:

- (1) The Brookline Conservation Commission should continue to operate under its responsibility of promoting the protection and acquisition of open space and conservation land. An ideal avenue of resource protection is the donation of private land to the Town. This could also include purchase of private land by the Town where applicable. Another, more commonly used, method is the establishment of conservation easements. The conservation easement is a well tested and proven method of land protection. While the property owner continues to enjoy the physical and tax benefits of ownership, the land is protected in perpetuity. Conservation easements are very flexible to better relate the desires of landowner and Conservation Commission along with the level of protection felt necessary. The Conservation Commission should inventory conservation/open space lands and actively seek conservation easements from landowners where the importance of protection is warranted. The Commission should also develop methods for monitoring its holdings to ensure their best use by the community. To help with the purchasing of critically important parcels of land, the Commission should consider establishing a capital reserve fund for future acquisition.

Objective: To preserve and protect Brookline's rural character and open space as relating to areas of existing agricultural use.

Rationale:

While Brookline does not have extensive areas of agricultural soils of Statewide importance, it does have areas where agricultural practices are presently taking place. Though the soils may not be best suited for agricultural use, their size, location, and ownership allow for their viable and economical agricultural use. As these areas do contribute to Brookline's cultural, economic, conservation, and rural character, efforts are needed to protect the more important areas from permanent conversion to another, more intensive land use.

Recommendations:

- (1) Brookline should in the future, have a more detailed inventory of lands currently in agricultural use than has been done to date (Existing Land Use Map). The inventory should note the parcels' size, soil type, location, ownership, and type of agricultural use.
- (2) Brookline should follow up the inventory with a review to determine what areas, if any, further preservation efforts should be directed to.
- (3) Once the review has been completed, Brookline should consider alternatives available to the Town to protect this land use.

CULTURAL RESOURCES

Goal:

To preserve areas within Brookline having cultural value to the Town as evidence of its unique historical development.

Objective:

To preserve and protect existing areas of historical significance from non-compatible future development.

Rationale:

Brookline is fortunate to have both a unique cultural resource and strong community desire for its preservation. Much of the Town's present rural character (considered a valuable community asset by residents) is the direct result of historical growth patterns and events. However, if not regulated, future growth can permanently and extensively alter this valuable cultural resource. Therefore, there is immediate need for protection and preservation of this resource.

Recommendations:

- (1) The Town of Brookline, with the cooperative efforts of its Historical Commission, Planning Board, interested

public, and State agencies should inventory all cultural features (structure, locations, events, etc.) within Town boundaries.

- (2) Brookline should review the results of the inventory and develop an Historic District to protect the most valuable resource areas.
- (3) At the same time Brookline should also develop and adapt the necessary ordinances and regulations aimed at protecting the cultural resources within the designated Historical District.

## LAND USE

### Residential Land Uses:

Goal: To accommodate a reasonable rate of residential growth in suitable areas of town in accordance with the capability of land and the capacities of town services and facilities.

Objective: To maintain Brookline's rural character and protect critical natural resources through residential zoning which accounts for the land's capability to support development, and the suitability of certain areas for residential uses.

Rationale: Brookline is one of the few truly rural communities remaining in the Nashua region, and this rural character is what has attracted new residents to it. The troublesome paradox the town faces is how to preserve this character (which is what makes it so attractive) and yet accommodate its "fair share" of the region's growth without losing this character. Brookline recognizes its obligation to accept a share of this growth and realizes that it is inevitable, yet the common perception of residents is that the rate of residential growth has been too fast. (See Survey section.) For this reason, Brookline will continue to accept reasonable rates of growth which do not strain community facilities and services, which do not threaten environmentally sensitive features (wetlands, water sources) and which are located in suitable areas of the community (see Community Growth, this chapter).

### Recommendations:

- (1) To address the issue of land capability to support residential development, Brookline should seriously consider revising its residential zoning to require variable lot sizes according to site-specific soil, slope and other physical conditions. Several relatively simple

methods of doing so have been adopted by other area towns.

- (2) With regard to suitability of certain areas for residential growth, Brookline should review existing land use patterns and identify areas where residential uses should not be permitted due to potential land use incompatibilities and natural resource protection needs.
- (3) Brookline should likewise consider revisions which encourage more efficient use of the best lands and which do not continue the scattered, "cookie-cutter" type subdivisions which prevail in Brookline and the region. Allowing clustered, "planned-unit- development" types of residences on a limited scale and at no increase in total density could prove to be an alternative which provides more affordable, more land-efficient and less town-service demanding types of housing.
- (4) Brookline should take note of the strong support shown in the Community Attitude Survey for the establishment of an historic district. An historical inventory should be conducted to determine the type and location of important structures within Town. Once this has been completed, delineation of the district boundaries and drafting of the district ordinance should follow.
- (5) With regard to the capabilities of community services and facilities, Brookline should take several steps:
  - (a) begin to require impact statements for relatively large scale (10 or more units) developments, as well as phasing plans;
  - (b) develop methods to determine whether a subdivision proposal is "premature" (per RSA 674:36,II,a.).
  - (c) Develop a Capital Improvements Plan to plan, schedule and budget proposed capital spending so that a growth management program can survive legal scrutiny and developers will know when their proposals would no longer be premature.

#### COMMERCIAL LAND USES:

GOAL: To expand opportunities for commercial development in a manner which accounts for land capability and the suitability of proposed locations, so as to broaden the tax base without causing excessive service demands, traffic hazards, overly intensive uses, or aesthetic incompatibilities with Brookline's land uses and character.

OBJECTIVE: To allow for selected types of commercial activity in locations meeting criteria for land capability, locational suitability, traffic and access considerations, intensity of use, demand for public services, and site design and architectural considerations.

RATIONALE: The community's desire for expanding the tax base through additional commercial land uses was evident, although not strong, in the survey. Certain types of commercial uses were more favorably viewed than others, and the general sentiment was that the rate of commercial growth was either about right or too slow. We have interpreted this to be a desire for a cautious expansion of commercial opportunities of a very narrow range of types. Among these types are home occupations and office developments, while other types of more purely commercial activity included in the survey were poorly received; specifically strip development and shopping centers/mini-malls.

In response to concerns about what the rate of commercial growth in Brookline has acutally been -- a rate which nearly half of Survey respondents called "about right". Master Plan Committee members reviewed the incidence of new commercial activity in Brookline between 1979 and 1984. This review indicated that three new commercial uses were established, four commercial uses replaced previous uses, and four expansions of existing commercial uses occurred. Thus, over the five year period a total of 11 commercial uses, ranging from a needlework craft shop to a machine shop expansion, either started, replaced or expanded. This translates to a rate of just over 2 commercial uses per year, at a time of unprecedented commercial growth in the Nashua region.

This surprisingly slow rate of growth is a function of Brookline's remote location relative to the regional market, the lack of a strong local market to support any exclusively local commercial uses, and the availability of better commercial land and locations elsewhere in the region. However, as the region's population continues to grow and the price of prime commercial space escalates, the attractiveness of Brookline may grow in the distant future.

The Master Plan Committee has identified 40 separate commercial uses in Town, not including home occupations in its definition of such uses. This is an important and, in most cases, appropriate distinction. Home occupations were identified as the single most preferred form of commercial and industrial land use of the options listed in the survey. Over 90 percent of respondents said either "encourage" or "allow only with restrictions" such uses (50% "encourage", 40.3% "allow ...."). Home occupations



however, have a tendency to grow into full-fledged commercial uses and create zoning problems due to land use incompatibilities. For this reason, they are often closely regulated so that when they grow beyond certain limits and impact neighboring residential uses, the impact can be controlled.

Recommendations:

- (1) Brookline should designate one or two land areas, of sufficient size and in locations where future incompatibilities will not occur, in which purely commercial uses, and only commercial uses, are to be permitted. This commercial zoning district should specify district boundaries, minimum lot size and frontage, access limits, building sizes, and permitted uses to include retail sales, service establishments, and general office uses.
- (2) The location of such proposed districts should be carefully evaluated in light of existing land use patterns, environmental/physical constraints to development (wetlands, soils, slope, traffic volumes and patterns), and the types of uses to be permitted. Additionally, the size of the districts should reflect anticipated long-term demand for commercial land so as to insure adequate supply and thus reasonable land costs.
- (3) Brookline should amend its subdivision and site plan review regulations to more carefully control site specific impacts of commercial development, including but not limited to traffic access, circulation and parking, building design and setback, landscaping and buffering, environmental concerns (septic system, materials storage, underground tanks, etc.) and clarifying the Board's procedures and authority on site plan review.

INDUSTRIAL LAND USES:

- Goal: To provide opportunities for limited industrial development, of a scale that is compatible with Brookline's rural character, and in a manner which considers the capability of land to support such uses, the suitability of proposed locations for industry (relative to less intensive uses), and the likely environmental and fiscal impacts of industry.
- Objective: To establish locations, siting criteria and review standards to allow for a cautious expansion of Brookline's limited industrial base in a manner which prevents environmental harm and land use incompatibilities.
- Rationale: The Brookline Master Plan Opinion Survey asked several questions regarding industrial development (questions #3, 6, 7, 16, 41, and 44; see Opinion Survey results and



narrative sections of this plan). Responses to these questions generally point to the conclusions that (1) previous five years industrial growth has been "about right" to "too slow"; (2) light industry (assembly) should be "allowed" if not "encouraged"; (3) only 20 percent of households said new industry should not be allowed, while 52 percent called for a cautious review of such proposals, and 28 percent said the Town should encourage industrial development; (4) over 70 percent of households express a preferred location for new industrial development.

While the Town's population has expressed a desire in the Opinion Survey for a cautious expansion of industrial land uses, the Town will probably not see a great demand on the part of industry to locate here. This conclusion is based primarily on Brookline's lack of public sewer and water systems, the region's depleted labor supply, and the high cost of housing and land (relative of other areas of the state and nation) in this region and the Town.

For these reasons, Brookline will not, in all likelihood, be the site of new facilities for major manufacturers like Digital Equipment, Sanders Associates, or similar uses. More probably, Brookline could attract smaller-scale, less labor and service intensive type uses such as warehousing, small assembly operations, and small, non-labor intensive manufacturers. Individually, such uses do not broaden the tax base significantly, but several such uses, in a well-designed industrial park setting, would have the desired effect on the tax base and could be sited without environmental harm or excessive demands for Town services such as police, fire or schools.

#### Recommendations:

- (1) Brookline should establish two to four industrial districts, of relatively compact size, (20-40 acres) in areas of Town with access to Rt. 13, yet sufficiently distant from established residential uses, and where physical constraints to development and likely environmental harm would be minimized.
- (2) Brookline should amend its zoning ordinance to create such districts and establish additional controls on such development as site conditions and good design principles require (i.e. lot size, set-backs, building size, site coverage ratios, access/egress limitations, etc.).

- (3) Brookline should likewise amend its subdivision and, more importantly, site plan review regulations to more comprehensively regulate the development of industrial sites and insure that their development meets the objectives established here.
- (4) New State site plan review Statutes to become effective on January 1, 1986, will give local Planning Boards much broader authority to regulate aesthetics and off-site impacts. Brookline should consider developing and adopting such regulations to expand their regulatory authority.
- (5) Brookline should consider using several innovative regulatory techniques such as incentive zoning and performance standards to discourage unsightly and unsafe industrial strips and instead provide density incentives for park-type development and also use performance standards to minimize environmental impacts and encroachment on adjacent, less-intensive uses.

TRANSPORTATION:

Goal: To plan, with cooperation from the NH Department of Public Works and Highways, where applicable, safe and efficient transportation facilities within the Town of Brookline.

Objective: To plan and provide for residential collector roads of sufficient design to allow for safe use of traffic generated by existing and future residential growth.

Rationale: The rural character of Brookline's road network - its paved and gravel roads that are often narrow, winding, steep, and/or in deteriorating condition - may lead to safety problems as future residential growth in Town takes place. To help provide favorable transportation conditions, the Town should continue to look at needed improvements to the roads which will see significant increases in traffic or where safety hazards need correction.

Recommendations:

- (1) As part of an overall Capital Improvements Plan, Brookline should continue to develop and update its long-term road improvement program. Such a program prioritizes the roads where work is needed to either upgrade or correct existing conditions. The program should take into consideration the Town's Master Plan as it addresses future growth and where it will or should possibly take place.

- (2) Just as road conditions are improved in areas where growth is desired, future premature growth should not be allowed to take place on roads not under consideration in the 6-year time frame of the Capital Improvements Plan, thereby causing future unexpected costs for Brookline. Premature growth can be addressed in the Town's Subdivision Regulations by developing guidelines for evaluating development proposals with regards to Town costs.
- (3) Brookline should develop regulations to better address the proper siting of access points off of the roadways to prevent unsafe traffic conditions.

Objective: To plan and provide for commercial and industrial development within existing and future zones designated for such development that will not negatively impact existing traffic conditions along NH Route 13.

Rationale: Strip development along major highways often leads to congested, unsafe traffic conditions. For people using the highway for through-travel this leads to unsafe conditions, thereby negating its intended use. Proper siting of commercial and industrial zones along with efforts to regulate unlimited access to fronting lots will help to prevent the conditions which lead to traffic problems.

Recommendations:

- (1) There is pending legislation that, when finalized will address the problem of insufficient local input to the State curb-cut permitting process. Brookline should continue to track this legislation as, if approved, it will allow local growth and development concerns to be brought to the attention of the State permit-granting agency.
- (2) Brookline should develop commercial and industrial areas that have access to NH Route 13, but are sited back from the highway. Such efforts, along with regulations preventing unlimited access to fronting lots will help prevent strip development and the associated problems with too many access points along a major highway.

COMMUNITY FACILITIES

Goal: To fulfill Brookline's obligation to provide adequate levels of certain facilities and services to its present and future residents and businesses.

Objective: To maintain a well-trained and equipped Town Fire Department to protect the Brookline community from avoidable loss of life and property due to fire.

Rationale: Like any rural community, Brookline requires fire protection, but must provide it with a limited budget. With Town purchased equipment and call-paid staffing, the Town attempts to provide a professional fire protection service. The department must grow in ability to adequately provide fire protection in step with Brookline's future growth.

Recommendations:

- (1) That the Fire Department and Town continue their efforts to raise the funds needed to replace the aging tanker. Such efforts would ensure the Department's fire vehicle inventory would be adequate to meet existing and future fire protection needs.
- (2) That the Fire Department purchase the additional 1000 feet of four inch hose to fill the reel on the new pumper truck. The extra hose would give the Department the added advantage of being able to deliver large volumes of water over longer distances.
- (3) That the Fire Department Engineers and the Planning Board further consider the effects of future low density development in the more distant parts of Town. Projections should be made of the number of units expected to be built in these more distant areas. Questions that need to be addressed include:
  - (a) Where is the development likely to go?
  - (b) What might these area's development density become with the expected growth?
  - (c) What will the average expected type and number of fire calls be for this area?
  - (d) Will the Fire Department, with its present membership, equipment inventory, and station location, be able to adequately cover the projected increase in calls from these new growth areas?
  - (e) In response to the fire protection needs of future growth, should the Town consider: 1) planning for building a small substation in the north end of Town, 2) developing a small part- or fulltime staff, or 3) creating a fire protection district or service area so future growth does not take place in areas the Town cannot reasonably supply fire protection service?

- (4) That the Fire Department determine its computer needs, including record-keeping, filing, and report writing. Recommendations of these needs should be passed on to the Town as part of its efforts to look into an applicable Townwide computer system.

Objective: To maintain a well-trained and equipped Town Police Department, ready to provide police protection in time of Community need or emergency.

Rationale: Brookline's need for police protection is often greater than existing budgets and levels of staffing are able to provide. Future growth will definitely not help the situation. Since police protection is needed and expected from the Town to ensure public safety, the following recommendations are offered to help develop the necessary level of service.

Recommendations:

- (1) That the Town create two full-time positions on the Police force in order to provide adequate police protection to the Town. One position would cover the day shift and the other would cover the night shift.
- (2) That the Town begin consideration of replacing the existing cruiser used by the Police Department within the next two years. The existing cruiser should be kept as a secondary and backup vehicle. This would prevent Officers from having to use their personal vehicles for police business without compensation or liability insurance coverage.
- (3) That the Town build a new, outside, basement entrance so that when the Town building is closed, Officer access can be made without disturbing users of the lower meeting hall.
- (4) That the Town make plans for providing an additional 200 square feet of area for Police Department facilities to improve the greatly inadequate space situation which presently exists.

Objective: To maintain a well-trained and equipped Town Ambulance Service to provide medical response to the Brookline Community in times of emergency or need.

Rationale: Medical emergencies in any community demand immediate and experienced attention in order to prevent loss of life or serious injury. Rural communities often have a further disadvantage over more populated Town or Cities in that they do not have the funds or trained personnel to be able to provide the service. For communities without local ambulance

service, the responding medical help come from larger neighboring communities but over greater distances that use up critical time.

Recommendations:

- (1) That the Town and Ambulance Service raise the necessary monies to mechanically evaluate the existing ambulance to determine if a newer, more reliable model is needed.
- (2) That the Ambulance Service, within the next five years, begin consideration of the need for an equipped rescue vehicle and any required renovations to the second storage bay to house the vehicle.
- (3) That the Ambulance Service evaluate its anticipated space needs brought on with a hopeful increase in membership. If necessary, alternatives should be considered to provide additional space to operate in. This evaluation of space should include a solution to the space problem in the present parking bay housing the ambulance.
- (4) That the Ambulance Service determine what computer needs would be required for it to keep records, do office filing, and handle correspondence. Recommendations of these needs should be passed onto the Town as part of its overall efforts to look into applicable Townwide computer systems.

Objective: To provide for adequate space and staffing in order to allow proper functioning of Town Departments and Boards.

Rationale: In order for Towns to function in an organized, effective manner, (keep records, collect taxes, etc.) they need both adequate personnel and facilities to conduct business. Small-town offices are often staffed with part-time workers and have marginally adequate available Town Hall facilities. To insure continued efficient handling of all Town operations in response to future demands (i.e. growth), review and evaluation of existing facilities and staffing is necessary.

Recommendations:

- (1) That the Town and School Committee continue to consider building of a cafetorium at the Brookline Elementary School to provide an area for public meetings as expected attendance is exceeding the upper meeting hall's present capacity.
- (2) That the Town begin consideration of alternatives to provide additional space for Town offices. Additional space is needed for the Selectmen/Planning Board meeting



area, Town Treasurer office, Public Library, and Police Department. Alternatives could include building renovations/expansion, the relocation of a Department to another site, and use the lot's vacant space to expand into.

- (3) That the Town consider computerizing all Town Departments to ease, speed and record transactions, billings, payroll, and inventories, similar to what Amherst has done and Milford is in the process of doing. An inventory of each Department's computer needs can be matched to existing computer hardware and software systems. The chosen system could be phased in gradually to incorporate the Town Office, Library, Fire and Police Departments, and the Ambulance Service.

Objective: To make available adequate educational opportunities for all school-age Brookline residents.

Rationale: Municipal school systems are a major element in the life of any community. As it is each Town's responsibility to provide the necessary facilities, staff, and materials, each Town is faced with substantial expenditures of public funds to do so. By reviewing Brookline's education situation - existing educational resources vs. future growth demands, suggestions can be developed to allow the program to meet those needs.

Recommendations: The following recommendations are offered as possible options that will help Brookline's school system grow to meet future demands.

- (1) That the Elementary School Building Committee continue its study of needs in building an addition onto the Elementary School.
- (2) The School Building Committee also continue and expand its efforts to look into building necessary additional facilities at the Elementary School to hold grades 7 and 8 when the Hollis-Brookline school contract runs out in 1989.
- (3) That the Town begin to renegotiate a contract with the Hollis School District allowing Brookline grades 9 - 12 to continue attending the Hollis High School. This will ensure Brookline grades 9 - 12 students will continue to receive the best range of educational opportunities at the least cost, as is provided in the present agreement.
- (4) That the Town continue its membership in the regional Special Education Consortium to continue to provide Special Education Services to Brookline students at the least cost to the Town.

Objective: To provide for an adequate public library facility offering the Brookline community a variety of children and adult reading materials and programs.

Rationale: The local library is often one Town service that a community "expects" to have access to. Whether it provides pre-school learning materials, supplements to existing school educational programs, or provides popular materials for pleasure reading. There is always a community need for such a facility. In providing a Library service, a Town must consider the costs involved with staffing and materials as compared to community needs and desires. Since an expansive or well cataloged library is not always a possibility in rural communities, fortunately, regional facilities exist that local libraries can access to supplement their own resources. Since every community library can likely make use of increased staffing or added facilities, the following recommendations attempt to address the needs of Brookline.

Recommendations:

- (1) That the Town continue its efforts in looking into available alternatives for relieving the space shortage and structural problems of the Public Library. Options available for consideration include strengthening the first floor area, expanding the Daniels Academy Building, and the relocation of the Library facility.
- (2) The the Library determine what computer needs would be required for it keep up its records, do filing, handle circulation work and write annual reports. Recommendations of these needs should be passed onto the Town as part of its efforts to look into an applicable Townwide system.

Objective: To provide a variety of accessible recreational resources for individual, family, and group enjoyment within the community.

Rationale: Helping people to better identify with or appreciate their community, public recreation provides opportunities for all to enjoy themselves and the natural resources around them. A community varies greatly with its population structure, thereby creating a variety of recreational needs. For this reason, public recreation facilities within a community must also differ in order to meet those needs. Depending on a community's character, available land, and available funding; recreational facilities and programs may vary from one Town to the next. However, regardless of the Community, all Towns must plan to meet future recreational needs. Fast paced residential growth not only increases the need for such facilities, it also takes away existing land resources that

would be used to supply the recreation. With the possibility of multiple-use of a land resource, protection of sensitive and scenic resources can often go hand-in-hand with the development of community recreation.

Recommendations:

- (1) That the Town locate tennis courts, hard courts, equipped playground area, and picnic area with facilities on existing or purchased Town owned land.
- (2) That the Town continue cooperative efforts with the Elementary School Building Committee to consider the building of a cafetorium to provide an area suitable for use as a gymnasium by the Elementary School and Town.
- (3) That the Recreation Commission make efforts to provide a cleared outdoor skating area for Townwide use during the winter. Due to liability for injury if a surface water body is used, it may be better to flood a field or other flat land area in an accessible area of Town.
- (4) That the Recreation Commission continue its efforts to develop management plans for the use of existing Town-owned conservation and open space lands. The plans should include areas for hiking, running, and walking trails, nature education, and water related activities.

Objective: To provide for adequate solid waste disposal services to the Brookline community.

Rationale: People generate waste, and as a whole, a community of people generates a lot of waste. All communities are now beginning to face the reality of limited means of safe and economical disposal of their wastes. Due to increasing costs, limited sites, groundwater contamination problems, liability, etc. Towns are having to cooperatively address the problem as a regional issue. The following recommendations are to assist Brookline in dealing with solid waste disposal with this in mind.

Recommendations:

- (1) That the Town continue to cooperate with the Nashua Regional Solid Waste Management District in the effort to bring a regional resource recovery facility to the area. Such a facility would provide stable, efficient disposal to the Town for at least twenty years.
- (2) That the Town begin to plan and budget for its share of the costs of closing the Souhegan Regional Landfill. In addition, the Landfill District should begin to examine the issues and plan for financing the closure of the facility.



## CHAPTER VII

### FUTURE LAND USE

Determining the location of future land uses is often a difficult, but very important planning task to any Town. The difficulty lies in determining the "what, when and where" of future development. As growth trends change with a varying economy, the "what and when" unknowns will always be there to some degree. However, substantial gains or benefits to managing growth can be made by looking in greater detail at the "where" factor. In addressing where future growth is directed, the following should be considered:

- existing land use patterns;
- current zoning;
- natural limiting factors;
- existing Town facilities; and
- community growth attitudes and desires.

#### A. Existing Land Use

Within Brookline, the various types of existing land use have been mapped to show their location and extent. (Please refer to Existing Land Use Map.) The information has been put on a base map showing individual tax lots. In terms of extent, of the three more intensive types of land use (residential, commercial and industrial), residential land use is by far the largest in area. Considering each type of residential area, single family has the largest acreage, followed by mobile home, multi-family, two-family and home-occupation/residential. Most residential development has taken place in Brookline's Town Center; along Old Milford Road; along NH Route 13 (west and north of Melendy Pond); west and south of Lake Potanipo; and along Averill and Pepperell Roads.

Commercial land use has taken place intermittently along NH Route 13, in the Town Center, and at the Brookline/Hollis Town Line. The majority of existing commercial land use has developed along the State highway; NH Route 13.

What industrial development there has been, has taken place entirely on NH Route 13. While it occurs sporadically along Route 13, the largest concentration lies within the southern portion of Town.

The remainder of the Town is presently composed of other, less intensive land uses including semi-public, utilities, recreation/public open space, and agriculture/vacant. The last type of land use mentioned comprises the majority of acreage within the Town.

#### B. Current Zoning

Brookline's current zoning involves two separate districts. (Please refer to Zoning Map.) The first, more intensive type of land use district is the Industrial-Commercial District. The other is the Residential-Agricultural District.

The Industrial-Commercial District is that area within 500 feet of NH Route 13 from the Massachusetts border as far north as Bond Street on the eastern side and as far north as Mason Road on the western side. The District also includes that area within 500 feet of both sides of NH Route 13 from a point 500 feet south of Route 130 North to Old Mason Road. Existing land uses within this District include commercial, industrial, and considerable residential. The Commercial-Industrial District permits any commercial or industrial use which does not offend by emission of smoke, dust, gas, noise, odor, or fumes; has 30 feet right-of-way and 20 foot side/rear setback; and provides adequate parking and vehicle access. The District also permits all uses also permitted in the Residential-Agricultural District.

There is a problem, however, with allowing other types of land use within an area zoned for something else (i.e. residential use in an industrial area or vice-versa). Future incompatibility problems can result from this practice. These problems may range from residential nuisances (noise, odor, unsightliness, traffic congestion, etc.) to serious residential health and safety problems (aquifer contamination, air pollution, fatal pedestrian /traffic accidents, etc.).

The Residential-Agricultural District includes all areas of Brookline not designated as Industrial-Commercial. Land uses permitted in this District generally include single and two family dwellings, schools, churches, recreation buildings and grounds, home occupations, farming and forestry activities.

C. Natural Limitations

Natural limitations to be considered in locating future growth include unfavorable wetland soils, steep slope conditions (greater than 25%), and floodplain areas. Other types of natural features warranting consideration include the location of ground and surface waters, soils of Prime and Statewide agricultural importance, and important forest lands.

Wetland soils have been taken from existing work done by the Soil Conservation Service and are shown on the Water Resources Map. Wetland areas are found to occur within many portions of Brookline, naturally with greater frequency and acreage in those areas bordering streams and ponds and in low lying, relatively flat locations.

Areas of excessive slope have been located and are shown on the Town's Slope Map. Slopes of greater than 25% gradient should not be actively developed, as discussed in the Chapter on Natural and Cultural Resources. Slopes between 15-25% gradient can be developable but warrant site specific review to ensure all limitations are addressed. Slopes less than 3% in gradient are not limiting in steepness, but more for the lack of it. These



areas may have drainage problems and should be reviewed for wetland soil limitations.

Aquifer areas deserve equal attention as their value to a community cannot be matched if they become contaminated and no longer useable. High and medium-potential water-yielding sand and gravel aquifers are delineated on the Water Resources Map. Other areas besides those shown can yield domestic quantities of water. For this reason, compatibility of land uses is an important issue to address when siting future commercial, industrial and even higher density residential development.

#### D. Existing Town Facilities

Like other small or rural New Hampshire communities, Brookline does not have public water or sewer facilities to offer or direct future growth. The most relevant facility the Town does have for guiding future growth is its road system. Existing commercial and industrial growth along NH Route 13 has occurred primarily due to the highway offering greater accessibility.

Town roads with immediate access to NH Route 13 seem to favor more residential growth than any other land use type. Considerable residential development also exists on NH Route 13, due to the highway's providing better transportation access. As you go back from NH Route 13 and beyond the major Town-connecting roads, less residential development is found. A combination of factors have likely caused this limited development including road access and condition, natural limitations, and more easily developable land available elsewhere. However, the Town is now experiencing greater residential development within its more "rural" parts. Factors involved include strong housing market demand, higher property taxes forcing land from being left idle by the owner, less available land closer to better road access, and the desire for a more rural environment to live in. Undirected growth of this type can place huge demands on Town resources to maintain and improve these back roads being developed.

#### E. Community Growth Attitudes

The type of growth a community desires should be reflected in the type of planning done to direct the growth. Response from the Brookline Community Attitude Survey shows strong support for the type and location of development likely to take place. The following overview has been summarized from Chapter V: Community Attitude Survey.

Over half of the respondents felt past residential growth has been about right while almost a quarter felt it has been too fast. Some support was also shown for other types of residential development (multi-family and cluster). Generally speaking, the community favors residential growth over other types (commercial and industrial) and has a strong desire to stay the same type of community (rural/bedroom) it has been to date.

Addressing commercial growth, half of the respondents felt it has been about right and would like to see it continue somewhat (though regulated) to help support a broader commercial base. A majority of respondents would encourage or allow with restrictions professional offices and home occupations over strip development and mini-malls. Of those desiring commercial growth, almost half felt it should go along NH Route 13 (at either the south end, Brookline Center, or north end) and another quarter felt it should go anywhere on Route 13.

Survey respondents clearly preferred light industry/assembly over heavy industry/manufacturing. Of those encouraging with restrictions this type of development, most wanted to see it take place at either end of NH Route 13, but not near Brookline's Center.

#### F. Future Land Use

Siting future industrial, commercial, and residential growth with a consideration of the above mentioned concerns, limitations, and desires will help to prevent costly problems for the Town. Such costs can include necessary development, expansion or upgrading of Town facilities, contaminated water supplies, and generally unsafe or unhealthy living conditions that often come with siting incompatible land uses too close together. "Over-laying" the above mentioned factors (in map form) can actually reveal those areas not favorable for development and those areas favorable for certain individual types of development at varying levels of density. (Please refer to the accompanying Future Land Use Map on the following page.

Future industrial and commercial growth will likely (and should) be directed to larger land areas on or just off of NH Route 13 and, if possible, adjacent to existing commercial and industrial land use. This area is where the community wants to see this type of future growth take place. Since economic siting factors are also favorable to such development taking place here, planning efforts to direct growth to these areas will provide the greatest community benefit and satisfaction. Areas the Town should consider directing its planning and zoning efforts for industrial and commercial uses include:

- 1) Light Industrial/Commercial: East of NH Route 13, and north of the highway's intersection with Milford Street. Access could come into this area either off of Milford Street or NH Route 13. (See Future Land Use Map)
- 2) Industrial: West of NH Route 13, near existing industrial and commercial areas, south of North Mason Road and north of Quimby Road.
- 3) Commercial: An increase in commercial density in an area of existing similar land use along NH Route 13 in south Brookline. Includes those areas between NH Route 13 and Main Street. The area is currently within the zoned Industrial-Commercial District.

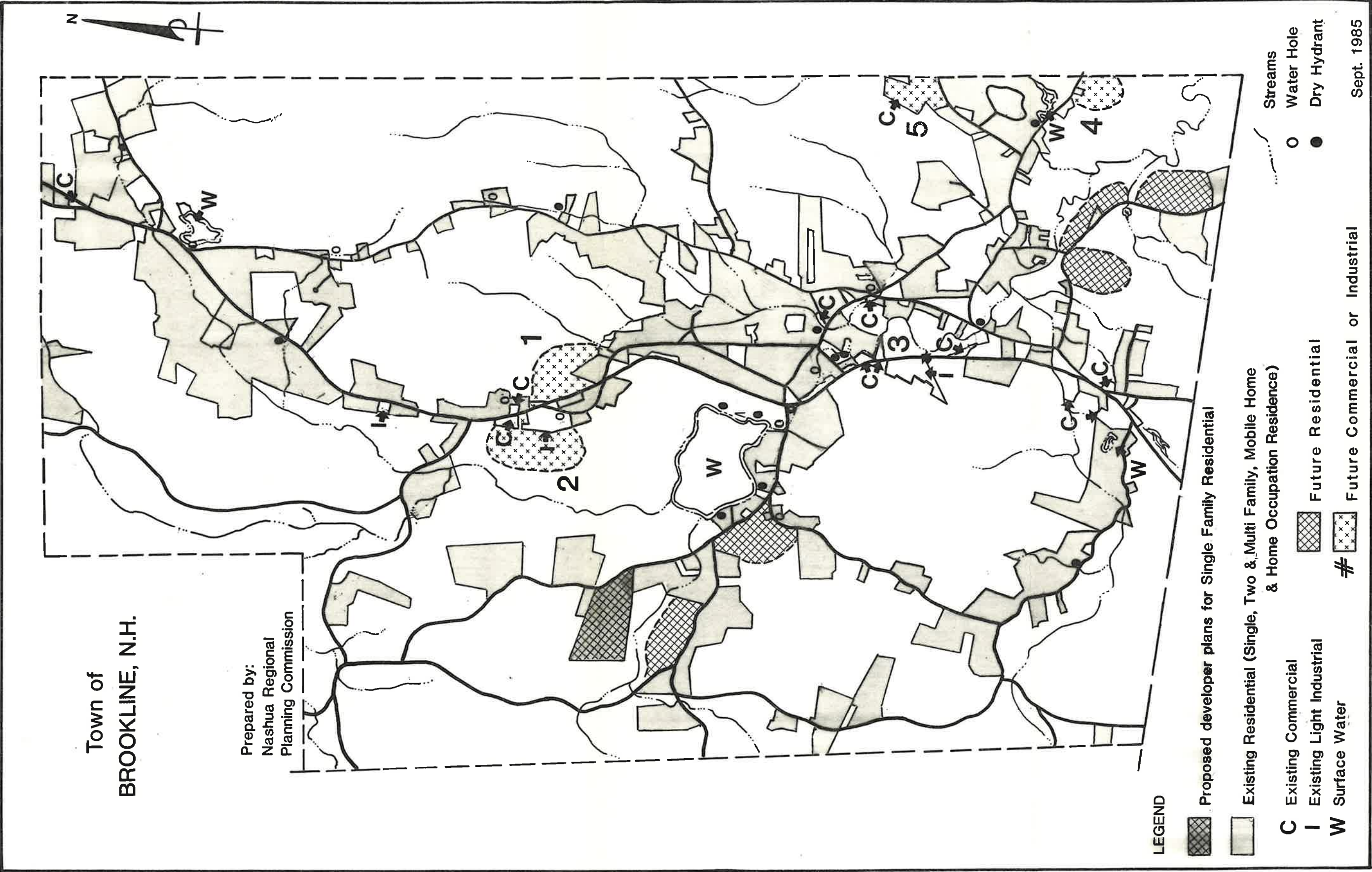
- 4) Commercial: The area south of Pepperell Road at the Brookline/Hollis Town Line.
- 5) Commercial: An increase in commercial density in an area north of NH Route 130 at the Brookline/Hollis Town Line.

Residential land use will likely continue to fill in areas already predominantly residential in nature as well as continue to extend farther along local roadways. Local planning efforts should help steer growth away from low density sprawl over the entire community. In the long run such sprawl greatly increases local costs for providing transportation, fire and police protection, solid waste disposal, school busing, public water and sewer and other community services to residents. Planning efforts that provide for greater soils-based development densities in areas of existing, similar land uses will help give incentive to not sprawl. Further land use regulation addressing rural development, (either preventing premature growth, requiring larger lot densities, etc.) will also help to discourage sprawl. Such rural planning would be considered reasonable as long as there are provisions for other areas better suited and of sufficient size to take the inevitable growth. Since there are no public sewer facilities available, residential density should be controlled by lot size, particularly in areas of aquifer potential. Of concern here are areas along the Nissitissit River and Pepperell Road, Wallace Brook and Averill Road, Lake Potanipo, and North Stream/Scab Mill Brook. In other areas where soil conditions are favorable, higher densities or clustering are likely possibilities. Where soil conditions are definitely not favorable, as found in wetland areas, such areas should not be considered for any type of development. Specific larger land areas possessing potential for additional residential development rather than fill in between existing residential use are also shown on the Future Land Use Map.

### Conclusions

Insuring that adequate land areas will be available when future growth does take place requires planning and zoning efforts now. Creating zones that favor one type of land use over another not only puts the land use where it is wanted, but it also prevents non-compatible land uses from being sited where they shouldn't be. In conjunction with zoning, the use of other land use regulations (subdivision, public health, site plan review, etc.) will help insure that future growth will be properly sited with respect to the Town's planning goals and objectives.





# APPENDIX A

Map Symbol	Wet Soils	Flood- Plain Soils	Sand & Gravel Soils	Seasonal Wet Soils	Shallow to Bed- rock Soils	Hardpan Soils	Deep Stoney Soils	Important Farmland Soils **
AgA			*					P
AgB			*					P
BaA				X				P
BaB				X				P
BdA						X		P
BdB						X		P
BdC						X		S
BdC						X		
BeC						X		
BeD						X		
Bg	X							
BoA	X							
BpA	X							
CaB							X	S
CaC							X	S
CaD							X	
CmB							X	
CmC							X	
CmD							X	
CmE							X	
CnC							X	
CnD							X	
CoC	----- Not Evaluated -----							
CpB					X			
CpC					X			
CpD					X			
CsB					X			
CsC					X			
CtD					X			
Cu	X							
DeA			*	X				
DeB			*	X				
Dp	----- Not Evaluated -----							
Gw	X							
HsA			X					
HsB			X					
HsC			X					
HsD			X					

APPENDIX A, cont'd

Map Symbol	Wet Soils	Flood- Plain Soils	Sand & Gravel Soils	Seasonal Wet Soils	Shallow to Bed- rock Soils	Hardpan Soils	Deep Stoney Soils	Important Farmland Soils **
LeA	X							
LsA	X							
LtA	X							
LtB	X							
LvA	X							
LvB	X							
MoB						X		P
MoC						X		S
MoD						X		
MtB						X		
MtC						X		
MtD						X		
NnA			*	X				P
NnB			*	X				P
Oc		X						P
Om		X						P
PbB						X		P
PbC						X		S
PbD						X		
PfB						X		
PfC						X		
PfD						X		
PfE						X		
PhB					X			P
PhC					X			S
PhD					X			
PiA	X		*					
PiB	X		*					
Pr				Not Evaluated				
PtA				X		*		P
PtB				X		*		P
Pu		X		X				P
Qr				Not Evaluated				
RbA	X					*		
ReA	X					*		
ReB	X					*		



APPENDIX A, cont'd

Map Symbol	Wet Soils	Flood- Plain Soils	Sand & Gravel Soils	Seasonal Wet Soils	Shallow to Bed- rock Soils	Hardpan Soils	Deep Stoney Soils	Important Farmland Soils **
Rp	X	X						
Sm	X	X						
Sn	X		*					
So	X		*					
Sr	X							
SsA				X		*		S
SsB				X		*		S
SsC				X		*		S
StA				X		*		
StB				X		*		
StC				X		*		
Su		XX						
UdA				Not Evaluated				
Ur				Not Evaluated				
WdA			X					
WdB			X					
WdC			X					
WdD			X					
WnC				Not Evaluated				
WoA				X		*		P
WoB				X		*		P
WvB				X		*		
WvC				X		*		

\* = Would not be shown according to ARP&D, Section II Inventory 10/76

\*\* = Prime (P) farm soils from published report

Statewide (S) farm soils from Tech Guide, interpreted to published symbols.



## BROOKLINE MASTER PLAN OPINION SURVEY

INSTRUCTIONS

1. Check only one response per question, unless more are requested.
2. We can accept only one response per household, and request that the head of the household complete the survey.
3. Your written comments, observations or suggestions are welcomed. Please use the back of the last sheet or attach additional pages.
4. Do not sign the survey. All responses are strictly confidential.

# = actual responses (#) = percent n.r. = no response

1. I think the rate of residential growth (homes and apartments) in Brookline over the past five years has been:

( 7.8) <u>29</u> much too fast	(4.8) <u>18</u> too slow
(21.7) <u>81</u> too fast	(1.1) <u>4</u> much too slow
(56.5) <u>210</u> about right	(5.9) <u>22</u> don't know
( 2.8) <u>8</u> no opinion	n.r. = 8

2. I think the rate of commercial growth (stores, shops, services) in Brookline over the past five years has been:

( 2.7) <u>10</u> much too fast	(28.9) <u>108</u> too slow
( 3.2) <u>12</u> too fast	(11.0) <u>41</u> much too slow
(47.3) <u>177</u> about right	( 5.1) <u>19</u> don't know
(1.9) <u>7</u> no opinion	n.r. = 6

3. I think the rate of industrial growth (manufacturing, assembly) in Brookline over the past five years has been:

( 3.0) <u>11</u> much too fast	(25.0) <u>93</u> too slow
( 6.2) <u>23</u> too fast	(13.7) <u>51</u> much too slow
(42.7) <u>159</u> about right	( 6.5) <u>24</u> don't know
(3) <u>11</u> no opinion	n.r. = 8

4. What should the minimum required lot size for new homes in Brookline be?

( 4.3) <u>16</u> one-half acre (22,000 sq. ft.)	
(11.9) <u>44</u> one acre (44,000 sq. ft.)	
(57.0) <u>211</u> two acres (88,000 sq. ft.)	
(11.9) <u>44</u> three or more acres ( 132,000 sq. ft.)	
(14.1) <u>52</u> Variable, based on soil capability, slope or other standards.	
(0.3) <u>1</u> don't know	
(0.5) <u>2</u> no opinion	n.r. = 10

5. How much "frontage" (amount of the lot which fronts on a public street) should be required for new homes in Brookline?

( 3.9) 14 50 feet (47.7) 172 200 feet or more  
(15.5) 56 100 feet ( 5.8) 21 enough for a driveway  
(21.1) 76 150 feet ( 3.0) 11 don't know  
(3) 11 no opinion n.r. = 19

How should Brookline treat each of the following type of development?

	Encourage with few Restrictions	Allow only with Restrictions	Prohibit or very Strictly Regulate	Don't Know	No Opinion	n.r.
6. heavy industry (manufacturing)	(7) 26	(31.8) 118	(59) 219	(1.6) 6	(.5) 2	9
7. light industry (assembly)	(27.1) 100	(53.4) 197	(18.4) 68	(.8) 3	(.3) 1	11
8. strip development (stores)	(11.2) 40	(34.1) 122	(52) 186	(1.7) 6	(1.1) 4	22
9. shopping centers/ mini-malls	(8.7) 31	(28.7) 102	(60.4) 215	(1.4) 5	(.8) 3	24
10. offices: business/ professional	(37.7) 138	(45.9) 168	(14.8) 54	(1.1) 4	(.3) 1	15
11. home occupations	(50) 185	(40.3) 149	(6.5) 24	(2.2) 8	(1.1) 4	10
12. mobile homes on individual lots	(16.8) 62	(34.1) 126	(47.4) 175	(1.4) 5	(.3) 1	11
13. mobile homes in mobile home parks	(11.6) 42	(34.9) 126	(51.2) 185	(1.7) 6	(.6) 2	19
14. apartments and multi-family housing	(9.8) 36	(45.3) 167	(43.4) 160	(1.1) 4	(.5) 2	11
15. "cluster" housing (i.e. Coburn Woods, Brittany Place, The Quarry, Westgate, Beaverbrook, Water- ford Place)	(11.4) 42	(35.3) 130	(49.7) 183	(2.5) 9	(.8) 3	13

16. In the future I think Brookline should try to become:

(26.6) 93 more of a residential "bedroom" community  
(18.6) 65 more of a job center with industries and businesses  
( 7.7) 27 more of shopping and service center  
(44.0) 154 none of the above, but stay the same  
( 0.9) 3 don't know  
( 2.3) 8 no opinion n.r. = 30

How well or poorly do you think the Town of Brookline has provided the following services to its residents? (Check one for each service.)

	Very Good	Good	No Opinion	Poor	Very Poor	Don't Know	n.r.
17. police protection	47	201	24	53	16	22	17
18. fire protection	153	171	33	1	1	12	9
19. ambulance service	143	145	43	9	2	23	15
20. summer road maintenance (paving & repair)	31	183	11	75	41	22	17
21. winter snow removal	56	172	17	72	38	11	14
22. recreation programs	26	144	47	53	24	71	15
23. open space for parks and recreation	39	165	37	68	16	42	13
24. public library	93	200	27	16	3	28	13
25. zoning enforcement	18	129	64	71	16	62	20
26. planning	12	107	65	84	17	75	20
27. traffic flow & control	32	219	19	33	8	49	20
28. solid waste disposal	50	190	42	28	12	38	20
29. public schools	66	166	42	34	12	44	16
30. general government functions (Town Hall)	32	212	30	44	6	46	10

31. Which statement below best expresses your opinion?

- (12.7) 46 I feel that our property taxes must be reduced, even if it means greatly reduced municipal services.
- (24.5) 89 I feel that our property taxes should remain the same, even if it means slightly reduced municipal services.
- (38.6) 140 I feel that our property taxes must be increased only as needed to maintain existing levels of municipal services.
- (10.5) 38 I feel that our property taxes must be increased in order to improve municipal services.
- ( 9.4) 34 None of the above.
- ( 4.5) 16 No opinion

n.r. = 17

Where do you usually go for the following goods, services or activities? (Check one for each)

	Brookline	Milford	Amherst	Hollis	Townsend, MA	Nashua	Manchester	Massachusetts: Fill in Town Name	New Hampshire: Fill in Town Name
32. work/employment	35	30	9	3	5	113	9	64	13
33. weekly food & groceries	4	75	16	0	2	228	2	4	1
34. furniture, appliances	0	19	6	0	0	213	74	4	4
35. banking	34	94	11	52	3	117	4	10	1
36. doctor/medical	0	79	6	0	2	222	5	22	3
37. dentist	0	80	24	50	4	133	2	30	6
38. entertainment	31	24	1	1	1	191	11	7	11
39. recreation	138	17	1	3	2	66	3	11	35

40. Do you think Brookline should take public actions to preserve and protect historic homes, buildings and other sites, such as establishing an Historic District under zoning laws?

(26.7) 100 strongly agree (38.8) 145 agree (2.7) 10 no opinion

(11.5) 43 disagree (8.6) 32 strongly disagree (11.8) 44 don't know n.r. = 6

41. Which statement below best expresses your opinion regarding industrial development?

(19.7) 74 Brookline should not allow more industry in Town because it may cause rapid population growth and harm the environment.

(51.6) 194 Brookline should be cautious about allowing more industry in Town to insure that population growth is stable and our environment is not harmed.

(27.4) 103 Brookline should encourage industry to locate in Town because it broadens the tax base and provides employment opportunities.

(0.5) 2 Don't know

(0.3) 1 No opinion n.r. = 6



42. Which statement below best expresses your opinion regarding local regulation of the use of private land?

- (18.1) 67 Local government should not determine how a landowner can use his or her land.  
(53.8) 199 Local government should use reasonable regulations to protect the public from the adverse impacts of development.  
(26.5) 98 Local government should strictly regulate land use to prevent development which might have adverse impacts on the Town or its residents.  
(.3) 1 Don't know  
(1.4) 5 No opinion n.r. = 10

43. Where would you prefer to see new businesses (stores, offices, services,) locate in Brookline.

- (15.3) 56 On Rt. 13, near Milford  
(10.7) 39 On Rt. 13, near the Massachusetts border  
(15.1) 55 On Rt. 13, near Brookline center  
(37.5) 137 Anywhere along Rt. 13 from Milford to Massachusetts  
(7.1) 26 Other: fill in location(s): \_\_\_\_\_  
\_\_\_\_\_  
(11.8) 43 Nowhere; we have enough already  
(2.5) 9 No opinion n.r. = 15

44. Where would you prefer to see new industries (manufacturing, assembly, warehousing) locate in Brookline?

- (15.9) 59 On Rt.. 13, near Milford  
(14.5) 54 On Rt. 13, near the Massachusetts border  
(2.4) 9 On Rt. 13, near Brookline center  
(30.7) 114 Anywhere along Rt. 13 from Milford to Massachusetts  
(7.8) 29 Other: fill in location(s): \_\_\_\_\_  
\_\_\_\_\_  
(25) 93 Nowhere; we have enough already  
(3.5) 13 No opinion n.r. = 9

### HOUSEHOLD CHARACTERISTICS

45. In which of the following age groups are you? (respondent only)

- (2.1) 8 18 - 24 years (22.4) 84 25 - 34 years (31.5) 118 35 - 44 years  
(18.1) 68 45 - 55 years (14.4) 54 55 - 65 years (11.5) 43 65 years or more

n.r. = 5

46. Including yourself, write in the number of persons in each age group below who now reside in your home.

( 9.0) 102 0 - 5 years (17.2) 195 25 - 34 years ( 7.4) 84 55 - 65 years  
(21.4) 243 6 - 17 years (19.8) 225 35 - 44 years ( 6.0) 68 65 years or more  
( 9.1) 103 18 - 24 years (10.1) 115 45 - 55 years TOTAL: 1,135 persons

47. For how many years have you lived in Brookline?

(8.4) 31 less than one year (21.6) 80 6 - 10 years  
(8.1) 30 1 - 2 years (11.4) 42 11 - 15 years  
(16.2) 60 3 - 5 years (8.9) 33 15 - 20 years  
(25.4) 94 20 years or more n.r. = 10

48. How old is the home you now reside in?

(16) 60 0-5 years (29) 110 5 to 15 years (20) 75 15 to 40 years n.r. = 7  
( 7) 26 40 to 75 years (26) 97 75 years or more (1.3) 5 don't know

49. What is your occupation?

(15.6) 57 industrial/manufacturing (12.6) 46 self employed  
( 4.1) 15 sales ( 2.5) 9 homemaker  
( 6.0) 22 building/construction (12.8) 47 retired  
( 1.9) 7 clerical ( 4.9) 18 other: write in \_\_\_\_\_  
(39.6) 145 professional/managerial

50. Which of the following best describes the housing you currently occupy?

(55) 204 own single-family on large lot (greater than 2 acres)  
(31) 116 own single-family on small lot, (less than 2 acres)  
(1.3) 5 rent single-family unit on large lot (greater than 2 acres)  
(2.4) 9 rent single-family unit on small lot (less than 2 acres)  
(.8) 3 rent an apartment in a large, multi-family house  
(2.7) 10 own, and live in part of, a multi-family house  
(2.7) 10 own a mobile home on self-owned site  
(.5) 2 own a mobile home on rented site  
(3.8) 14 other: please fill in \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

n.r. = 7

51. What was your total family income last year? (This question is optional, and results will be used to determine if all income groups in Brookline are represented in the survey results. All results are strictly confidential).

(6.1) 18	less than \$10,000	(10.9) 32	\$24,001 to \$30,000
(9.5) 28	\$10,001 to \$14,000	(15.6) 46	\$30,001 to \$36,000
(6.1) 18	\$14,001 to \$18,000	( 9.2) 27	\$36,001 to \$42,000
(9.9) 29	\$18,001 to \$24,000	(12.3) 36	\$42,001 to \$50,000
	(20.4) 60	\$50,000 or more	n.r. = 86

52. What do you think are the greatest problems facing the Town of Brookline?

Yes - 305

No - 58

n.r. - 17

53. What do you think Brookline's greatest assets are?

Yes - 304

No - 57

n.r. - 19

Thank you for taking the time to complete this survey. Your written comments are welcome below or on the back of this sheet.

Yes - 65

No - 238

n.r. - 77



CERTIFICATION

The attached Master Plan has been adopted on December 17, 1985, by a majority vote of the Brookline Planning Board following a duly notified Public Hearing held on December 17, 1985.

BROOKLINE PLANNING BOARD:

Margaret C. Hall, CHAIRMAN

Wayne L. Cifone

Nancy R. Brodour

Mary W. Harris

Robert A. Ives

Date of filing with the Office of the Town Clerk: \_\_\_\_\_

Received by: \_\_\_\_\_

Date of filing with the Office of the Selectmen: \_\_\_\_\_

Received by: \_\_\_\_\_

Date of filing with the NH Office of State Planning: \_\_\_\_\_

Received by: \_\_\_\_\_