

HOLLISTON MASTER PLAN

**Town of
Holliston, Massachusetts**

Holliston Planning Board

Prepared By:

John Brown Associates, Inc.

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In Association With:

**Daylor Consulting Group, Bruce Campbell Associates, and
Bluestone Planning Group**

April, 1999

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Acknowledgements

The consultant team wishes to acknowledge with appreciation the following individuals who have put in long hours in committee meetings, public meetings, reviewing draft materials and providing guidance to the consultant team.

Planning Board:

Peter R. Barbieri
John J. Donovan
William K. Fenton, Chair
James Guernsey, Former Member
James O. Pearson
Tina L. Pierdinock, Former Member

Barbara Parke, Administrative Assistant

Others:

In addition, the consultant team acknowledges the assistance provided by the following people:

Carl Damigella, Board of Selectmen
Henry A. Delliker, Jr., Board of Selectmen
Mary Greendale, Board of Selectmen
Paul D. LeBeau, Town Administrator
Andrea Minihan, Board of Selectmen Clerk
Robert Weidknecht, Conservation Commission
Gail Abbey, Conservation Commission
Sam Corda, Sewer Coordinator
Peter Tartakoff, Inspector of Buildings
Nancy L. Norris, Town Clerk
Raymond Moloney, Fire Chief
William George, Police Chief
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Joyce Hofstra, COA, Senior Center Director
James Gatchell, Water Superintendent
Paul Lengieza, Superintendent of Schools
Kathryn Peirce, Assessor
Jackie Sullivan, Historic Commission
Joanne Hulbert, Holliston Historical Society
Owen Boyd, ~~(Town Center Issues)~~
Patricia Annas, Executive Director, Holliston Housing Authority
David M. Freidenfeld, Massachusetts Highway Department
Tom Quattromani, Metropolitan Area Planning Council
Mark Racicot, Southwest Advisory Planning Committee
Tracy Adamski, Beals and Thomas, Inc.
Pam DiBona, Charles River Watershed Association

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EXECUTIVE SUMMARY

Introduction

Holliston is a town of 14,523 population located approximately 24 miles west/southwest of Boston. It is bordered by Medway, Millis, Sherborn, Ashland, Hopkinton and Milford. It contains 18.76 square miles of land area, and a total area of 19.04 square miles. Approximately 25% of the land area is devoted to residential dwellings, 3% to commercial and industrial uses, 19% to public and semi-public uses, including protected open space, and 7% to streets and highways. Approximately 44% of the town's land area is vacant or used for agriculture.

State Routes 16 and 126 are the principal highways through Holliston. Interstate Route 495 is nearby at the Holliston-Milford border. Commuter rail is available in Framingham and Natick.

Master Plan

A master plan is a long-range policy document intended to guide the Town in decision-making related to land use, economic development, natural resources, traffic circulation and other important areas of town development over the next 10-20 years. The Town's last Master Plan was completed in 1962, over 36 years ago. Under Massachusetts law, the Planning Board is responsible for preparing and adopting a master plan.

Holliston undertook Phase I of its current Master Plan effort in 1997, including "Goals and Visioning" with the assistance of the firm of Beals and Thomas. Key goals identified during that phase included the following:

- To manage residential, commercial, industrial and recreational development in a way that carefully balances economic needs with the need to protect the small-town, historic character of Holliston
- To provide a school system recognized nationwide for excellence
- To maintain municipal properties and provide quality services
- To preserve houses with historic value and to ensure a wide range of housing options so as to meet the needs of a diverse population
- To ensure a safe and well-maintained network of streets, sidewalks, and trails for vehicles and pedestrians
- To plan, maintain, and to expand as necessary, the open space, active and passive recreational facilities and programs to meet the diverse needs of all citizens
- To protect surface and ground water resources and to preserve natural features that enhance the beauty and character of public areas
- To protect and regenerate areas and structures of historic and cultural significance and, in general, the historic nature of Town
- To attract environmentally acceptable businesses and industries to Town which will provide tax revenues, employment opportunities and help maintain the quality of life.

Master Plan – Final Phase

The final phase of the Master Plan, which is the subject of this report, includes all of the technical studies related to the Master Plan, including inventory and analysis, specific goals and objectives, plan recommendations, and implementation tools for each of the subject areas discussed above. John Brown Associates, Inc. and a team of subconsultants was hired in November, 1997 to assist the Planning Board in the final phase of the Master Plan.

A public forum was held in January, 1998 to orient the town's citizens and public officials to the master plan process and to begin to gain feedback on issues of importance. Interim reports on existing conditions were completed by the consultant in early 1998 and a second public forum was held on Saturday morning, March 14th to discuss the inventory findings and preliminary goals. Breakout groups discussed specific subject areas and reported back to the forum as a whole. A third public forum was held on May 18th to discuss alternative land use scenarios and other preliminary options in each subject area. A final public forum was held on Saturday morning March 13, 1999 to discuss the draft final report and recommendations of the Master Plan.

The consultant utilized a computer mapping system called GIS (Geographic Information Systems) to prepare all of the maps and calculations related to the Master Plan. This information will be available to the Town on disk for use in the future. A new parcel-based GIS system is under development for the Town by another consultant but was not available for use in this project. The Master Plan materials can be used on this new system when it is completed.

The information presented below is a brief summary of the inventory and analysis, followed by goals in each subject area, and a summary of recommendations. For further details, refer to the main body of the Master Plan report.

Summary of Inventory & Analysis

Before presenting a summary of the Master Plan recommendations (beginning on page E-11), it is important to understand the existing conditions and key areas of concern. These are discussed below.

Land Use

The Town of Holliston contains approximately 12,186 acres (19.04 square miles) of which 12,004 acres are land and 181 acres are water bodies. Developed land (including protected open space) comprises 6,633 acres, or 54% of the town's total area.

The predominant developed land use in Holliston is residential, constituting 47% of the total developed land area. Of the residential uses, single-family homes constitute the vast majority of the residential development. There currently are 4,025 one-family homes and approximately 714 multifamily units in Holliston. A total of 3,070 acres is in one-family development. Multifamily development comprises 36 acres. Multifamily residences are defined as those containing three or more units. Additional information on the characteristics of the housing stock is contained in the housing section.

Commercial uses make up 124 acres, or 1.9% of the total developed land area. Retail facilities are concentrated in commercial areas including "West Holliston" along Washington Street between Summer Street and Johnson Drive, "East Holliston" at the intersection of Washington Street and Concord Street, and several smaller scattered sites including the Wilde Company on Summer Street near the Medway town line.

Industrial uses are located in seven industrial areas, including Hopping Brook Park, New Englander Industrial Park, Lowland Industrial Park, Pope Industrial Park, and industrial areas at Summer and Cross Streets, Fiske Street, along the former rail line north of Washington Street (near the Sherborn town line), and in the town center at Water Street. Developed industrial uses comprise 221 acres, or 3.3% of the town's total developed land area.

Public and semi-public uses, including protected open space, comprise 2,342 acres, or 35% of the total developed land area.

Transportation represents 13% of the total developed land area, including all town, state and county roads in Holliston as well as a number of private ways open to the public.

There are approximately 5,370 acres of vacant and undeveloped land in Holliston, including agricultural land, mining sites, forest, wetlands, and other undeveloped land, representing 44% of the town's total land area.

Natural & Cultural Resources

Holliston is the guardian of regionally significant natural resources, including the headwaters of the Charles River, parts of the Bay Circuit Greenbelt, and habitat for several rare wildlife species. Holliston's groundwater and freshwater resources are essential for local residents, with 96% of the town's population deriving its water from seven public wells. The town also contains a wealth of historic sites and buildings, many of which date from the early 1800s or earlier.

As Holliston's population grows and as the Town installs a new sewer system, protection of watersheds, groundwater resources, and headwater streams should be a significant priority. Protection of these resources may require innovative watershed planning, new Town laws aimed at environmental protection, and a flexible strategy for disposing of wastewater within local watersheds.

Open Space & Recreation

The level of protection on open space varies greatly with ownership, and therefore much of Holliston's land that currently appears to be open space may actually be subject to development. Presently, only about half of Holliston's land area in open space is permanently protected from development. Holliston has several large, connected areas of open space with significant value for recreation and wildlife habitat, including the Town Forest, Cedar Swamp, and Weenakeening Woods. Farmland is an important component of Holliston's open space, especially since it provides open scenic views a contrast to the Town's largely wooded landscape. Several potential greenways exist in Holliston, including the Bay Circuit Greenbelt and the Upper Charles Trail, along the right-of-way of a former railroad.

Economic Development

The tax base in Holliston is primarily residential, with homeowners providing approximately 88% of town tax revenues. Industrial and commercial properties combined make up approximately 9.9% of the taxable property in Holliston.

Holliston's commercial districts are primarily focused along Washington Street (Route 16); Holliston Center, the East Holliston commercial district at Washington Street and Concord Street (Route 126), and to a lesser degree in West Holliston. The commercial areas are mainly comprised of small businesses. Larger retailers, supermarkets, and shopping centers are located outside of Holliston, often near the Holliston town lines.

Holliston has about 745 acres of land currently available for industrial development. The 1997 Economic Development Strategy Phase II Report defined eight industrial areas. Three of these areas contain planned industrial parks, including Hopping Brook Park, New Englander Industrial Park, and Lowland Industrial Park.

Housing

The density of residential development that is specified by the Zoning By-law is appropriately distributed, although it does not encourage a diversity of housing types. Existing zoning regulations require a minimum residential lot size of 80,000 square feet in the AR-1 district which is located in the western part of the town, 30,000 square feet in the R-1 district which is located in neighborhoods in the central and eastern part of the town, and the remainder of the town's residential area, AR-2, is required to have a minimum lot size of 40,000 square feet. There are also many single-family older homes with smaller lots located in or around Holliston Center, which is zoned for Village Commercial use.

The number of housing units in the town as of January, 1998 was 4,753. Of these, about 340 units have been built since 1990. The vast majority of homes are single-family, with only 15% of all dwelling units in structures with two or more units. Most units are owner-occupied. Vacancy rates for homes and rental units have been consistently low.

The number of households is expected to increase at a rate of about 40 units per year over the next two decades, while household size is expected to decline. The greatest population growth is expected to take place among persons aged 65 and over, with significant growth also among persons aged 45-64 and children under 14. Other age groups are expected to decline in population.

Several groups have been more greatly affected by increasing housing costs than the population as a whole. These include young adults, the elderly, single heads of households, would-be first time homebuyers, and persons with low or moderate income. Not all of these people are eligible for, or desire, subsidized housing. They are households that have been priced out of the housing market by rapidly rising costs.

Public Facilities

Holliston provides a wide variety of municipal services for its citizens that range from highway maintenance, education, and public safety to programs for its seniors and library resources. All of these services depend upon facilities from which to operate. In the past, however, Holliston has not always devoted sufficient resources to properly maintain its public facilities or provide for the growth that has occurred in recent years. As a result, facilities such as the Town Hall and Central Fire Station have deteriorated; space shortages have resulted; certain buildings are not yet legally

compliant with accessibility laws; the schools have become overcrowded; and the number of recreational playfields have not been sufficient to meet growing recreational demands.

Middle & High School

In recent years, however, Holliston's citizens have become increasingly concerned about these various deficiencies. In response, the Town has begun to aggressively address these concerns by initiating several construction programs to meet its future facilities needs. For example, new playfields have been built at Mission Springs; there are plans to renovate Town Hall; and the schools are undergoing a major grade reorganization based upon the decision to construct the new Placentino elementary school and expand the adjacent Miller Elementary School. Also, plans exist to provide a major expansion of the Central Fire Station. Additionally, the Town has prepared a capital facilities budget and schedule to forecast when major repairs or expansions to all its facilities are required so that the Town does not fall behind again. And, just last year, the Facility Maintenance Study Committee issued its "Preliminary Report on Facility Maintenance for the Town of Holliston", which recommends a strategy of establishing a permanent facilities maintenance department to maintain all of Holliston's municipal facilities as a means to correct the years of deferred maintenance from which many of Holliston's town buildings have suffered.

Circulation

Holliston is a community that is hampered by its lack of direct access to the state's major transportation networks and must share its main street, Washington Street, with through traffic. As mentioned previously, access to Interstate 495 is provided from the Town of Milford with interchanges located at Route 85 and Route 109. However, there is also a lack of signage leading to and from Interstate 495.

Route 126 is a north-south roadway consisting of Summer Street from the south in Medway, running into Washington Street (Route 16) through the town center and splitting at Concord Street to the north into Ashland. Route 16 (Washington Street) is an east-west roadway running the entire length of town from Milford to Sherborn. Routes 126 and 16 split Holliston into two geographic sections—the northwest and southeast sections.

In the northwest portion of town, the major east-west roadways are Prentice and Hollis Streets; the major north-south roadway is Highland Street. In the southeast section of the town, the major roadways are: Norfolk Street, which leads to Route 109 in Medway; Central and Fiske Streets which lead to Millis and Sherborn, respectively; and Woodland/Railroad Streets which connect Route 16 from the east to Central Street.

Traffic congestion occurs along Washington Street between Summer and Concord Streets (Route 126) during the morning and evening rush hours. Generally, in the morning, traffic heading towards Framingham to the north and east is heavy and the reverse occurs during the evening peak hour. However, based on observations, these are the only periods when excess traffic congestion occurs in Holliston.

Washington Street between Summer Street and Concord Street is substandard with respect to the volume of traffic it carries and level of comfort it affords motorists. As traffic continues to grow along Washington Street, the Town should continue to study improved and/or new east-west and north-south roadways to address this deficiency.

Goals

The goals presented below evolved from the Phase 1 visioning process plus the findings of the inventory and analysis, the community input at public forums, and review of available options in each area.

1.0 Land Use

- Manage residential, commercial, industrial and recreational development in a way that carefully balances economic needs with the need to protect the small-town, historic character of Holliston.
- Impose reasonable controls on the types of growth which may have undesirable environmental, safety, or fiscal impacts on the town.
- Preserve sufficient permanent open space to retain the town's semi-rural character, areas for passive recreation, and habitats for desired flora and fauna.
- Seek a combination of future land uses that reflect both the fiscal needs of the town and the predominantly residential character of the town.
- Reduce the potential for commercial sprawl and strip development.
- Develop regulatory tools to further encourage clustering of residential development and diversity of housing density.
- Review and evaluate the existing bylaws, zoning districts and regulations and revise them, where appropriate, to achieve the desired land use goals.
- Work with neighboring communities to promote informed decision-making pertaining to regional issues.

2.0 Natural & Cultural Resources

Natural Resources

- Protect and enhance the quality of Holliston's surface and ground water:
 - Study, and if necessary, mitigate the hydrological impact of the new sewer system
 - Target water quality threats from household contaminants
 - Prevent erosion and sedimentation in wetland areas by better enforcing Orders of Conditions
 - Strengthen the Town's Aquifer Protection Bylaw to maintain adequate groundwater infiltration rates
 - Continue to improve Lake Winthrop's water quality
- Increase environmental awareness among all sectors of the Holliston community:
 - Increase awareness of the impact of household chemicals on the aquifer
 - Promote recycling of waste oil and hazardous materials

- Increase environmental awareness among all sectors of the Holliston community.

Historic Resources

- Protect pathways along Bogastow Brook, under historic railroad arches, and along old cranberry bogs.
- Establish protection for the Mudville Historic District.
- Establish protection for the East Holliston Historic District.
- Establish Local Historic District protection for the Thomas Hollis Historic District (currently a National Register District).
- Create design guidelines for historic areas.

3.0 Open Space & Recreation

- Increase awareness of and access to existing conservation lands, and create a greenbelt corridor through Holliston:
 - Acquire additional open space until at least 25% of the town is protected in perpetuity, as recommended in the 1962 Comprehensive Plan
 - Acquire the parcels specified in the 1998 Plan, including outparcels near the Town Forest, Audubon land, and Cedar Swamp; connections among the Jasper Rock, Poitras, and Daniels parcels; and others
 - Provide better protection for many of Holliston's agricultural lands currently under Chapter 61A
 - Change the Cluster Zoning bylaw to make open space in cluster developments more useable and to promote linking of open space
 - Acquire the Wheeler Farm and the Fairbanks property (adjacent to the Town Forest)
 - Continue land acquisition and begin construction of the Upper Charles Trail

4.0 Economic Development

General Goals

- Encourage development that increases employment of residents in the town and that increases the industrial and commercial contribution to the tax base.
- Enhance the unique role, character, and scale of commercial areas within the town including retail, service, office, wholesale and automotive uses.
- Holliston should not seek to become a major retail destination in the region.
- Work with State and regional economic development organizations to promote desired commercial and industrial development in Holliston.
- Integrate economic development planning with town-wide land use planning as a part of the Town's new planning department.

- Improve the permitting process so that desired uses may obtain expeditious approval.

Town & Village Centers

- Build upon Holliston Center's existing retail mix and strengths as a specialty retail center offering unique merchandise.
- Retain the adjacent north edge of Holliston Center along Washington Street as Holliston's civic and government center. Do not relocate public facilities out of Holliston Center.
- Maintain Holliston Center's attractive 18th and 19th century architectural style and scale.
- Make Holliston Center as friendly and safe as possible for pedestrians.
- Support Holliston Center merchants and the Library with increased on and off-street parking.
- Enhance the appearance of Holliston Center - its sidewalks, landscaping, streetscape, signage and building facades.
- If fiscally possible, remove overhead utilities which mar the appearance of Holliston Center and East Holliston.
- Improve the visual appeal of the East Holliston commercial district by identifying places for additional landscaping.
- Encourage the attractive redevelopment of underutilized sites in the West Holliston commercial district for retail, office, and commercial uses.

Industrial Development

- Create a balanced development strategy with a broad industrial base that is not vulnerable to boom or bust cycles.
- Accommodate industrial development within the community in a positive manner and discourage or prohibit undesired uses.
- Attract environmentally acceptable businesses and industries to the town which will help maintain the quality of life.
- Coordinate industrial development with the sewer design process.
- Determine the appropriate scale of each of the industrial areas in view of surrounding land uses, potential impacts, market potential, available infrastructure, and other considerations.
- Improve transportation facilities serving industrial areas.

5.0 Housing

- Ensure a wide range of housing options so as to meet the needs of a diverse population.

- Create diversity in new residential housing units consistent with community character.
- Provide for more elderly housing and life-care facilities to meet the needs of Holliston's older population.
- Preserve and strengthen the character of the town's neighborhoods and protect them from encroachment by all forms of incompatible uses and potentially damaging environmental influences.
- Carefully integrate new or expanded housing into existing districts and neighborhoods so that it is not physically or environmentally disruptive to the existing style and scale.
- Create recreational areas within or near existing neighborhoods.
- Seek methods to create a sense of identity, image, spirit, and pride within neighborhoods and village centers.

6.0 Public Facilities & Services

Municipal Facilities

- Provide high quality municipal services and facilities that contribute to maintaining the health, safety and welfare of the community.
- Maintain existing town buildings, facilities and sites at a high standard of excellence.
- Anticipate and plan for future municipal facilities and service requirements. Do continuous long-range planning to anticipate future needs.
- Provide a broad range of activities and facilities for children, teens, adults, and senior citizens.
- Maintain and enhance senior citizen services and facilities.
- Preserve the historic character of key existing public buildings and their surroundings.
- Comply with American with Disabilities Act (ADA) regulations to provide equal accessibility to Town public facilities.
- Utilize surplus town-owned buildings and land for new facilities.
- Coordinate the management, maintenance and allocation of public facility space.

School Facilities

- Provide well-maintained and attractive school facilities that inspire students to learn.
- Continuously plan for future school facilities / needs since demographic projections for school aged population are constantly shifting to reflect economic growth cycles.

- Implement the Town's School Reorganization Plan prepared by the School Department.
- Plan for the reuse of surplus school buildings that will become available as a result of the School Reorganization Plan.

Active Recreation Facilities

- Plan, maintain and expand, as necessary, active recreational facilities and programs to meet the diverse needs of all town citizens.
- Maintain and improve existing recreation facilities.
- Plan and utilize a portion of the town's open space for recreation purposes.
- Make Holliston's parks and recreational fields accessible to the disabled.

7.0 Circulation

- Ensure a safe and well-maintained network of streets, sidewalks, and trails for vehicles and pedestrians.
- Manage speed and flow of vehicles on Town streets and roads.
- Institute a plan to improve longevity of roads and to reduce maintenance costs.
- Facilitate/encourage pedestrian and bicycle traffic throughout Town.
- Encourage the use of various alternative commuting opportunities.
- Encourage the expansion of public transportation for seniors and young people to reduce the dependence on the private automobile.
- Prepare a logical and balanced transportation plan for the town incorporating public transportation, commuter rail, special needs facilities, private automobiles, parking facilities and bikepaths.
- Improve safety for automobiles, pedestrians, and bicycles through roadway, intersection and walkway design, signage, speed limits and other appropriate means.

Summary of Recommendations

Presented below is a summary of Master Plan recommendations for each element. Land use is the key element because all other elements serve the use of the land (facilities, traffic, etc.). See the main body of the report for more details, maps, and charts.

1.0 Land Use

The recommendations for future land use are presented in the form of a Guide Plan For Future Land Use, which is discussed below. This Guide Plan evolved from consideration of three alternative scenarios and reflects desired features of each.

1. The open space proposals include virtually all of the recommendations of the Town's recently completed open space and recreation plan as well as additional recommendations in the preliminary Environmental Scenario.
2. The residential proposals reflect the realization that the Town's existing residential zoning districts are appropriate for the long term future, as presented in the preliminary Composite Scenario. A limited number of multifamily sites are also recommended.
3. The industrial/high tech recommendations follow many of the recommendations of the Town's recent Economic Development Strategy – Phase 2 report.
4. Commercial uses reflect the desire of the town to primarily limit commercial development to the Village Center, the East Holliston business area, and the West Holliston business area, as recommended in the Economic Strategy – Phase 1 report.

For a comparison of existing land use (1998) and proposed long range land use policy, see Figure 1-4, 1998 Land Use, and Figure 1-5, Guide Plan For Future Land Use.

The Guide Plan For Future Land Use is a long-range projection of the most desirable future land uses at specific locations in the town, and may be subject to revision as time passes. It takes into consideration the Town's capacity to accommodate the impacts of future growth as well as the Town's desire to meet future needs (housing, economic development, open space preservation, etc.).

The Guide Plan is intended to recommend long term future land use policy. Some of its recommendations can be implemented immediately but others may await changes in real estate market conditions, the availability of needed infrastructure (water, sewer, streets etc.), the availability of Town funds, or private land use decisions. The plan will also provide guidance for future zoning map changes, although some additional study may be required to identify exact or appropriate boundaries for specific map changes.

The following table compares the potential impacts of new growth under the Guide Plan with the potential impacts under existing zoning regulations, at full buildout. (See Section 1 of the report for a discussion of anticipated rates of growth.)

Table E-1
Impacts of New Growth Under Guide Plan Compared With Existing Zoning
(At Full Buildout)

	<u>Guide Plan</u>	<u>Existing Zoning</u>
Dwelling Units	2,152	2,742
Population	6,315	8,226
School-aged Children	1,791	2,396
Water Use (gal/day) ⁽¹⁾	562,035	732,114
Commercial Space	229,387 s.f.	251,200 s.f.
Industrial Space	8,361,342 s.f.	16,875,100 s.f.

⁽¹⁾ Residential use only

2.0 Natural & Cultural Resources

Protection of Holliston's natural resources will require the Town to protect key parcels of open space in conjunction with new laws and resource protection programs. Recommendations include:

- The protection of riparian corridors and groundwater recharge areas is recommended to maintain surface water and groundwater quality.
- The Town should consider several legal protections for natural resources, including additional restrictions in the Aquifer Protection District, a new method for calculating minimum lot size when wetlands are present, protection for vernal pools, and townwide implementation of the DEP's Stormwater Management Policy.
- In order to maintain the quantity and quality of groundwater in Holliston's aquifers, the Town should expand its water conservation program and carefully consider the impact of piping wastewater to a sewage treatment facility outside of local watersheds. Mitigation measures such as local treatment and discharge of wastewater may be required.
- Additional protection for wetlands should be provided through strict enforcement of the Massachusetts Wetlands Protection Act.

3.0 Open Space & Recreation

An analysis of the fiscal costs and benefits of open space protection demonstrates that in the short term buying open space may not be significantly more expensive than allowing undeveloped land to be converted to residential use. In the long term open space is significantly less expensive. In addition, open space provides many benefits that are difficult to quantify in monetary terms, including the protection of water and land resources, wildlife habitat, recreational opportunities, and scenic beauty. Recommendations are summarized as follows:

- In acquiring open space, it is recommended that the Town focus on parcels that are contiguous to large protected areas; connect existing open space parcels or create corridors; serve as groundwater recharge areas; help protect surface water quality; provide habitat for

rare or endangered plants and wildlife; are actively farmed; or provide scenic views.

- The Town should utilize a variety of full-cost and low-cost mechanisms to protect open space, including direct purchase of land (possibly funded by bonds), grants from state and federal sources, coordination with land trusts, and implementation of an effective cluster zoning bylaw.
- The Action Plan of the Town's 1998 Open Space & Recreation Plan outlines a five-year course of action to protect the town's open spaces, water resources, recreational opportunities, and historic character.

4.0 Economic Development

Recommendations for economic development include general economic recommendations, recommendations for village and town commercial centers, and industrial development recommendations. These are summarized as follows:

- Retain Holliston Town Center character as the town's primary commercial center and civic/institutional/government center. Section 4 of the Master Plan contains recommendations for improvement of the Town Center.
- Revise the zoning bylaw to limit permitted uses in commercial and industrial areas to those specifically desired. Adopt a Transitional Business zoning district to deal with portions of current Industrial Districts which are no longer considered suitable for industrial use but do not fit into the existing Commercial District. Adopt a new Commercial Service zoning district specifically oriented toward the desired uses in the Water Street area. Limit retail and service commercial uses to the Town Center, East Holliston business district and West Holliston business district. (See Section 1.6, Guide Plan for Future Land Use, for a description of land use categories and their recommended locations.)
- Maintain high standards of design and maintenance in existing and new commercial developments. The use of site plan review and performance standards for all new or expanded commercial and industrial development will help to assure high standards of design and maintenance.
- Encourage development that increases employment of residents in the town and that increases the industrial and commercial contribution to the tax base. Seek to attract non-retail businesses to provide employment and contribute to the tax base, while providing adequate space for retail and service businesses that serve the needs of Holliston residents.
- Seek State assistance to support economic development goals. There are a number of programs and funds that may be available to help provide finance for small businesses or economic development initiatives by public or non-profit agencies, or technical assistance for towns attempting to promote more commercial and industrial development. Chapter 121C provides for the creation of Local Economic Development Industrial Corporations (EDIC), through which towns can actively promote economic development projects. Other programs target economic development in low and middle income communities. See Appendix 4-2 for a listing of such

programs.

- Use recently adopted tax increment financing to help to finance infrastructure for qualified projects intending to locate in Hopping Brook Park.
- Utilize the recommendations of the 1997 Economic Development Strategy Report to improve and enhance industrial development opportunities.
- Attract environmentally acceptable businesses and industries to the town. Encourage the development of the current industrial areas on the model of eco-industrial parks, which seek to attract an efficient, compatible, and environmentally sound mix of industrial and high tech uses. The town must continue to monitor the potential impacts of nonresidential uses so as to protect the natural environment and residential areas.
- Improve the infrastructure capacity of prime industrial areas. If sewers cannot be provided to serve the Hopping Brook Park industrial area, cooperate with private developers to construct one or more package treatment plants or seek to arrange connection to a neighboring town such as Milford.

5.0 Housing

- Encourage a diversity of housing options in the town, appropriate to the scale, environmental conditions, and historic character of various areas in the town.
- Encourage creative reuse of older homes.
- Investigate Co-Housing, a village-type residential development in which homeowners share common facilities and form an active community.
- Provide types of housing that will enable citizens of all ages to stay in Holliston.
- Provide for more elderly housing and life-care facilities to meet the needs of Holliston's older population (see Appendix 5-4).
- Seek State/Federal or private assistance for senior or low and moderate income development.
- Discourage "teardowns" – the replacement of traditionally-sized homes with overly large ones.
- Improve the zoning regulations for cluster development, and provide incentives for cluster development, especially tied to implementation of open space plans.
- Consider adoption of an inclusionary housing by-law, which would require a percentage of new housing to be affordable.

6.0 Public Facilities

Municipal Facilities

To remedy past facility deficiencies and accommodate recent and future growth, there now is an aggressive plan to construct and expand many municipal facilities so that the town is ready to greet the new millenium. Current programs and recommendations include:

- There are plans currently in place to expand the Center Fire Station; and additional plans are being studied to renovate Town Hall.
- Other municipal facilities, such as the Police Department headquarters, are in need of improvement and expansion as well.
- Beyond these current expansion and renovation plans, both the Braggville fire substation and the Gates fire substation in East Holliston will eventually need to be replaced.
- In the future, the Senior Center will probably require expansion and the Public Works Garage will require additional garage space.

School Facilities

To correct deterioration and space shortages in Holliston's schools and accommodate continuing growth in enrollment, there is now an aggressive plan to correct these past deficiencies and space shortages. Current programs and recommendations include:

- The new Placentino Elementary School adjoining the Miller School has been constructed.
- Grade reassignments among school facilities are now possible, the Miller Elementary School will be expanded, and the Middle and Senior High Schools renovated.
- Additionally, the Andrews School, no longer suitable for elementary school classes, will be converted for use as extended after school use and possibly School Department administrative space.
- When all these improvements are made, the school system's reorganized facilities should serve Holliston well for the next ten or more years.
- Beyond the next decade, however, additional school facilities or expansions will probably be required; therefore, the Town should begin to identify sites for these new school facilities and acquire them if necessary.

Active Recreation Facilities

Holliston must also continue to expand its supply of active recreational fields and playgrounds to meet growing demand for these recreational opportunities - for children, youth, and adults. Recently, the Town has aggressively begun to expand recreational opportunities. Current programs and recommendations include:

- The Town has forged partnerships with private entities, such as the developers of the Mission Springs senior housing, to provide new playfields and courts; and a new club house is now planned for the Pine Crest Golf Course.

- The partnership strategy is also being pursued with a non-profit organization to develop new playfields at the Marshall Fields on the town landfill site.
- In addition to these capital improvement efforts, permanent funding must be found to provide proper maintenance for these expanded facilities as well as for existing playgrounds and parks.

Water Supply Recommendations

- The Water Department should continue to search for additional water sources to meet the projected growth in water use.
- The Town should avoid future water pressure problems by requiring water system impact assessments and mitigation programs for large residential developments, industrial users, and other significant water users. The Planning Board should coordinate such review with assistance from the Water Department. Such a policy would ensure, for example, that water mains are of adequate size and are looped, rather than dead-ended.
- The Water Department should facilitate the construction of two more water storage tanks, one on each side of the Town. These tanks should be funded jointly by the Town and by new industrial and residential water users. A tank near the Hopping Brook Industrial Park should be a high priority so that the Town can provide adequate fire protection in this area.
- The Water Department should continue its leak detection and infrastructure maintenance programs.
- The Water Department should implement its plans to obtain a computerized control and monitoring system to improve service and facilitate maintenance of the water system.
- The Town should strengthen its water ban bylaw to restrict further wasteful water uses during dry periods. By reducing water demand during peak use periods, the Town can defer by several years the need to develop new wells, which are costly both financially and environmentally.
- The Water Department should continue and expand the Town's water conservation program.

Sewage Disposal Recommendations

- The Board of Health and Planning Board should utilize site plan review, Board of Health regulations, and Title V regulations to ensure that new and existing septic systems perform in accordance with Title V.
- The Board of Health should institute a septic system maintenance program, including a homeowner education program and optional town-administered septic tank clean-out service, to preserve existing septic systems in working order.
- The Sewer Department, with assistance from the Planning Board, should draft a set of guidelines to control the growth that might otherwise be generated by the installation of the sewer system. These guidelines should be consistent with the current intentions of the Town and the sewer program that the new sewer system not be a major catalyst for growth. These

guidelines should be legally incorporated into the Town By-laws, and should specify and limit the future extent of the sewer system, and state the conditions under which an extension of the system would be permissible.

- The Town should work with the Massachusetts Environmental Protection Agency (MEPA), the Department of Environmental Protection (DEP), the Charles River Watershed Association, and other appropriate agencies to determine the effect of the proposed sewer system on Holliston's ground and surface water resources. The sewer program should be amended as necessary to avoid serious impacts to water resources and the ecological communities they support.
- The sewer program should continue to coordinate its efforts with the Town's new planning department to ensure that the Town's sewer plans are consistent with its land use and growth control objectives, and vice versa.

7.0 Circulation

- The possibility of planning, designing and constructing any new bypass route would be very time consuming, very costly and involve acquisition of residential properties. A bypass route would meet great opposition from business owners in the town center that would lose pass-by customers from the reduction in traffic through the town. Residents in the area of the land takings would also oppose any bypass route that would be adjacent to their homes. In today's environment, there are usually more reasons not to build a new roadway than to build one.
- Overall, considering the number of hills and wetlands in Holliston, the Town is reasonably well served by connecting roads, and it is unlikely any new connecting roads are possible, except collector streets in new subdivisions.
- The Town of Holliston in cooperation with the Massachusetts Highway Department must look into the possibility of placing Holliston trailblazer signs along Interstate 495 before the Routes 109 and 85 exits, and at the intersection of Route 16/Fortune Boulevard/Beaver Street, Route 109/Beaver Street and Route 85/Fortune Boulevard. This will enhance the Town of Holliston's access to Route 495 and assist efforts to attract industrial and high tech development.
- It is not Holliston's responsibility to solve the region's transportation problems. That means that Washington Street should not be widened to four lanes just to help through traffic pass through Holliston in a shorter time. However, the Town does have a responsibility to make Washington Street as safe as possible, both for through traffic and the Town's pedestrians. In addition, Washington Street needs landscaping and a median island where the width permits. Recommended is an intermittent, grassed median island in Washington Street with openings for side streets and driveways; traffic signals and neckdowns (protruding curbs) at Central Street; a second through lane westbound at Highland Street (a few hundred feet each side of the intersection); and a complete redesign of the Washington Street/Summer Street intersection. Better management of parking facilities in Holliston Center is also needed.

The Board of Selectmen have authority over the town's streets and roadways and their maintenance and improvement, as well as intersection improvements. Section 7 discusses some specific improvements that are recommended in this regard.

Section 1:

LAND USE

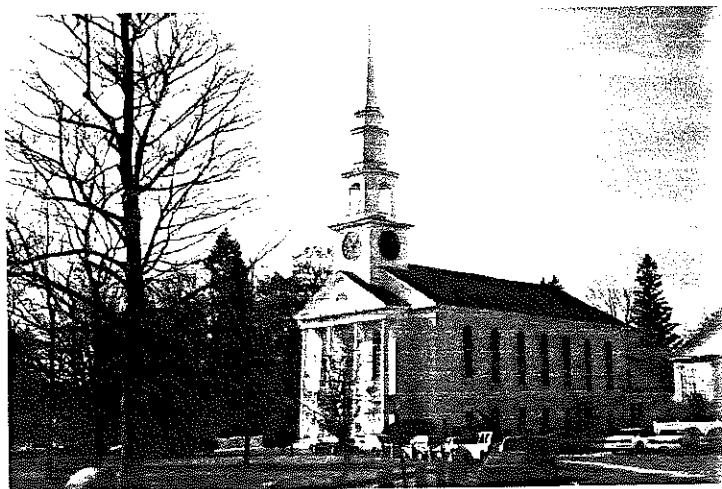
Section 1: LAND USE

In this section (and in the sections that follow) the existing conditions are presented first, followed by the goals and the recommendations.

Holliston is primarily a rural community, with close to 5,400 acres of undeveloped or agricultural land of a total land area of 12,004 acres. The predominant use in developed areas is residential. Although much of the remaining undeveloped land is not developable because of wetlands, open space protection, or other restrictions, the potential still exists for a substantial amount of growth.

The rate at which development takes place and, to some extent, the type of development that occurs will be determined by market forces, as well as quality of infrastructure, public facilities, environmental conditions, and other considerations. Without planning and adequate controls future development can have adverse environmental, fiscal, or social impacts on the community.

Church in Town Center



1.1 EXISTING LAND USE INVENTORY & ANALYSIS

The land use pattern of Holliston is continually changing. Factors that determine the future land use pattern include availability of utilities, soil suitability, topography, regional economics, accessibility and similar opportunities and constraints in nearby communities.

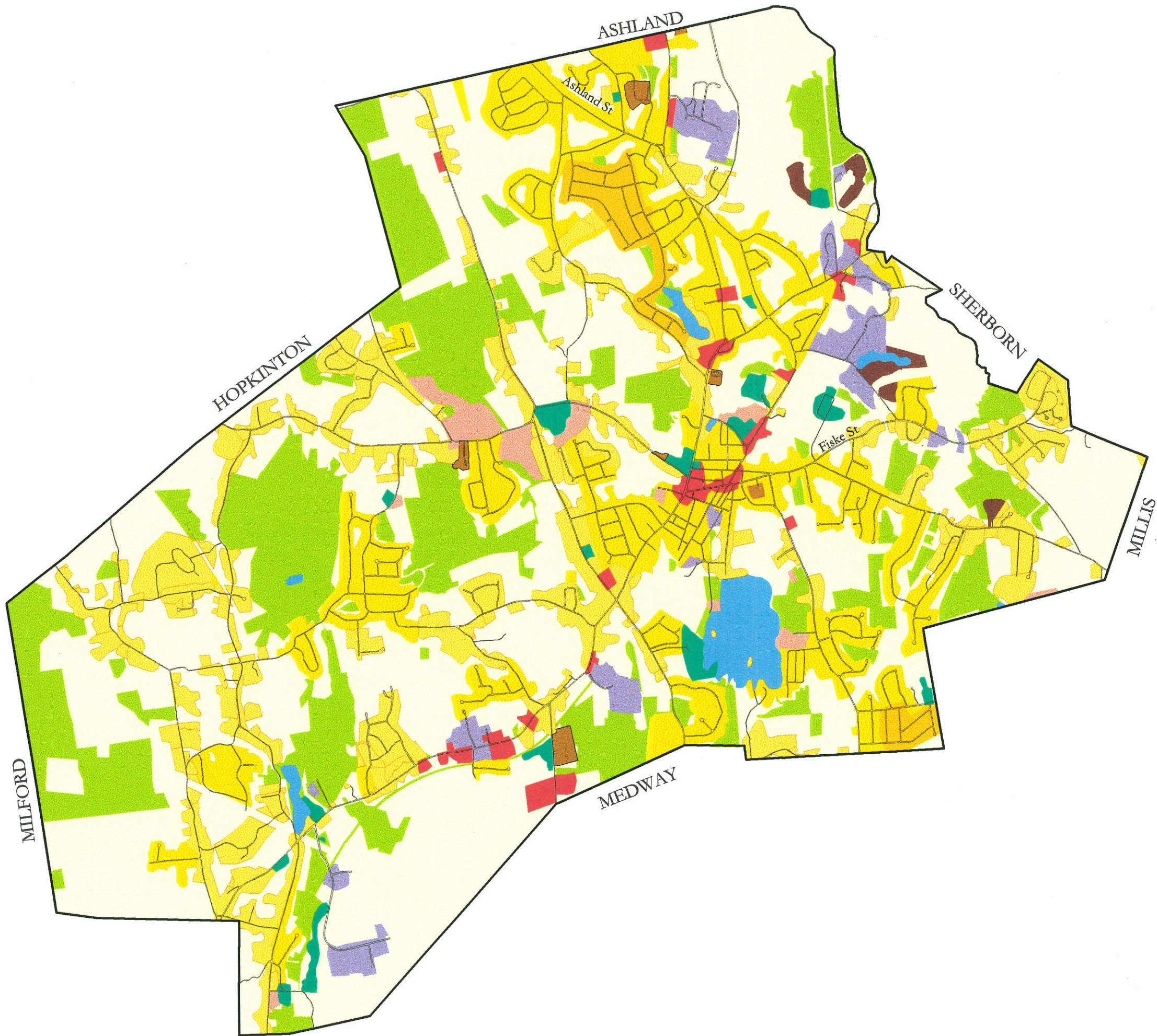
The current existing land use inventory was conducted by means of a number of methods. MassGIS (Executive Office of Environmental Affairs) provided land use data based on 1991 aerial photography, which was very valuable as a starting point. An updated 1998 land use map was compiled through the combination of these aerial photographs, field surveys, and Planning Board and other Town records. (See Figure 1-1.)

Tabulation of Existing Land Use

The mapped areas were measured to determine the acreage in each category of land use. This information is shown in Table 1-1.

Figure 1-1

Town of Holliston 1998 Land Use



- 1998 Land Use
- multifamily residential
 - high density residential
 - medium density residential
 - low density residential
 - commercial
 - industrial
 - urban open land
 - spectator recreation
 - waste disposal
 - mining
 - transportation
 - protected open space
 - water
 - undeveloped land

0.4 0 0.4 0.8 Miles

**Table 1-1
Existing Land Use (1998)**

<u>Land Use</u>	<u>Acres</u>	Percent of Total Town <u>Area</u>	Percent of Developed Land <u>Area</u>
Residential	3,106.3	25.5	46.8
(multifamily)	(36.0)	(0.3)	(0.5)
(single-family)	(3,070.3)	(25.2)	(46.3)
Commercial	123.7	1.0	1.9
Industrial	220.9	1.8	3.3
Public/Semi-Public	2,342.3	19.2	35.3
(recreation)	(108.6)	(0.9)	(1.6)
(public/semi-public)	(178.7)	(1.5)	(2.7)
(protected open space) ⁽¹⁾	(2,055.0)	(16.8)	(31.0)
<u>Transportation⁽²⁾</u>	<u>840.2</u>	<u>6.9</u>	<u>12.7</u>
Total Developed Land	6,633.4	54.4	100.0
Agriculture	534.0	4.4	
<u>Vacant</u>	<u>4,836.7</u>	<u>39.7</u>	
Total Undeveloped Land	5,370.7	44.1	
Total Land Area	12,004.1	98.5	
<u>Water</u>	<u>181.5</u>	<u>1.5</u>	
Total Town Area	12,185.6	100.0	

⁽¹⁾ Protected open space is included under developed land because it is unavailable for future development.

⁽²⁾ Local roads were not accounted for in the land use maps provided by MassGIS, thus a portion of land was allocated from other categories to estimate the area in local roads. This was added to regional transportation acreage to provide total area in transportation use.

Source: MassGIS, field surveys, and Planning Board and other Town Records.

The land uses shown in Table 1-1 above are discussed below.

Developed Land

The Town of Holliston contains approximately 12,186 acres (19.04 square miles) of which 12,004 acres are land and 182 acres are water bodies. Developed land (including protected open space) comprises 6,633 acres, or 54.4% of the town's total area.

Residential Uses

The predominant developed land use in Holliston is residential, constituting 46.8 percent of the total developed land area. Of the residential uses, single-family homes constitute the vast majority of the residential development. There currently are 4,025 one-family homes and approximately 714 multifamily units in Holliston. A total of 3,070 acres is in one-family development. Multifamily development comprises 36 acres. Multifamily residences are defined as those

containing three or more units. Additional information on the characteristics of the housing stock is contained in the housing section.

Residential development is located in all sections of Holliston. Single-family residential neighborhoods are located throughout the town, with the lowest density in the eastern and western ends of the town, and along Highland Street and Underwood Street. Most of the rest of the town is characterized by moderate density development ($\frac{1}{4}$ to $\frac{1}{2}$ acre lots), especially the town center and areas to the north and south. Lots of less than $\frac{1}{4}$ acre are located only in a few places, mainly in the subdivision between Maple Street and Winter Street, and in the southeast corner of the town, on the border between Millis and Medway. Multifamily residences are scattered in various spots, including one off of Prentice Street, one on Turner Road, the new elderly facility on Summer Street, and a few located near the town center.

Commercial Uses

Commercial uses make up 124 acres, or 1.9% of the total developed land area. Retail facilities are concentrated in commercial areas including "West Holliston" along Washington Street between Summer Street and Johnson Drive, "East Holliston" at the intersection of Washington Street and Concord Street, and several smaller scattered sites including the Wilde Company on Summer Street near the Medway town line.

Industrial

Industrial uses are located in seven industrial areas, including Hopping Brook Park, New Englander Industrial Park, Lowland Industrial Park, Pope Industrial Park, and industrial areas at Summer and Cross Streets, Fiske Street, along the former rail line north of Washington Street, and in the town center at Water Street. See Figure 4-1 in the Economic Development section for the location of Holliston's industrial areas. The total land covered by the industrial areas is 1,506 acres. Three smaller undeveloped industrial areas to the west of Pope Industrial Park totaling 8 acres were recommended to be removed from the industrial district under the Economic Development Strategy Report of 1997. Developed industrial uses comprise 221 acres, or 3.3% of the town's total developed land area, and contain approximately 1,200,000 square feet of building area.

Public and Semi-Public

Within this category are four distinct types of land use that are either publicly-owned or are institutions which serve the public, such as churches and non-profit organizations (see below). Public and semi-public uses, including protected open space, comprise 287 acres, or 35.3% of the total developed land area.

Recreation. This category consists of a number of active recreation facilities, including playfields, parks, and water-based recreational facilities. These are described in more detail in Section 6, Public Facilities. The total existing land area in this category is 109 acres.

Public/Semi-Public. This category includes public property and semi-public/institutional uses that are privately owned, but which are open to and serve the public. Public property is land serving the public which is owned by a public body, including such uses as public schools, the library, Town Hall, Town parks, Town cemeteries, and waste disposal facilities. Examples of semi-public institutional uses include private schools, places of worship, private cemeteries and fraternal or

service organizations. Semi-public institutional uses are located in widely scattered areas of the town, totaling 117 acres. See Section 6, Public Facilities, for an inventory and map of public uses.

Protected Open Space. As of June, 1998, there were 1,533 acres of protected open space in Holliston, including land owned by the town and under the jurisdiction of the Conservation Commission, the Army Corps of Engineers, the Water Department, the Town Forest Committee, private non-profit land preservation organizations, and private individuals. Protected open space covers 16.8% of the Town's land area. Section 3, Open Space and Recreation, provides a detailed inventory and map of these lands.

Transportation

This category includes 840 acres of local roads. Transportation represents 12.7% of the total developed land area, including all town, state and county roads in Holliston as well as a number of private ways open to the public.

Undeveloped Land

There are approximately 5,371 acres of vacant and undeveloped land in Holliston, including agricultural land, mining sites, forest, wetlands, and other undeveloped land, representing 44.1% of the town's total land area.

Vacant Land There are 4,837 acres of vacant land in the town (39.7% of total town area), not counting agricultural land. Much of this land is undevelopable because of the presence of wetlands, unsuitable soil types, or other considerations. The amount of land that is actually developable is quantified in the next section under the Buildout Analysis.

Agriculture A significant portion of the town's undeveloped land is in agricultural use, including plant nurseries, minor crops and hayfields. Approximately 534 acres are used for agriculture, or 4.4% of the town's total area. Agriculture represents about 9.1% of undeveloped land.

Water Bodies

Water bodies comprise 182 acres, or 1.5% of the town's total area. Water bodies include Lake Winthrop (over 100 acres), Weston Pond (12 acres), Houghton Pond (19 acres), Factory Pond (10 acres), the pond at the Waseeka Wildlife Sanctuary (17 acres), and various other ponds, rivers, and streams.

1.2 LAND USE CHANGES SINCE 1962

Holliston experienced tremendous growth in the period from 1940 to 1980, during which time the population quadrupled in size. The 1960s was the peak decade of the residential development boom. Growth since 1980 has been more moderate, although still high for the region. When the previous Master Plan was prepared in 1962 Holliston still had a significant amount of active agriculture, much of which has been taken over by residential growth.

An analysis of land use was made in 1961 based upon field surveys, assessor's data, and an aerial survey from 1952. A comparison of the land use surveys from 1962 and 1998 is shown in the Table 1-2 below. The reduction of 86 acres in total land area for the town is due to improvements in the accuracy of measurement. For the purposes of this report, the total land area of the town is

12,004 acres. Because of differences in the sources and measurement techniques the two studies do not correspond directly, but generalizations about land use trends can be made.

Table 1-2
Comparison Of Developed Land Area 1962 – 1998

	1962		1998	
	<u>Land Area</u>	<u>Percent</u>	<u>Land Area</u>	<u>Percent</u>
Residential	1,161 acres	9.6	3,106 acres	25.5
Business	136	1.1	124	1.0
Industrial	63	0.6	221	1.8
Public and Semi-Public	728	6.0	2,342	19.2
Streets and Roadways	398	3.3	840	6.9
Total Developed Land	2,423	20.6	6,111	50.2
Agriculture and Open Commercial ⁽¹⁾	1,664	13.7	534	4.7
Vacant	7,940	65.7	4,837	39.7
Total Land Area	12,090 acres	100.0	12,004 acres	100.0

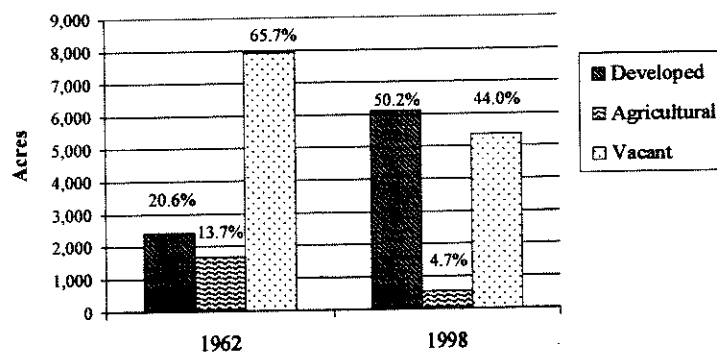
⁽¹⁾ Open Commercial land includes sand and gravel pits and outdoor storage uses.

In 1962 the amount of undeveloped land represented 79.4% of the town's total land area, while only 20.6% of the land area was developed land. By 1998 the amount of developed land had increased to 38.1%. Of the undeveloped land, the amount of land devoted to agriculture declined from 13.7% of the total land area to just 4.7%. Accounting for the largest part of the conversion of land to developed uses, the amount of land devoted to residential use nearly tripled over this time period. Streets and roadways also increased, with the development of many new subdivisions throughout the town.

There has also been a significant growth in industrial development. In 1962 industrial uses occupied only 63 acres of land, while in 1998 there were 221 acres. The Lowland Industrial Park, the New Englander Industrial Park and Hopping Brook Park have all been developed since 1962, contributing most of the industrial growth. The amount of commercial development has remained steady over the time period.

The change in the amount of land in public and semi-public use is largely attributable to an increase in protected open space. In 1962 there were 413 acres of land in public ownership and 315 acres in semi-public ownership, much of which was owned by private conservation-oriented organizations. Lands owned by the U.S. Army Corps of Engineers and the Holliston Conservation Commission form a large portion of the area that has been protected since 1962.

Figure 1-2
Changes in Land Use 1962-1998



1.3 BUILDOUT ANALYSIS UNDER EXISTING ZONING

The Town's Zoning Map is shown in Figure 1-3.

The zoning requirements for each district were applied to available developable land to determine total potential buildout under existing zoning regulations. The amount of developable land in Holliston was determined by subtracting the developed land and undevelopable land from the total land area as shown in Table 1-3. Developed land includes all land shown to be in residential, commercial, or industrial use, as well as transportation and public/semi-public lands. Undevelopable land includes wetlands, water, and power lines shown on the 1998 land use map, combined with wetlands and water shown on the USGS Hydro layer provided by MassGIS. Also undevelopable are public and privately owned protected open space (does not include lands under temporary protection). Land use, wetlands and protected open space data provided by MassGIS were updated using Town records, digital maps from Boston Edison, and field checking. The MassGIS maps are obtained from aerial photography and may overstate the amount of land available for development.

Table 1-3
Quantities of Developable/Undevelopable Land

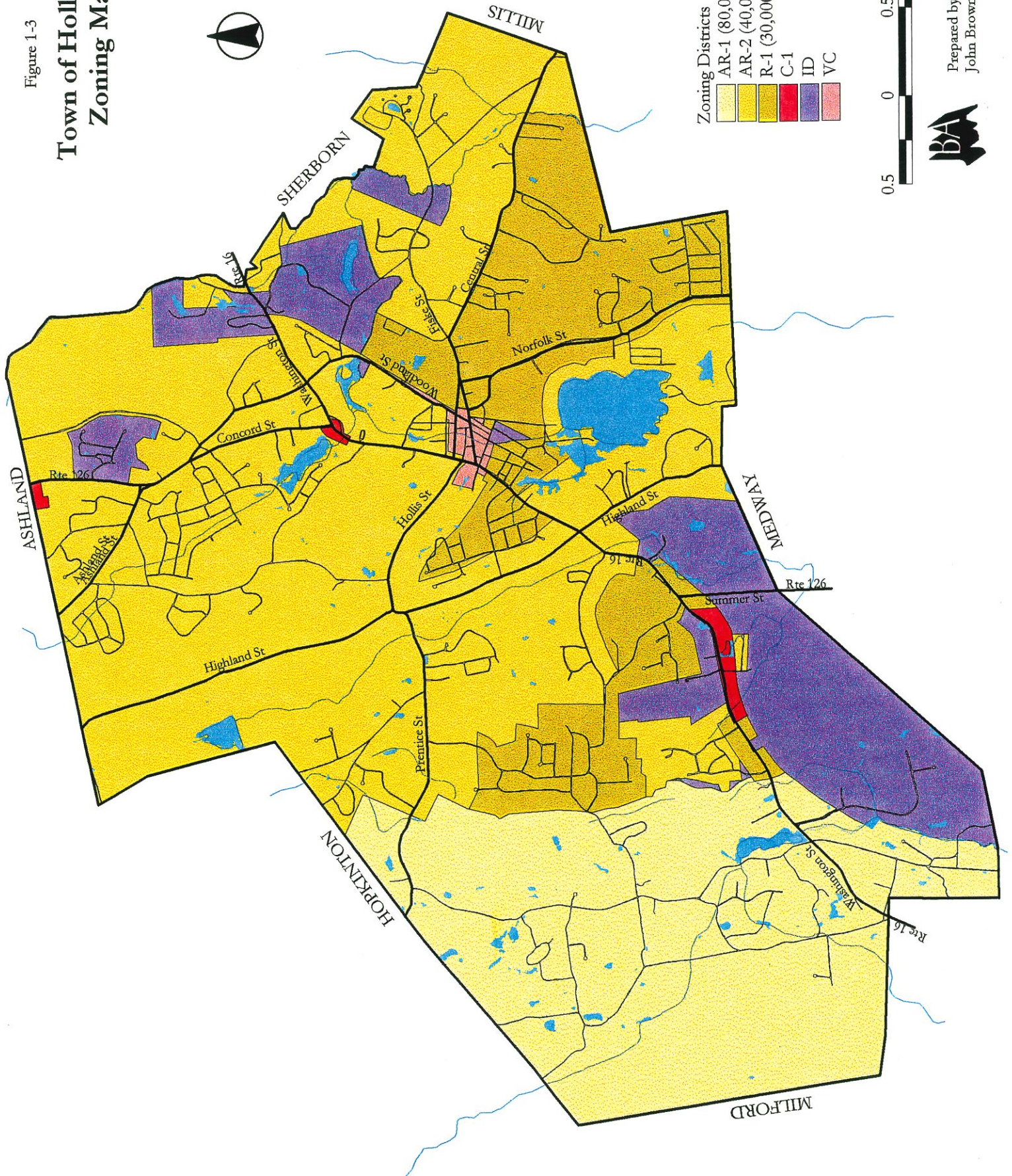
Total Land Area (including surface water)	12,186 acres
(less) Land Already Developed	4,606
(less) Wetlands and Water	1,329
(less) Protected Open Space (uplands only) ⁽¹⁾	<u>1,852</u>
Available Developable Land ⁽²⁾	4,399 acres

⁽¹⁾ An additional 468 acres of protected open space is included under wetlands.

Of the total land in the town, 3,209 acres are not developable because they are either wetlands or protected open space. Approximately 8,977 acres in the town are considered developable, of which 4,578 acres are already developed – leaving 4,399 acres for potential development (or other use). The developable land was identified by zoning district and zoning regulations were applied to determine the maximum buildout capacity (see Appendix 1-1 for specifications). Table 1-4 shows the number of residential units and the amount of commercial and industrial space that can be developed under current zoning regulations.

Developable and undevelopable land is illustrated on Figure 1-4, Constraints on Development.

Figure 1-3
**Town of Holliston
 Zoning Map**



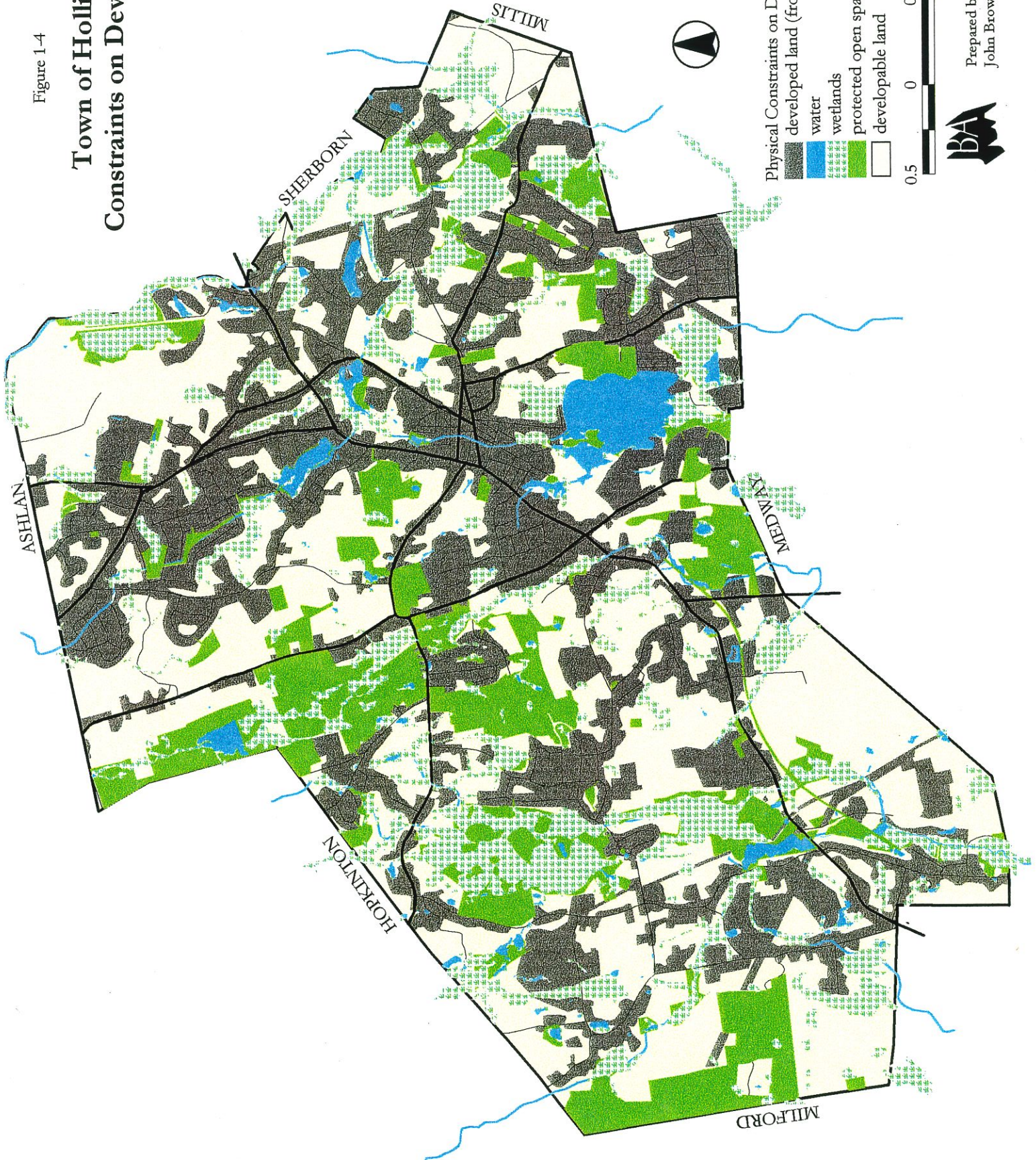
- Zoning Districts**
- AR-1 (80,000 s.f.)
 - AR-2 (40,000 s.f.)
 - R-1 (30,000 s.f.)
 - C-1
 - ID
 - VC



Prepared by
 John Brown Associates, Inc.

Figure 1-4

Town of Holliston Constraints on Development



**Table 1-4
Development Capacity Under Current Zoning**

<u>Zoning District</u>	<u>Acres</u>	<u>Buildout Capacity</u>
Agricultural Residential 1	1,006.6	443 dwelling units (d.u.)
Agricultural Residential 2	1,652.3	1,438 d.u.
Residential 1	358.9	416 d.u.
Aquifer Protection District 1	221.7	98 d.u.
Aquifer Protection Districts 2&3	399.4	347 d.u.
Commercial 1	11.4	188,700 s.f. commercial
Village Commercial	3.5	62,500 s.f. commercial
Industrial District	<u>745.0</u>	16,875,100 s.f. industrial
Total Area	<u>4,398.8</u>	
<hr/>		
Total Residential Units		2,742 d.u.
Total Commercial Space		251,200 s.f.
Total Industrial Space		16,875,100 s.f.

Note: See Appendix 1-1 for buildout specifications.

1.4 GROWTH IMPACTS UNDER EXISTING ZONING

Full buildout represents long term impacts from potential growth. Market forces and the ability of the Town to provide amenities to meet resident and business needs will determine the rate at which development takes place in the short term.

Residential Development

The number of housing units can increase by approximately 2,740 single-family homes at full buildout. In January, 1998 the total number of housing units in the town was 4,753 including 4,025 single-family homes, 714 multifamily units (two or more units per structure) and 14 mobile homes or other types of units. The total number of housing units in the town can potentially grow by 58% under existing zoning.

The population growth that would accompany the increase in housing units could represent significant costs to the town for education and other public services. The number of residents may increase by about 8,226 under full buildout. This represents a growth of 57% over the 1998 population of 14,523 persons. Education represents a major fiscal cost, thus the number of school-aged children that will result from growth is an important impact to consider. According to the Massachusetts Department of Housing & Community Development (DHCD) estimates, the number of school-aged children would increase by approximately 2,386 children⁽¹⁾. The increase in the number of school children is less when multifamily units take the place of some single-family development.

⁽¹⁾ Most single-family homes being constructed in the current market have four bedrooms or more if they have the required septic capacity. The number of school children per four bedroom home is estimated by DHCD at 0.87. The number of persons per household is estimated at 3.00.

Anticipated Growth Rate. Market forces and the ability of the Town to provide services and amenities to meet resident and business needs will determine the rate at which development takes place; thus the full impacts of the buildout may not be felt for years to come. The following table shows a projection of residential growth in the town based on MAPC and our own estimates. Note that the MAPC projection for the year 2000 is too low, since the actual number of housing units in January, 1998 had already surpassed it.

**Table 1-5
Projections of Residential Growth**

Year	Total Units	MAPC Estimate			Revised Estimate ⁽¹⁾		
		Units Added	Units/Year		Total Units	Units Added	Units/Year
1990	4,284				4,284		
1/1/98	-				4,753	469	67
2000	4,705	421	42		4,888	135	45
2005	-		-		5,088	200	40
2010	5,076	371	37		5,288	200	40
2020	5,358	282	28		5,638	350	35
		1,074				1,354	
						(885 after 1/1/98)	

⁽¹⁾ Based on current market trends in Holliston and the Region.

The projected residential growth (under the revised estimate) would yield a population increase of about 4,865 new residents by 2020, including about 1,781 new school children. A higher estimate of persons per household is used in the short term to reflect the larger families that typically occupy the four bedroom single-family homes that are now being constructed. In the long term it is expected that Holliston will follow the national trend of declining household size.

Nonresidential Development

Developable land for retail and service use in Holliston yields a potential capacity of 251,200 square feet under existing zoning. Land that is developable for light industrial or high tech use could yield up to 16,875,100 square feet of building area. These figures are for full buildout, which may be many years in the future. The commercial development that can take place in Holliston represents the potential for about 558 additional retail/service jobs and 16,875 industrial and high tech jobs (estimating 1 employee per 450 square feet for office and retail space and 1 employee per 1000 square feet for industrial space.) In contrast to residential growth, industrial and commercial growth represent less of an increase in costs of government services; however, they do have requirements for infrastructure which can be costly.

Anticipated Growth Rate. According to the Economic Development Strategy-Phase 2 Report (prepared in 1997), a highly optimistic absorption rate for industrial development in Holliston is an average of 150,000 to 200,000 square feet per year. At this rate there is enough available commercial and industrial land to serve the town for another 85 to 100 years. The following table shows a projection for commercial and industrial growth over the next 20 years.

Table 1-6
Potential Industrial and Commercial Growth by Ten Year Intervals⁽¹⁾

<u>Year</u>		<u>Total Space</u>	<u>Space Added</u>	<u>Square Feet/Year</u>
1998	Commercial	800,000		
	Industrial	<u>1,200,000</u>		
	Total	2,000,000		
<hr/>				
2000		2,300,000	300,000	150,000
2010		4,050,000	1,750,000	175,000
2020		6,050,000	<u>2,000,000</u>	200,000
			4,050,000	
			(4,540,000 SF will still be available)	

⁽¹⁾ Based on recent market trends in Holliston and the region.

1.5 LAND USE GOALS

The following goals and policies related to land use and community character have evolved from the community survey, the public forums, and other community input. Some of these goals also relate to other Master Plan Elements.

1. Manage residential, commercial, industrial and recreational development in a way that carefully balances economic needs with the need to protect the small-town, historic character of Holliston.
2. Impose reasonable controls on the types of growth which may have undesirable environmental, safety, or fiscal impacts on the town.
3. Preserve sufficient permanent open space to retain the town's semi-rural character, areas for passive recreation, and habitats for desired flora and fauna.
4. Seek a combination of future land uses that reflect both the fiscal needs of the town and the predominantly residential character of the town.
5. Reduce the potential for commercial sprawl and strip development.
6. Develop regulatory tools to further encourage clustering of residential development and diversity of housing density.
7. Review and evaluate the existing bylaws, zoning districts and regulations and revise them, where appropriate, to achieve the desired land use goals.
8. Work with neighboring communities to promote informed decision-making pertaining to regional issues.

1.6 RECOMMENDATIONS FOR FUTURE LAND USE

Introduction

The recommendations for future land use are presented in the form of a Guide Plan For Future Land Use, which is discussed below. This Guide Plan evolved from consideration of three alternative scenarios and reflects desired features of each.

1. The open space proposals include virtually all of the recommendations of the Town's recently completed open space and recreation plan as well as additional recommendations in the preliminary Environmental Scenario.
2. The residential proposals reflect the realization that the Town's existing residential zoning districts are appropriate for the long term future, as presented in the preliminary Composite Scenario. A limited number of multifamily sites are also recommended.
3. The industrial/high tech recommendations follow many of the recommendations of the Town's recent Economic Development Strategy – Phase 2 report.
4. Commercial uses reflect the desire of the town to primarily limit commercial development to the Village Center, the East Holliston business area, and the West Holliston business area, as recommended in the Economic Strategy – Phase 1 report.

For a comparison of existing land use (1998) and proposed long range land use policy, see Figure 1-4, 1998 Land Use and Figure 1-5, Guide Plan For Future Land Use.

1.6.1 Guide Plan For Future Land Use

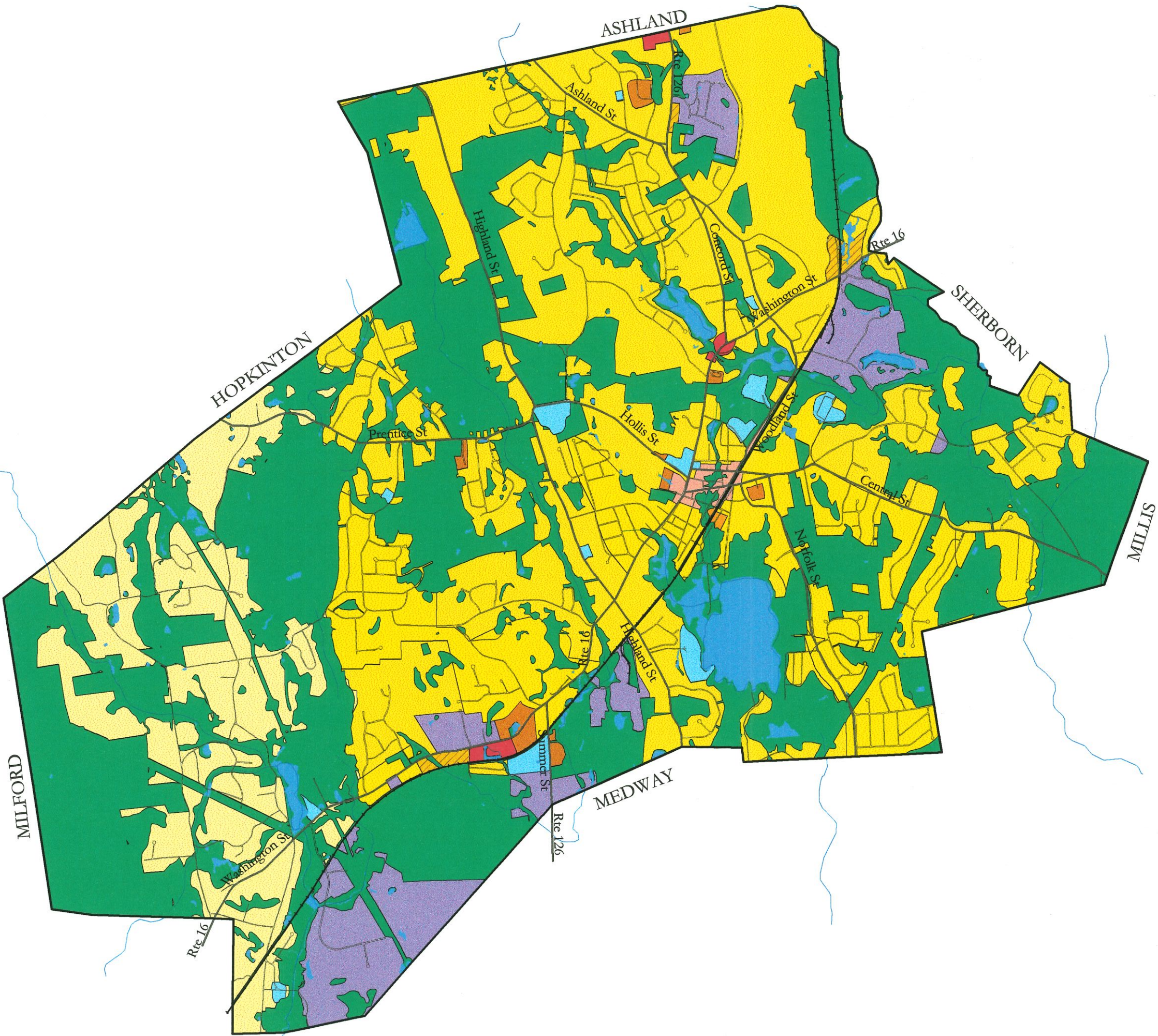
The proposed Guide Plan For Future Land Use (see Figure 1-5) is based upon the following:

- Existing land use patterns
- Community goals and objectives
- Analysis of impacts of alternative plans
- Long-range community needs for housing, economic growth, transportation, public facilities, open space, and recreation
- Long-range sewage disposal planning
- Environmental and geographic concerns and limitations
- Feedback from Town officials and citizens
- Sound land use planning

The Guide Plan For Future Land Use is a long-range projection of the most desirable future land uses at specific locations in the town, and may be subject to revision as time passes. It takes into consideration the Town's capacity to accommodate the impacts of future growth as well as the Town's desire to meet future needs (housing, economic development, open space preservation, etc.) The Guide Plan follows many of the proposals outlined during the consideration of alternative land use scenarios (see Appendix 1-2). Residential densities and the extent of commercial and industrial

Figure 1-5

Town of Holliston Guide Plan for Future Land Use



- Land Use Categories
- Low Density Residential (80,000 s.f.)
 - Low-Moderate Density Residential (40,000 s.f.)
 - Moderate Density Residential (30,000 s.f.)
 - Multifamily
 - Commercial
 - Industrial
 - Village Center Mixed Use
 - Commercial Service
 - Transitional Business
 - Public/Institutional
 - Open Space



Prepared by
John Brown Associates, Inc.

areas are similar to those shown in the Composite Scenario, while the extent of open space is similar to that shown in the Environmental Scenario and follows the Action Plan outlined in the town's Open Space and Recreation Plan.

The Guide Plan is intended to recommend long term future land use policy. Some of its recommendations can be implemented immediately but others may await changes in real estate market conditions, the availability of needed infrastructure (water, sewer, streets etc.), the availability of Town funds, or private land use decisions. The plan will also provide guidance for future zoning map changes, although some additional study may be required to identify exact or appropriate boundaries for specific map changes. Means of implementing the recommendations of this plan are discussed in Section 8, Implementation.

- **Land Use Categories**

Low Density Residential. This category is similar to the Agricultural Residential 1 district in the existing zoning. It contains single-family homes at a density of one lot per 80,000 square feet.

Low-Moderate Density Residential. This category is similar to the Agricultural Residential 2 district in the existing zoning. It contains single-family homes at a density of one lot per 40,000 square feet.

Moderate Density Residential. This category is similar to the Residential 1 district in the existing zoning. It contains single-family homes at a density of one lot per 30,000 square feet.

Multifamily Residential. This category contains multifamily development with up to eight units per acre. The number of units that can be developed at a particular site may be constrained by septic capacity if sewers are not available.

Commercial. This category is similar to the Commercial District 1 in the existing zoning, but with a floor area ratio of 0.50. Parking requirements under the existing zoning would need to be reduced somewhat in order to reach this higher FAR and may not be desirable in some cases. This category contains retail and service uses.

Village Center Commercial. This category is similar to the Village Center Commercial District in the existing zoning, but with a floor area ratio of 0.80. Parking and dimensional requirements under the existing zoning would need to be reduced somewhat in order to reach this higher FAR. Actual FAR in the Village Center is now approximately .80. This category contains retail and service uses in Holliston Center with parking and building dimensions that encourage pedestrian access. Existing buildings may be converted to mixed use with apartments in upper floors.

Commercial Service. This category is recommended in the Economic Development Strategy-Phase 2 report. This category contains non-retail businesses or professional offices, educational uses, professional or commercial services establishments, craft and commercial services establishments, wholesale office or showroom, and high technology uses of a non-industrial nature.

Transitional Business. This category is recommended in the Economic Development Strategy-Phase 2 report. This category contains non-retail business uses, including business or professional offices, educational uses, hotels or motels, professional or commercial service establishments, wholesale office or showroom, warehousing, commercial indoor place of amusement, animal or veterinary hospital and kennels, and high technology uses of a non-industrial nature.

Industrial. This category is similar to the Industrial District in the existing zoning, but with a floor area ratio of 0.50. This category contains industrial, office, high tech, and warehouse uses.

- **Commercial/Business Development** (1% of total town area)
In order to preserve the character of existing neighborhoods, commercial development is limited to Holliston Center and East Holliston and parts of West Holliston. Holliston Center will remain a mixed use area, as it is currently configured. The commercial area of West Holliston is reduced in order to limit the potential for sprawl. Some land for retail-type commercial development is retained in the central portion of the current zoning district, while the western portion is reserved for office or other non-retail commercial uses (Transitional Business). Some land in the eastern portion of West Holliston is recommended for multifamily use. The Water Street area containing the former industrial mills near the town center (which is currently zoned for industrial use) should be rezoned to promote a viable reuse for the mill structures. Uses may include non-retail businesses as described under Commercial Service above.
- **Industrial/High Tech** (6% of total town area)
Future industrial and high tech use is largely concentrated in the areas recommended under the 1997 Economic Development Strategy report. The primary sites for future industrial use are Hopping Brook Park, Lowland Industrial Park, and New Englander Industrial Park. While much of New Englander Industrial Park has been built out, considerable land remains in the other two parks to provide for future industrial needs. The developed portion of the Rail Line area along Washington Street should be changed to Transitional Business as described above. A portion of the New Englander area which is adjacent to Route 126 and is currently used for non-industrial businesses is recommended to be changed to transitional business.

As recommended in the 1997 Economic Development Strategy Report, industrial uses should be limited to those that are environmentally friendly and bring the least amount of undesirable impacts into the town, such as increased truck traffic, noise, water and air pollution, and toxic chemicals. High tech uses, office, research, and other light industrial uses are most desirable.

- **Residential Development** (44% of total town area)
The Guide Plan recommends maintaining the zoning densities specified under existing zoning. Use of cluster development, multifamily, and special purpose housing are means of increasing the variety of residential development. Protection of open space can help to define the boundaries of distinct residential areas. Options for protecting open space in combination with residential development are discussed further in the Open Space and Recreation section and the Implementation section.

Two areas identified as sites for possible multifamily use include the eastern portions of West Holliston commercial area (along Washington Street), and an area to the west of Holliston Center (south of Hollis Street). Other areas which might be appropriate for multifamily use have not been identified at this time. Criteria for selecting sites for multifamily use include septic capacity (or the potential to tie into the sewer system), capacity of neighboring roads, and accessibility to public facilities, commercial areas, and open space. The Town should also utilize available zoning controls to assure the quality and compatibility of multifamily housing. See Appendix 5-2 for criteria for evaluating multifamily housing sites.

- **Open Space/Recreation** (48% of total town area)
The Guide Plan identifies areas throughout the Town which are recommended for open space protection. Open space recommendations largely reflect the Action Plan from the town's Open Space and Recreation Plan. (See Open Space & Recreation section.) This includes areas that are currently under Chapter 61, as well as some environmentally sensitive lands, and areas providing scenic views. The Guide Plan also includes virtually all wetlands, and attempts to link many of these parcels to create open space networks, making open space accessible to residential areas. Future protected open space will likely be in a mixture of public and private ownership. Recreation facilities, including ball parks, swimming, hiking trails, neighborhood parks, etc., may be accommodated in some of the areas that are recommended for open space protection.
- **Public/Semi-Public** (1% of total town area)
The Guide Plan shows existing public and semi-public lands and their relationship to other uses. Future expansion of public facilities can be accommodated through reuse of developed lands or in less sensitive areas that are proposed for open space.

1.6.2 Impacts of Development

A buildout analysis was prepared showing the long term impacts of development under the Guide Plan for Future Land Use. Growth in the short term is expected to resemble the trends shown in Tables 1-5 and 1-6 regardless of changes in land use policy. Table 1-7 shows the amount of development that can take place at full buildout if the recommended land use policies are implemented.

Under current zoning, there is the potential for 2,742 dwelling units to be constructed. Under the proposed Guide Plan, there is the potential for 2,152 dwelling units, a reduction in 590 dwelling units. There is also a 361 acre reduction in industrial land under the Guide Plan. There is a resultant 1,255 acre increase in open space under the Guide Plan.

Table 1-7
Development Capacity Under Guide Plan for Future Land Use

<u>Use Category</u>	<u>Acres</u>	<u>Development Capacity⁽¹⁾</u>
Low Density Residential	895.4 acres	394 dwelling units (d.u.)
Low-Moderate Density Residential	1,505.8	1,266 d.u.
Moderate Density Residential	335.7	382 d.u.
Multifamily Residential	13.8	101 d.u.
Commercial	3.5	76,230 square feet (s.f.)
Village Center Commercial	1.5	52,969 s.f.
Commercial Service	0.0	0 s.f.
Transitional Business	4.6	100,188 s.f.
Industrial	383.9	8,361,342 s.f.
Protected Open Space (Developable Land)	1,254.6	
 Total Developable Land (Acres)	 4,398.9 acres	
 Total Open Space ⁽²⁾	 5,836.0 acres	

⁽¹⁾ The buildout specifications are the same as those proposed for the Alternative Scenarios, shown in Appendix 1-2.

⁽²⁾ Includes existing open space, new open space on developable land, and new open space on land that is undevelopable (i.e., wetlands, floodplains).

Table 1-8
Summary of Total Buildout Capacity

Total Residential Units	2,152 dwelling units
Total Commercial/Retail	229,387 square feet
Total Light Industrial/High Tech	8,361,342 square feet

Using the same DHCD population per household indexes as used to calculate the potential impacts under existing zoning, full buildout under the Guide Plan for Future Land use would result in a total population of 20,838, including 1,791 additional schoolchildren. This represents a population growth of 30% over 1998. Not counting the future commercial and industrial development, the potential water use at this level of development would be 1,966,000 gallons per day⁽¹⁾, based on water use estimates for the Town of Holliston of 89 gallons per person per day. The industrial and commercial space at full buildout can accommodate approximately 8,871 additional employees. The above summary of total buildout capacity under the recommended Guide Plan for Future Land Use represents the amount of development possible if every parcel of developable land is developed. Due to the limitations of market absorption, full buildout may be 40-50 years in the future. Tables 1-5 and 1-6 show projections of potential residential and nonresidential growth up to the year 2020. Substantial land for additional growth will remain at that time. These projections are based on market factors, and will not be affected by land use policy, although the

⁽¹⁾ Includes total current water use for 1998 plus projected residential water use at full buildout.

Town's regulatory controls will influence the character and quality of development that takes place in the short term. The following table compares the potential impacts under the Guide Plan for Future Land Use with potential impacts under existing zoning (at full buildout).

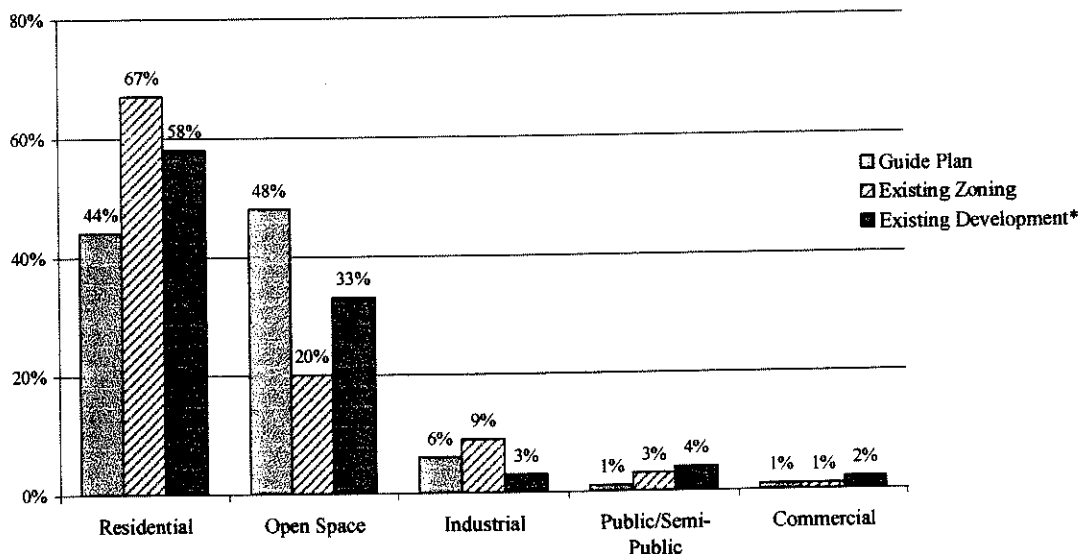
Table 1-9
Impacts of New Growth Under Guide Plan Compared With Existing Zoning

	<u>Guide Plan</u>	<u>Existing Zoning</u>
Dwelling Units	2,152	2,742
Population	6,315	8,226
School-aged Children	1,791	2,396
Water Use (gal/day) ⁽¹⁾	562,035	732,114
Commercial Space	229,387 s.f.	251,200 s.f.
Industrial Space	8,361,342 s.f.	16,875,100 s.f.

⁽¹⁾ Residential use only

The following chart compares the percentages of developed land currently (1998), full buildout under existing zoning, and full buildout under the Guide Plan For Future Land Use (at full development).

Figure 1-6
Guide Plan and Existing Zoning



* Includes only developed land. 44% of the town is currently undeveloped. Area of local roads is included within categories shown.

Table 1-10 shows another view of the fiscal impacts from the development that can take place under full buildout under existing development and under the Guide Plan for Future Land Use, as

well as the projected growth by year 2020. These projections are estimated using rough assumptions based on existing valuations; actual conditions may turn out quite differently.

Table 1-10
Projected Tax Levy Impacts

	% of Total Tax Levy	
	<u>Residential</u>	<u>Commercial + Industrial</u>
FY98	88.4	9.4

Projected 2020	78.2	19.4
Full Buildout (Existing Zoning)	58.7	38.9
Full Buildout (Guide Plan)	69.7	27.9

As stated previously, market conditions will determine the outcome of residential, commercial, and industrial growth. The amount of commercial and industrial space that is built out at full capacity may not reach the levels shown under the buildout analysis because land owners may choose for various reasons to develop less than the maximum amount of space available under zoning regulations. Also, road capacity may ultimately constrain the total amount of development that can take place. Residential growth is more likely to approach the levels shown in the buildout analysis than is commercial and industrial development (because of market constraints).

1.6.3 Zoning Map Changes

A map showing zoning map changes that will be required in the future to implement the Guide Plan For Future Land Use is presented in Section 8, Implementation Plan. Each of these recommended changes will require debate and an affirmative vote by two-thirds of the Holliston Town Meeting at some time in the future, if they are to be adopted.

Appendix 1-1
Buildout Specifications Under Existing Zoning

<u>Zoning District</u>	<u>Formula</u> ⁽¹⁾	<u>Derived from following constraints:</u>
Agricultural Residential 1	0.44 units/acre	Minimum lot size 80,000 sq. ft. (Sec. 4B)
Agricultural Residential 2	0.87 units/acre	Minimum lot size 40,000 sq. ft. (Sec. 4B)
Residential 1	1.16 units/acre	Minimum lot size 30,000 sq. ft. (Sec. 4B)
Commercial District 1	0.38 FAR ⁽²⁾	Max 3 stories, front/side/rear yards total 5,100 s.f., (Sec. 4B) parking = 1 space/180 s.f. building area (Sec. 5C) (3)(4)
Village Commercial	0.41 FAR	Max 3 stories, front/side/rear yards total 2,500 s.f., (Sec. 4B) parking = 1 space/180 s.f. building area (Sec. 5C)
Industrial District	0.52 FAR	Max 3 stories, front/side/rear yards total 9,600 s.f., (Sec. 4B) parking = 1 space/300 s.f. building area (Sec. 5C)
<u>Overlay Districts</u>		
Aquifer Protection District Area 1	0.44 units/acre	Minimum lot size 80,000 sq. ft. (Sec. 4B)
Aquifer Protection District Areas 2 & 3	0.87 units/acre	Minimum lot size 80,000 sq. ft. (Sec. 4B)

(1) In all residential districts the developable area is reduced by 20% to account for new streets and wastage.

(2) FAR stands for effective floor area ratio if all zoning restrictions are applied.

(3) It is assumed that all parking takes place on surface level lots.

(4) 350 s.f. per parking space is estimated to include parking spaces, roadways and landscaping.

(5) The maximum percent of coverage for buildings on lots in the C1 and VC districts is 50%, while the maximum lot coverage for the I district is 40%. Because of parking requirements, however, the maximum coverage is not a constraining factor in determining the maximum buildout capacity.

Appendix 1-2
Alternative Land Use Scenarios

1. Descriptions of Scenarios

Three Land Use Scenarios were prepared for Holliston showing potential uses for land that is currently undeveloped. Each takes into consideration existing land use and zoning, sewer plans, septic capacity, and other environmental factors. The first scenario focuses on maximizing economic and residential growth, while the second scenario focuses on preserving large amounts of open space and reducing the amounts of residential, commercial, and industrial development. The third scenario incorporates some of the ideas from each of the other scenarios to allow moderate growth, the protection of vital natural resources, and the preservation of open space.

Some land uses are included in the scenarios that are not prescribed in the Zoning Bylaw, some of which might require changes to the Bylaw in order to be implemented. Land Use Categories are the same as those described under the Guide Plan for Future Land Use. Public/Institutional and Multifamily uses mostly reflect existing development, although some additional development for these uses might take place. Three new categories are shown in the scenarios, including Village Mixed Use, Transitional Business, and Commercial Service. The latter two categories reflect the recommendations of the 1997 Economic Development Strategy-Phase 2 Report. Transitional Business would include non-retail and non-industrial business uses, and Commercial Service would include non-retail professional and commercial service uses. The Village Mixed Use Category would include residential, retail, and service uses on a pedestrian-friendly village scale. This category is distinct from the Village Center Mixed Use category that is shown in Holliston Center.

Scenario 1, Economic Growth Plan, largely includes the land use that would be developed under existing zoning, with some modifications. All of the industrial areas remain the same except for the "Pope" area, which has been reduced. The rear portion of this area is shown as low-moderate density residential development, while the eastern portion along Washington Street is changed to the new Village Mixed Use category. The eastern portion of the West Holliston commercial area, as well as the adjacent residential area up to Summer Street is also shown as Village Mixed Use. This reduces the amount of strip commercial development that can take place in West Holliston, while creating an economically viable residential/commercial village near the intersection of Summer Street (Rte 126) and Washington Street (Rte 16). Another feature of this scenario is the addition of multifamily development in a small area on the northern edge of Holliston Center. This area, which includes some developable land, is currently in the Village Center Commercial zoning district. Finally, the area of low-moderate density residential is extended to Marshall and Courtland Streets, reducing the area of low density residential development in the western portion of the town. No changes or additions to protected open space from the existing areas is shown in this scenario. The purpose of this scenario is to show a largely "pro-development" option and the resulting impacts.

Scenario 2, Environmental Plan, shows a lower intensity of future land uses in many areas of the town, and emphasizes the protection of open space. In addition to existing protected open space, all areas of the town which are wetlands or are within the Flood Zone are shown as protected open space. Also, areas which were identified in the Action Plan of the Open Space and Recreation Plan, as well as some other areas that are environmentally sensitive or would provide open space linkages are included in this category. Residential density is reduced in some portions of the town, as the low density residential area in the west is extended to the east and past Highland street north of Prentice Street. The areas available for industrial development are considerably reduced. Parts of Lowland Industrial Park, Hopping Brook Park, and the "Summer-Cross" area are shown as open space, while the "Rail Line" industrial and "Fiske Street" industrial areas are eliminated altogether. The portion of the "Rail Line" area along Washington

(Continued)

(Appendix 1-2 continued)

Street that is currently developed, as well as a portion of the New Englander area along Concord Street are placed in the Transitional Business category. The "Pope" area is reduced even further than in Scenario 1, and the Hopping Brook area is reduced to the area of the existing Hopping Brook Park. The "Water Street" industrial area near Holliston Center is placed in the Commercial Service land use category. In West Holliston the area to the west of Chestnut Street is placed in the Transitional Business category, while the length of the commercial strip is reduced in the east with moderate density residential use taking its place. The undeveloped northern portion of the Village Center Commercial area is shown as low-moderate density residential use. The purpose of this scenario is to show as little new development as possible while significantly increasing protected open space.

Scenario 3 – Composite Plan. This scenario applies some of the ideas from the other two scenarios as well as the Open Space and Recreation Plan and the Economic Development Strategy Phase 2 Report. In this scenario the residential densities are left as they are on the existing Zoning Map. The recommendations for the industrial areas shown in the Economic Development Strategy Report are applied in all of the industrial areas. This includes changing a portion of New Englander to transitional business, eliminating the Rail Line area and placing the developed area along Washington Street into Transitional Business, reducing the back portions of the Fiske Street and Pope areas, and changing the Water Street area to Commercial Service use. The eastern portions of the Pope industrial area and portions of West Holliston commercial area (across the street) are shown as Village Mixed Use, as in Scenario 1, while the area of West Holliston west of Chestnut Street is placed in the Transitional Business category, as in Scenario 2. The western part of the Village Center Commercial area is shown as multifamily, as in Scenario 1. Additional open space areas largely reflect the Action Plan from the Open Space and Recreation Plan, as well as some additional areas to provide a network of open space linkages. The Action Plan includes areas that are currently under Chapter 61, as well as some environmentally sensitive lands, and areas providing scenic views.

(Continued)

(Appendix 1-2 continued)

2. Buildout Specifications Under All Scenarios and Guide Plan

<u>Land Use Categories</u>	<u>Formula</u>	<u>Notes:</u>
Low Density Residential	0.44 units/acre ⁽¹⁾	Minimum lot size 80,000 sq. ft.
Low-Moderate Density Residential	0.87 units/acre	Minimum lot size 40,000 sq. ft.
Moderate Density Residential	1.16 units/acre	Minimum lot size 30,000 sq. ft.
Multifamily Residential	8 units/acre	
Commercial	0.50 FAR	Current effective FAR is 0.38 ⁽²⁾
Village Center Commercial	0.80 FAR	Current effective FAR is 0.41 (However, actual FAR is approximately 0.80).
Village Mixed Use	0.50 FAR	(commercial)
	8 units/acre	(residential)
Commercial Service	0.50 FAR	From Economic Development Strategy Phase II Report
Industrial	0.50 FAR	Current effective FAR is 0.52 ⁽¹⁾
<u>Overlay Districts</u>		
Aquifer Protection District Area 1	0.44 units/acre	Minimum lot size 80,000 sq. ft. (Sec. 4B)
Aquifer Protection District Areas 2 & 3	0.87 units/acre	Minimum lot size 80,000 sq. ft. (Sec. 4B)
Transitional Business	0.50 FAR	From Economic Development Strategy Phase II Report

⁽¹⁾ Residential density is reduced by 20% to account for streets and wastage.

⁽²⁾ Effective floor area ratio if dimensional requirements from zoning regulations are applied.

(Continued)

(Appendix 1-2 continued)

3. Comparison of Alternative Scenarios Developable Land

Land Use	Scenario 1 Economic Growth Plan	Scenario 2 Environmental Plan	Scenario 3 Composite Plan
Low Density Residential	825.0 acres	807.6 acres	731.1 acres
Low-Moderate Density Residential	2,382.9	1,136.4	1,612.4
Moderate Density Residential	433.8	381.1	339.1
Multifamily Residential	5.0	0.7	2.6
Commercial	8.4	5.9	4.8
Village Center Commercial	1.5	1.5	1.5
Village Mixed Use	12.1		12.1
Commercial Service		0.1	0.4
Transitional Business		4.1	4.8
Industrial	683.6	313.7	512.5
Protected Open Space (Developable Land)	<u>46.5</u>	<u>1,747.7</u>	<u>1,177.5</u>
Total Developable Land (acres)	4,398.8 acres	4,398.8 acres	4,398.8 acres
Total Open Space ⁽¹⁾	2,407.3 acres	5,808.6 acres	4,181.9 acres

⁽¹⁾ Includes existing open space, new open space on developable land, and new open space on land that is undevelopable.

4. Potential Development Capacity

Potential Development	Scenario 1 Economic Growth Plan	Scenario 2 Environmental Plan	Scenario 3 Composite Plan
Low Density Residential	363 d.u.	355 d.u.	322 d.u.
Low-Moderate Density Residential ⁽¹⁾	1,992 d.u.	956 d.u.	1,352 d.u.
Moderate Density Residential ⁽¹⁾	473 d.u.	420 d.u.	378 d.u.
Multifamily Residential	40 d.u.	6 d.u.	21 d.u.
Commercial	182,952 s.f.	128,502 s.f.	104,544 s.f.
Village Center Commercial ⁽²⁾	52,272 s.f.	52,272 s.f.	52,272 s.f.
Village Mixed Use	131,769 s.f.		131,769 s.f.
	48 d.u.		48 d.u.
Commercial Service		2,178 s.f.	8,712 s.f.
Transitional Business		89,298 s.f.	104,544 s.f.
Industrial	14,888,808 s.f.	6,832,386 s.f.	11,162,250 s.f.
Total Dwelling Units	2,916 d.u.	1,737 d.u.	2,121 d.u.
Office & Retail	367,000 s.f.	272,200 s.f.	401,800 s.f.
Industrial/High Tech	<u>14,888,800 s.f.</u>	<u>6,832,400 s.f.</u>	<u>11,162,300 s.f.</u>
Total Square Feet	15,255,800 s.f.	7,104,600 s.f.	11,564,100 s.f.

⁽¹⁾ Where these areas fall within the Aquifer Protection Overlay Districts, a lower buildout density applies (see Appendix 1-1).

⁽²⁾ Some additional multifamily use may be allowed in this district, but we cannot estimate the number of potential dwelling units because there is no way to project how much existing space might be converted to mixed use.

(Continued)

(Appendix 1-2 continued)

The following table shows a comparison of the potential impacts of development under existing zoning and under each of the scenarios at full buildout. A greater diversity of housing types (i.e., townhouses, condos, senior housing, and multifamily) might lower the demographic impacts, as these types of housing units tend to have smaller households with fewer school children than single-family homes.

5. Potential Impacts of Alternative Scenarios (At Full Buildout)

	<u>Dwelling Units</u>	<u>Population⁽¹⁾</u>	<u>School Children⁽²⁾</u>	<u>Residential Water Needs (Gal. Per day)⁽³⁾</u>	<u>Commercial & Industrial Square Feet</u>	<u>Employees⁽⁴⁾</u>
Existing Development	4,753	14,523	2,872	1,292,500	N/A	4,242
Potential Additional Development						
Existing Zoning	2,742	8,226	2,396	732,114	17,126,400	17,433
Scenario 1 (Economic Growth Plan)	2,916	8,625	2,475	767,625	15,255,800	15,704
Scenario 2 (Environmental Plan)	1,737	5,203	1,507	463,067	7,104,600	7,437
Scenario 3 (Composite Plan)	2,121	6,266	1,797	557,674	11,564,100	12,055

⁽¹⁾ Includes four bedroom single-family homes with 3.00 persons per household and two bedroom multifamily units with 1.60 persons per household. (Based on DHCD)

⁽²⁾ Includes four bedroom single-family homes with 0.87 school children per household and two bedroom multifamily units with 0.17 school children per household. (Based on 1990 DHCD)

⁽³⁾ Estimates water use of 89 gallons per day per person, based on average for Holliston from 1995 to 1997.

⁽⁴⁾ Estimates one employee per 450 square feet for office and retail space, and one employee per 1,000 square feet for industrial space.

Each of the scenarios can accommodate the projected residential, commercial and industrial growth shown in Tables 1-5 and 1-6. By 2020 Holliston would have an estimated 1,354 homes under the projections shown in Table 1-5. By 2020 there would still be substantial land available for residential development under Scenarios 1 and 3, but Scenario 2 would be approaching full buildout. By 2020 Holliston would have industrial and commercial development in the area of 4,050,000 square feet under the projections shown in Table 3. If the commercial and industrial markets can absorb as much as 200,000 square feet per year (a highly optimistic estimate), there would be enough land to support development for another 77 years under the first scenario, 36 years under the second scenario, and 58 years under the third scenario.

Section 2:
NATURAL & CULTURAL
RESOURCES

Section 2: NATURAL AND CULTURAL RESOURCES

Introduction

Holliston is the guardian of regionally significant natural resources, including the headwaters of the Charles River, parts of the Bay Circuit Greenbelt, and habitat for several rare wildlife species. Holliston's groundwater and freshwater resources are essential for local residents, with 96% of the town's population deriving its water from seven public wells. The town also contains a wealth of historic sites and buildings, many of which date from the early 1800s or earlier.

This section of the Master Plan examines Holliston's existing natural and cultural resources, with a focus on the current status of their protection. Where natural and cultural resources are inadequately protected, specific courses of action are recommended to protect these resources. The recommendations concerning cultural and historic resources are provided at the end of this section.

Field off Concord Street



2.1 NATURAL RESOURCES

2.1.1 EXISTING NATURAL RESOURCES AND PROVISIONS FOR THEIR PROTECTION

Holliston's natural and cultural resources were identified using information from the 1993 and 1998 Open Space and Recreation Plans, MassGIS (a division of the MA Executive Office of Environmental Affairs), the Massachusetts Natural Heritage and Endangered Species Program, information from town officers, and other sources. The Geographic Information System (GIS) maps included in this section display the location of each resource. This section also examines the existing provisions for resource protection, such as conservation lands, conservation easements, and environmental laws.

Freshwater Streams and Ponds

Holliston contains the headwaters of the Charles River and three of its major tributaries: the Beaver Brook-Hopping Brook system, the Chicken Brook system, and the Jar Brook-Bogastow Brook-Dopping Brook system. These waterways provide drinking water, flood protection, and ecological benefits to Holliston as well as downstream communities and ecosystems along the Charles River. The U.S. Army Corps of Engineers and the town of Holliston have protected portions of these headwaters for conservation, recreation, and flood control purposes, including more than 400 acres of Cedar Swamp. Figure 2-1 entitled "Water Resources" shows the location of Holliston's ponds, streams, and watersheds.

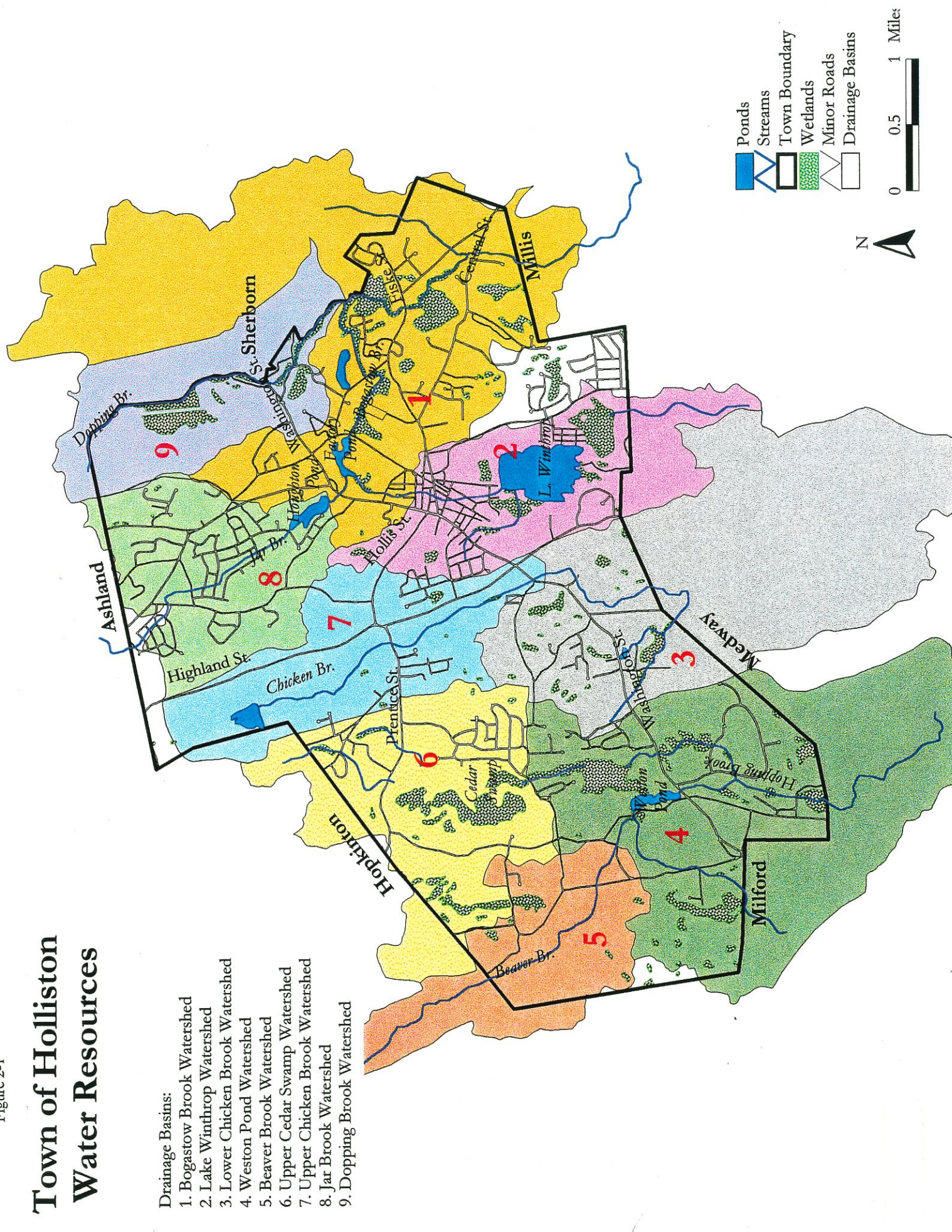
Holliston contains almost one hundred ponds and several larger lakes, including Lake Winthrop, which is over 100 acres in size and thus classified as a Great Pond by (State definition). Lake Winthrop provides several recreational opportunities, including boating, swimming, and catch-and-release fishing, accessible from the Patoma Park and Stoddard Park recreation areas.

About half of Lake Winthrop is ringed by year-round homes and summer cottages, most of which use septic systems built for less intensive use and at a time when design criteria were less stringent. According to the Conservation Commission, many of these septic systems have failed or are close to failing, and threaten the lake with bacterial contamination and eutrophication (elevated nutrient levels in the lake, which can cause algae blooms, weed growth, and sometimes fish kills). Holliston's efforts to address failing septic systems through comprehensive wastewater management (municipal sewers, new septic systems, education) should help to alleviate Lake Winthrop's water quality problems, but the new systems will not be in place for several years. In addition, even after the lakeshore has been completely sewerred, residual nutrients will remain in the lake for years to come. Other large ponds in Holliston, including Factory Pond and Houghton Pond, face similar threats from nearby development.

Protecting Watersheds. Since the 1970s, the federal Clean Water Act and other state water protection legislation has dramatically reduced the amount of point source pollution in Massachusetts (i.e., pollution deriving from a single source, such as a factory or a sewage outfall pipe). Accordingly, efforts at controlling water pollution have shifted to non-point source pollution originating as runoff from roads, lawns, homes, businesses, and industrial areas. To monitor and control this diffuse form of pollution, it is important to know which areas of land contribute to each water body. These land areas are known as watersheds.

Several characteristics of a watershed affect the potential for non-point source pollution, including land use, soil type, groundwater level, and percolation rate of the soil. High groundwater and rapid percolation rates facilitate the movement of pollutants into surface and ground waters. Areas with a large amount of development, little open space, and permeable sandy soils are also more likely to face water quality problems. Holliston's nine watersheds are described in Table 2-1 and shown in the Water Resources map.

-



**Table 2-1
Holliston Watersheds**

#*	Watershed	Size (sq. mi.)	Developed Land	Protected Open Space
1	Bogastow Brook	6.08	Medium	Medium
2	Winthrop Lake	2.35	Medium	Very Low
3	Lower Chicken Brook	5.08	Low	Low
4	Weston Pond	5.39	Low	Medium
5	Beaver Brook	1.97	Very Low	High
6	Upper Cedar Swamp	2.78	Low	High
7	Upper Chicken Brook	2.18	Low	High
8	Jar Brook	2.01	Medium	Low
9	Dopping Brook	2.03	Low	Low

Source: 1998 Open Space and Recreation Plan.

* This number refers to the numbering of watersheds on the Water Resources map (Figure 2-1).

The Charles River Watershed Association has contacted Holliston officials with a proposal to help the Town plan and implement a program of environmental zoning laws. These laws would zone the town in such a way that the future growth allowed in any particular area corresponds to the ability of the water resources to sustain this growth, both as a water supply and as a discharge area for wastewater. The watershed characteristics described in Table 1 should play an important role in shaping these or any other resource protection bylaws that the Town chooses to implement.

Existing Protection for Freshwater Resources. The MA Rivers Protection Act of 1996 regulates development within 200 feet of perennial rivers and streams (defined provisionally as those streams which appear as dark blue lines on U.S.G.S. topographic maps). Typically, development is allowed within 100 feet of rivers only under extraordinary circumstances, but certain types of development are regularly allowed between 100 feet and 200 feet of streams. The upland region beyond this 200 foot buffer is not protected. The area within 200 feet of the riverbank can play an important ecological role by serving as the recharge area for rivers, by providing a complimentary habitat for riparian species requiring upland resources, and by allowing riparian corridors to serve as effective migration corridors for species requiring larger habitat areas. Currently, most of Holliston's riparian corridors are primarily undeveloped, but much of this land is unprotected.

The Holliston Flood Plain District (Article V-J of the Zoning By-law) is an overlay district that applies to all flood-prone areas designated as Zone A or AL-30 on the Flood Insurance Rate Maps. In this district, any construction of new structures, improvements to existing structures, or other activities are prohibited unless a registered professional engineer certifies that they will not increase flood levels in a 100-year flood. The Inspector of Buildings administers this bylaw. The Conservation Commission may also have jurisdiction in flood plains under the MA Wetlands Protection Act (described in the *Freshwater Wetlands* section below).

Freshwater Wetlands

Wetlands are areas characterized by standing water, hydric soils, and water-tolerant vegetation, and typically occur along the shorelines of ponds and streams as well as in isolated depressions in upland areas. In Holliston, the predominant wetland type is red maple swamp; other wetlands

include marshes, wet meadows, natural bogs, and several inactive cranberry bogs. The largest of Holliston's wetlands are the Dopping Brook wetland and floodplain on the Holliston/Sherborn border, the Bogastow Brook wetland in southeastern Holliston, and the Cedar Swamp/Hopping Brook corridor extending north-south through the entire town. The Water Resources map displays the location of Holliston's wetlands.

Wetlands provide several benefits both to humans and to ecological communities. Important wetland functions regulated under the MA Wetlands Protection Act including the following:

- Pollution Control - Vegetated wetlands remove or detain sediments, nutrients (such as nitrogen and phosphorus), and toxic substances (such as heavy metals) that are found in run-off and flood waters.
- Flood Control - Vegetated wetlands temporarily store flood waters, allowing some evaporation and slowing the release of flood waters to downstream areas.
- Storm Damage Prevention - The reduction of the quantity and flow of flood waters lessens damage to private and public property.
- Wildlife Habitat - The hydrologic regime, plant communities, soils, topography and water chemistry of vegetated wetlands provide food, shelter, migratory, overwintering and breeding areas for many birds, mammals, amphibians and reptiles. Thirty-five percent of plants and animals that are listed as endangered or threatened in the United States live in wetlands or depend upon them for survival.
- Fisheries - Vegetated wetlands provide habitat for insects and aquatic invertebrates, which are an important source of food for fish.
- Ground Water Supply - Some vegetated wetlands discharge ground water to the surface. Wetlands also aid in maintaining base flow levels in rivers and streams and filter and clean surface water as it percolates into the groundwater.
- Public and Private Water Supply - Vegetated wetlands help maintain high-quality groundwater, a primary source of drinking water in many communities including Holliston.

Another benefit of wetlands not discussed in the Wetland Protection Act is:

- Passive Recreation - Vegetated wetlands provide opportunities for nature study, photography, bird-watching, and other recreational uses.

Existing Wetlands Protection Laws. Development in wetlands and their buffer zones can contribute to a number of environmental and public health threats, including ground and surface water pollution, loss of flood water storage capacity, and loss of wildlife habitat. For these reasons, federal, state, and local laws restrict development in and near wetlands.

The jurisdiction of the MA Wetlands Protection Act applies to activity within 100 feet of wetlands and other water bodies. The Holliston Conservation Commission administers this law, and considers applications for activities in wetlands and buffer zones. Generally wetland alteration is allowed only in small areas when there are no feasible alternatives, and is subject to

the condition that an equivalent amount of wetland must be replicated elsewhere. In wetland buffer zones, work is often allowed subject to an Order of Conditions from the Conservation Commission. Although the Holliston Conservation Commission has some discretion in deciding how much development to allow in wetlands and buffer zones, the MA Department of Environmental Protection has the authority to override any Conservation Commission decision.

Two local provisions provide additional protection for Holliston's wetlands. Article XXX of the Holliston General By-law prohibits filling, dredging, building upon or otherwise altering wetlands, lands subject to flooding or inundation by groundwater or surface water, or land within 100 feet of these areas. The Holliston Wetlands and Flood Plain Protection Zone (Article V-I of the Holliston Zoning By-law) is an additional protective measure, administered by the Zoning Board of Appeals. Unlike the MA Wetlands Protection Act, which defines wetlands on a case-by-case basis using vegetative, hydrological, and soil indicators, the Holliston law defines wetlands and floodplains according to a detailed zoning map, which includes land within 25 feet of the mean high water line of all water bodies and streams. In addition, Holliston law provides greater protection for isolated wetlands (i.e. those wetlands which do not border ponds or streams) than the state law. Within Holliston Wetlands and Flood Plain Protection Zone, no new building or structure may be constructed (except fences), and no earth moving or other alteration may occur. Certain recreation, conservation, and agricultural uses are exempted from these restrictions.

According to Conservation Commission member Robert Weidknecht, the Commission has difficulty in enforcing wetland regulations, especially at construction sites, where silt may erode from the site and enter wetland areas if the builder does not take appropriate precautions. There is not sufficient Conservation Commission staff to enforce Orders of Conditions, and developers sometimes violate these conditions. Conservation Commission members support the hiring of a Conservation Agent to administer and enforce the provisions of the Wetlands Protection Act. However, this proposal was defeated at the spring 1998 Town Meeting.

The Holliston Wetlands and Flood Plain Protection Zone (Article V-I of the Holliston Zoning By-law) provides additional protection for Holliston's wetlands. Unlike the MA Wetlands Protection Act, which defines wetlands on a case-by-case basis using vegetative, hydrological, and soil indicators, the Holliston law defines wetlands and floodplains according to a detailed zoning map, which includes land within 25 feet of the mean high water line of all water bodies and streams. In addition, the Holliston law provides greater protection for isolated wetlands (i.e. those wetlands which do not border ponds or streams) than the state law. Within the Holliston Wetlands and Flood Plain Protection Zone, no new building or structure may be constructed (except fences), and no earth moving or other alteration may occur. Certain recreation, conservation, and agricultural uses are exempted from these restrictions. The Zoning Board of Appeals administers this bylaw.

Groundwater and Drinking Water Resources

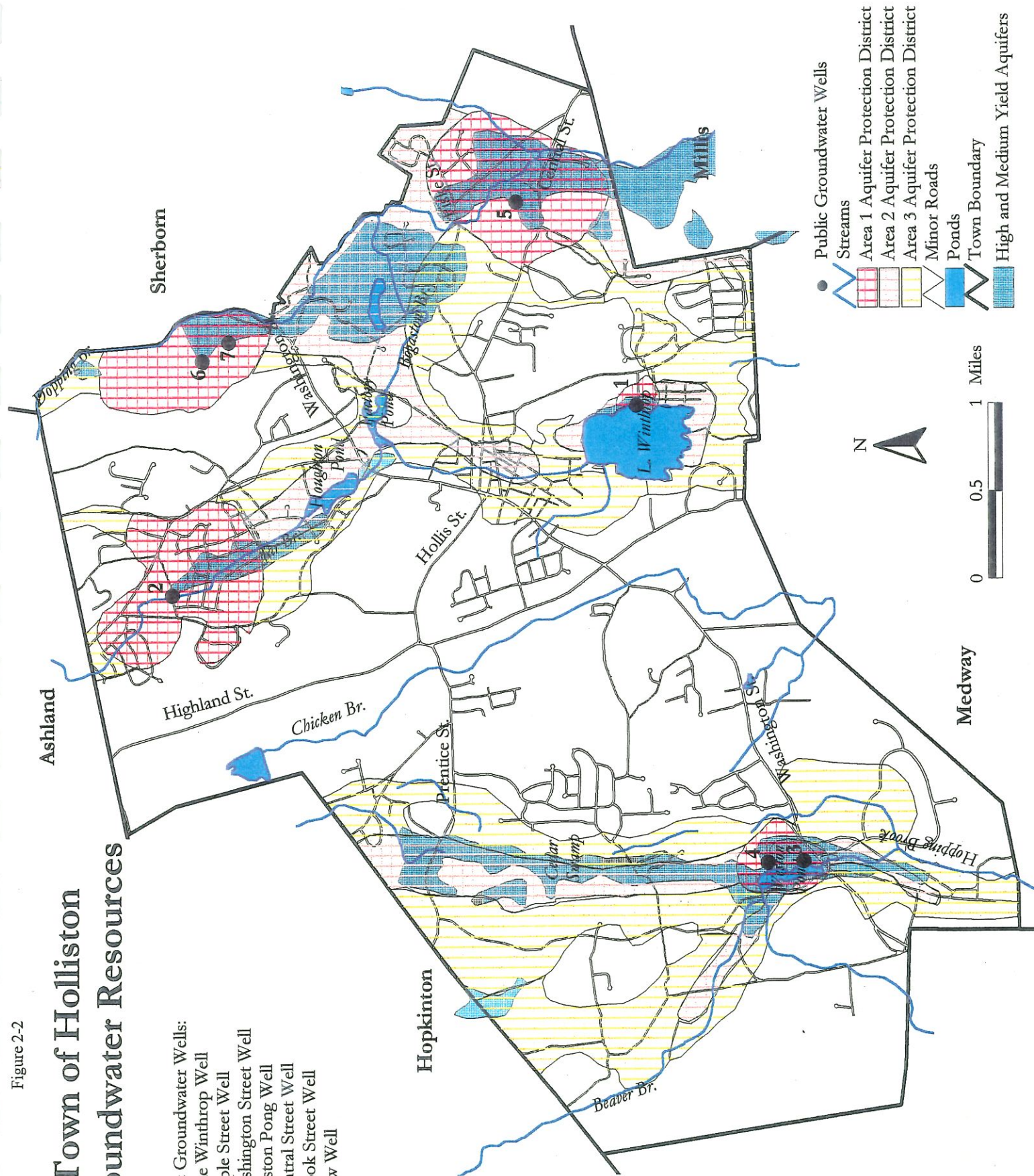
Groundwater is Holliston's primary drinking water source, and is therefore very important to the Town's future. As shown on Figure 2-2 entitled "Groundwater Resources", this water is derived from five principal aquifers: the Hopping Brook Aquifer, the Jar Brook Aquifer, the Lake Winthrop Aquifer, the Dopping Brook Aquifer, and the Bogastow Brook Aquifer. (See the *Water Supply & Sewage Disposal Systems* section for more information on Holliston's public water supply system.) Since the aquifers serving these wells are largely within town boundaries, any groundwater pollution resulting from unwise land use will directly impact local drinking water quality.

Figure 2-2

Town of Holliston Groundwater Resources

Public Groundwater Wells:

1. Lake Winthrop Well
2. Maple Street Well
3. Washington Street Well
4. Weston Pond Well
5. Central Street Well
6. Brook Street Well
7. New Well



Holliston's aquifers currently face threats from land use in several areas of Town. Presently, the greatest threats to groundwater quality and quantity include the following:

- Residential development and its associated infrastructure, which can introduce septic wastes, fertilizers and pesticides, household chemicals, road salt, and other contaminants into the aquifer.
- Certain industrially-zoned areas in Holliston, particularly the Lowland Industrial Park, lie in aquifer recharge areas for the Central Street and Brook Street wells, and may threaten these water supplies. Existing hazardous waste sites also lie atop this aquifer.
- Any land use which results in an increase in impervious surfaces (buildings, roads, or parking lots) impedes the ability of stormwater to percolate through the soil and recharge the aquifer. Ultimately, this can reduce the quantity of groundwater in the aquifer.

Existing Protection for Groundwater Resources. Holliston's aquifers and wellhead areas are protected both by open space lands and by the Zoning by-law. The Water Department owns or leases land surrounding each of its seven wells and maintains this land as protected open space to guard against pollution that would directly impact the well. According to Water Department Superintendent James Gatchell, there is sufficient protected open space around all the wells, except for the Maple Street well, which is surrounded by residential development.

The Holliston Aquifer Protection District (Section V-L of the Zoning By-law) delineates three aquifer protection districts, and, within these districts, regulates land use, limits lot coverage, and encourages on-site recharge of runoff into the aquifer. The Zoning Board of Appeals administers this bylaw. The Groundwater Resources map shows the location of the Area 1, Area 2, and Area 3 Aquifer Protection Districts. The use restrictions for the three areas are as follows:

Area 1: This zone includes the area of influence of all existing and proposed municipal wells. Allowed uses include agriculture (including fertilizer and pesticide use) and residential and commercial development on lots of 80,000 sf or more. Impervious lot coverage and sewage output are also restricted, and many noxious uses such as chemical storage, car washes, and waste disposal are prohibited.

Area 2: This zone includes the land above Holliston's five major aquifers (Hopping Brook Aquifer, Jar Brook Aquifer, Lake Winthrop Aquifer, Dopping Brook Aquifer, and Bogastow Brook Aquifer) and their primary recharge areas. Allowed uses include all uses allowed in Area 1, plus a wider range of industrial uses. In addition, the minimum lot size for residential, commercial, and industrial development is 40,000 sf.

Area 3: This area is defined as the secondary recharge areas to the five above-mentioned aquifers, and includes all permeable glacial deposits that are contiguous to Area 2 and in which the prevailing direction of groundwater flow is toward Area 2. Allowed uses are similar to those in Area 2, except there are fewer noxious use restrictions.

Threats from Sewage. Title V of the Massachusetts State Environmental Code restricts the placement of on-site sewage disposal systems where soils are too porous or too impermeable, or where soils are too shallow or too close to groundwater. One or more of these conditions occurs

on a large amount of Holliston's undeveloped land, thus limiting where septic systems may be installed. Developers who propose to construct new septic systems must first conduct percolation tests with the oversight of the Board of Health to ensure that the soils are adequate for this use.

The sewer system would be constructed over a period of about ten years beginning in 1999, and would serve 70% of the town's population when finished. Mr. Sam Corda, the Town's Sewer Coordinator, expects that the large majority of landowners in sewered districts will convert promptly from septic to sewer disposal. Although the sewer system will provide significant environmental benefits, there is concern that the pumping of groundwater from Holliston and the subsequent transmittal of this water to a sewage treatment facility in the adjacent town of Medway (located in a different drainage sub-basin) will deplete Holliston's aquifers and diminish flow rates in Holliston's streams. This and other issues are being examined as part of the Massachusetts Environmental Policy Act (MEPA) review process for the sewer construction. Please see the *Public Facilities* section for more information on the proposed wastewater management program and environmental review process.

Topography

The topography of Holliston is characterized by relatively low rolling hills, stream corridors, swamps, and ponds. The highest hill in Holliston is Bald Hill at an elevation of 450 feet above the National Geodetic Vertical Datum (NGVD). Other significant hills in Holliston include Miller Hill (430'), Broad Hill (400'), Long Hill (375'), Mount Hollis (356'), Strawberry Hill (290'), and Nob Hill (240'). There are few slopes greater than 20% within the town. The steepest slopes are located east of Jennings Road above Dopping Brook, and the east side of Bald Hill, east of Highland Street. Mount Hollis rises steeply to the east of Hollis Street in the center of town. The majority of Holliston is relatively flat with slopes less than 8%. A map showing topographic features is presented in Appendix 2-2.

Wildlife Habitat

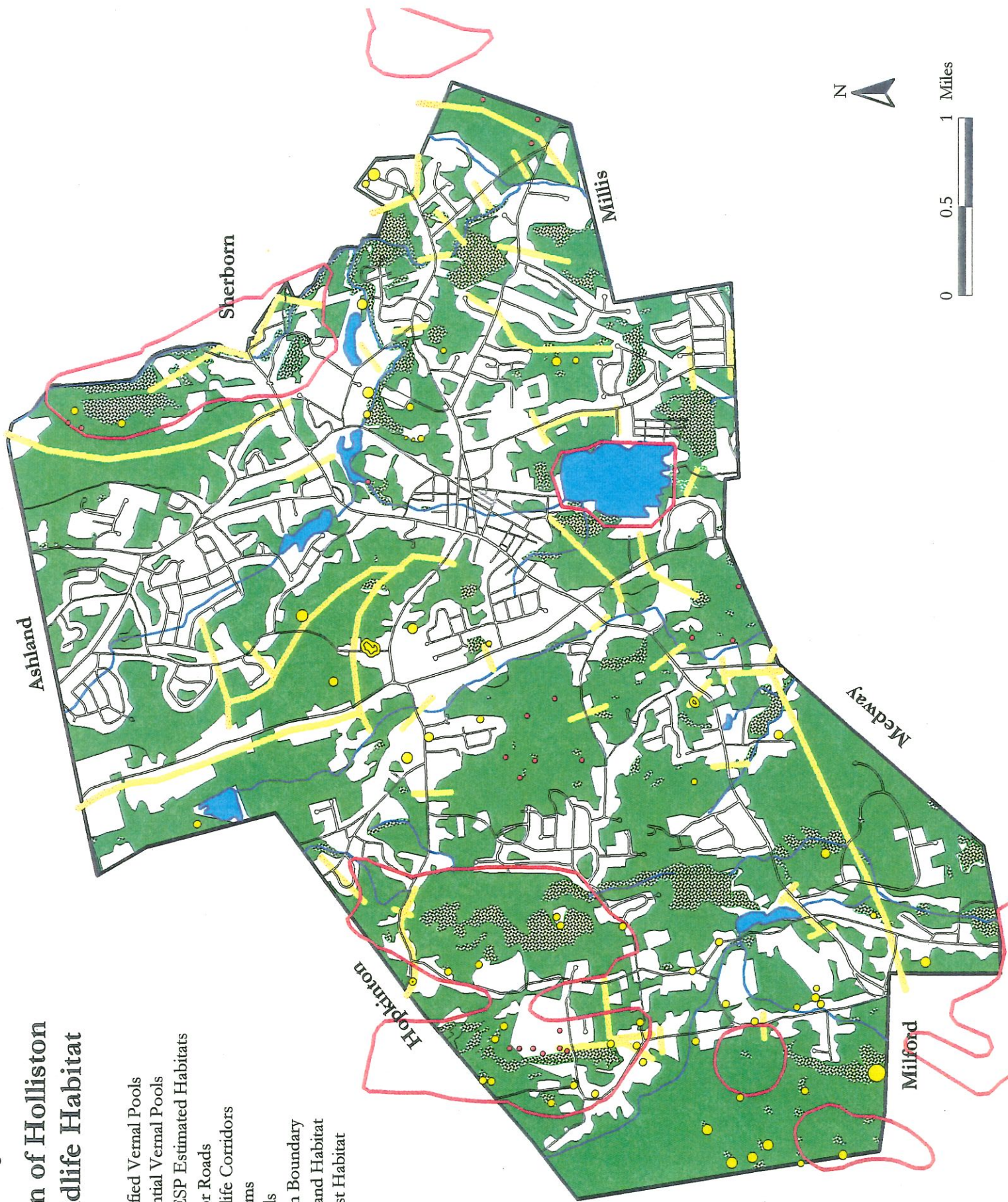
Holliston's natural communities range from upland forests to wetlands to open fields. Historically, agriculture was the predominant land use in Holliston, but as farms were abandoned in the late 1800s and 1900s, second-growth oak-pine forests regenerated in most areas and became the dominant land cover type. Other forest types in Town include planted coniferous forests, oak hardwood forests, managed tree farms, and mature beech forests. Forest habitat areas are shown on Figure 2-3 entitled "Wildlife Habitat". Woodland wildlife species identified in Holliston include coyote, fisher, opossum, fox, bluebird, snakes, bats, deer, turkey, pheasant, songbirds and small mammals.

Holliston has several unique wetland communities. The large stand of Atlantic white cedar in Cedar Swamp is possibly the largest stand in Middlesex County, according to a report submitted to the MA Natural Heritage and Endangered Species Program (NHESP). This forest is an excellent example of the mixed hemlock-Atlantic white cedar-red maple-yellow birch vegetation association. The Bogastow Brook and Dopping Brook wetlands are two additional large wetland habitats. Native wetland wildlife species include beaver, otter, muskrat, great blue heron, turtles, frogs, salamanders, and waterfowl. Wetland habitat areas are shown on the Wildlife Habitat map. Holliston's streams provide habitat for many fish, aquatic insect, riparian mammal, and bird species. The MA Division of Fisheries and Wildlife (DFW) manages the land along Bogastow Brook, south of Route 16, for waterfowl habitat, especially for the Black Duck and Wood Duck, which are both in serious decline in New England. Artificial nesting boxes for breeding wood duck have been established, but are not regularly maintained. The DFW also stocks Bogastow

Figure 2-3

Town of Holliston Wildlife Habitat

- Certified Vernal Pools
- Potential Vernal Pools
- NHESP Estimated Habitats
- Minor Roads
- Wildlife Corridors
- Streams
- Ponds
- Town Boundary
- Wetland Habitat
- Forest Habitat



Brook semi-annually with approximately 2,500 brown trout and brook trout measuring 9 to 12 inches.

Vernal Pools. Vernal pools are small, seasonal water bodies occurring in isolated basins which are usually wet during the spring and early summer and dry up during the later summer months. Vernal pools typically lack fish populations, making them excellent breeding habitat for many amphibian species and larval and adult habitat for many insect species. In Holliston, twenty-three vernal pools have been certified with the NHESP, while an additional sixty-five areas have been identified as potential vernal pools which could be certified in the future. As shown on Figure 2-3, these pools are concentrated in the wooded areas in the western portion of Town. According to the 1993 Open Space and Recreation Plan, "the identification and protection of [Holliston's] vernal pools should be one of the resource protection priorities of the Conservation Commission."

Certified vernal pools occurring within Areas Subject to Flooding (as defined by the Wetlands Protection Act) are protected under the Wetlands Protection Act for their wildlife habitat value. However, certified vernal pools outside of Areas Subject to Flooding are not protected by state or local law. Uncertified vernal pools (shown as "potential" vernal pools on the Wildlife Habitat map) are also unprotected. Because vernal pools are temporary and seasonal, they can easily be developed unless they have been certified with the NHESP and have protection under the Wetlands Protection Act.

Rare and Endangered Species. The NHESP monitors rare and endangered species in the Commonwealth, and has classified sixteen of Holliston's wildlife species as "Endangered," "Threatened," "Special Concern," or "Watch List." These species are listed in Table 2-2. There are currently no public records of rare plant species in Holliston.

Table 2-2
Rare Species in Holliston

Scientific Name	Common Name	State Status
<i>Ambystoma laterale</i>	Blue-Spotted Salamander	Special Concern
<i>Ambystoma maculatum</i>	Spotted Salamander	Watch List
<i>Ambystoma opacum</i>	Marbled Salamander	Threatened
<i>Clemmys guttata</i>	Spotted Turtle	Special Concern
<i>Emydoidea Blandingii</i>	Blanding's Turtle	Threatened
<i>Hemidactylium scutatum</i>	Four-Toed Salamander	Special Concern
<i>Aeshna mutata</i>	Spatterdock Darner	Endangered
<i>Cicindela purpurea</i>	Purple Tiger Beetle	Special Concern
<i>Cingilia catenaria</i>	Chain Dot Geometer	Special Concern
<i>Enallagma laterale</i>	New England Bluet Damselfly	Special Concern
<i>Fixsenia favonius ontario</i>	Southern Hairstreak	Special Concern
<i>Ligumia nasuta</i>	Eastern Pond Mussel	Special Concern
<i>Metarranthis apiciaria</i>	Barrens Metarranthis Moth	Endangered
<i>Crangonyx aberrans</i>	Mystic Valley Amphipod	Special Concern
<i>Sialia sialis</i>	Eastern Bluebird	Watch List
<i>Ardea herodias</i>	Great Blue Heron	Watch List

Source: 1998 Open Space and Recreation Plan

The three species of *Ambystoma* salamanders which occur in Holliston are usually found in deciduous to mixed forests of hardwood/hemlock where they spend the majority of their life underground. They depend on the occurrence of vernal pools in the spring (*A. laterale* and *A. maculatum*) and in the fall (*A. opacum*) to breed and lay their eggs. The four-toed salamander breeds in vernal pools, moist sphagnum and blueberry wetlands, wetland swamps dominated by red maple and Atlantic white cedar. The adults are terrestrial and are generally found in forested areas near their breeding habitat.

The Spotted Turtle is found in bogs, swamps, small ponds, and in other shallow, unpolluted bodies of water including vernal pools. Blanding's Turtle is primarily aquatic, preferring densely vegetated shallow ponds, marshes, or small streams. It is most often observed on land during nesting activities, but has been known to feed and wander there as well. There are only seven known nesting sites in Massachusetts for the Blanding's Turtle.

The Eastern Pond Mussel (previously only known historically in Holliston) has recently been observed in Holliston. This freshwater mussel prefers silty sand and sandy/gravelly substrates in slow moving to standing water. The species is only rarely found in streams with moderate current, but has been found to flourish below the falls of old, undisturbed impoundments.

The Mystic Valley Amphipod is a freshwater crustacean that is found in lowland aquatic habitats and upland vernal pools in eastern Massachusetts. It is endemic to southeastern New England and its distribution in Massachusetts appears to be restricted to eastern parts of the state. It represents one of the very few species with distributions limited to New England.

The Spatterdock Darner is a dragonfly that inhabits bogs and ponds (particularly areas with floating sphagnum mats) and the surrounding woodlands. Massachusetts is at the extreme eastern end of its range. The New England Bluet Damselfly is found in ponds, lakes, bogs, and stagnant sections of rivers with emergent shoreline vegetation and organic debris at the bottom of the water body. This species requires permanent, undisturbed water bodies where several years of emergent vegetation have developed.

Rare and Endangered Species Habitats. The 1997-1998 Massachusetts Natural Heritage Atlas identifies two categories of rare wildlife habitat in the Commonwealth:

- **Estimated Habitats of Rare Wildlife:** These areas consist of wetland habitats used by state-listed rare animal species, and are regulated under the Wetlands Protection Act. Anyone proposing a project within an Estimated Habitat area must submit a Notice of Intent and undergo project review by the NHESP.
- **Priority Sites of Rare Species Habitats and Exemplary Natural Communities:** These areas indicate the most important habitats for *all* state-listed rare species, including both upland and wetland species, and both plant and animal species. These areas are intended for land planning purposes, and their status does not confer any protection under state law.

The Wildlife Habitat map shows the location of Holliston's Estimated Habitats of Rare Wildlife. The Priority Sites of Rare Species Habitats and Exemplary Natural Communities correspond closely to the Estimated Habitats areas, and are therefore not shown on this map.

Wildlife Management. According to ecological studies in the scientific literature, single large habitat parcels are more valuable for most plant and wildlife species than many smaller parcels. Similarly, connected habitats are more valuable than isolated habitats. Suburban development patterns tend to fragment and isolate habitat, leading to reductions or even local extinctions of wildlife species. Fortunately, this fragmentation has affected only parts of Holliston, and the Town still has many valuable habitats. Large areas of connected undeveloped land exist in several areas of Town, including the Town Forest in West Holliston, the Waseeka Reservation area, Wenakeening Woods, and the Dopping Brook wetland area. Marc Connelly, a resident wildlife expert, has identified several wildlife corridors in undeveloped portions of Town and along streams and wetlands, as shown in the Wildlife Habitat map. As wildlife is squeezed out of other developing areas in nearby towns, these large habitat parcels and wildlife corridors will be extremely important for maintaining viable populations of the native species.

2.1.2 ISOLATED ENVIRONMENTAL PROBLEMS

In order to protect Holliston's natural resources, planning efforts must identify and mitigate the Town's environmental problems caused both by past and current activities. Historically, landfills, petroleum products, and other hazardous materials have been a significant source of soil and water contamination. In recent years, hazardous materials have been more closely regulated, and have become less of a problem. The greatest environmental problems currently result from incompatible land use activities, and include erosion, sedimentation, flooding, and water pollution from non-point sources. Information in this section was obtained from the 1998 Open Space and Recreation Plan and other sources.

Hazardous Waste Sites

The MA Department of Environmental Protection (DEP) maintains a database of hazardous waste sites within the Commonwealth. The following table lists the hazardous waste sites identified in Holliston as of May 1998.

**Table 2-3
Hazardous Waste Sites**

DEP Site ID #	Site Name	Site Address	Classification*
2-0000059	Axton-Cross Company	One Cross St.	Tier 1A
2-0000060	Former landfill	708 Prentice St.	Tier 1A
2-0000064	Industrial property	74 Lowland St.	RAO
2-0010235	BFI Container Storage Area	115 Washington St.	Tier 2
2-0011053	Corion Inc.	73 Jeffrey St.	Tier 2
2-0010092	Gulf Service Station	799 Washington St.	Tier 2
2-0000614	Holliston BFI	115 Washington St.	Tier 2
2-0000858	Holliston Mobil #01-136	815 Washington St.	Tier 1C
2-0000063	Independent Bituminous	205 Lowland St.	Tier 1B
2-0000065	Photofabrication Eng. Inc.	229 Lowland St.	Tier 1B
2-0000061	Industrial property	17 Whitney St.	NFA
2-0001105	Service Station	567 Concord St.	Tier 1B
2-0000750	Simeone's Asphalt Plant	24 Lowland St.	RAO
2-0011474	@Concord Street	441 Washington St.	

Source: 1998 Open Space and Recreation Plan

* DEP's Tier system serves to classify the disposal sites according to the extent of the remedial actions required. The Tier classification takes into account both the severity of the contamination on-site and the possibility that humans and the natural environment will be exposed to this contamination. Tier 1 sites must obtain a permit from the DEP and conduct comprehensive response actions. Tier 1A are the most serious of the Tier 1 sites, and require continuous DEP oversight. Tier 2 sites require comprehensive response actions, but no permits or oversight. NFA = No Further Action required. RAO = Response Action Outcome (remediation complete).

RCRA Generators

The Resource Conservation and Recovery Act (RCRA) requires that generators, transporters, treaters, sorters, and disposers of hazardous waste provide information concerning their activities to state environmental agencies and to the EPA. Examples of the materials regulated under RCRA include solid waste (e.g. household garbage), hazardous waste, and underground storage tanks.

The EPA maintains a list of RCRA generators, which is available for viewing on the EPA's World Wide Web site. According to this source, Holliston contains 42 RCRA sites, including four "major" sites. These RCRA generators are clustered in a few areas, including the East Holliston commercial area, the Lowland Industrial Park, along the railroad east of downtown Holliston, and near the New Englander Industrial Park. They include automotive uses, dry cleaners, printing facilities, and a wide variety of manufacturing enterprises.

Inclusion of a site on the EPA's list of RCRA generators does not mean that a release of oil and/or hazardous materials has occurred at that site, but only that hazardous materials are generated or processed on that. RCRA sites that are located in Zone II or interim wellhead protection areas are potential risks to the Town's drinking water supply, and should be closely monitored.

Solid Waste

Household solid waste and recyclables in Holliston are collected by a contractor. The waste is stored at a transfer station off of Route 16 in the easterly portion of Town, and is eventually transported from Holliston and disposed of outside of the Town.

Holliston's public landfill located off of Marshall Street has been capped and inactive for fifteen years. It is monitored in accordance with state regulations. Portions of the former landfill presently serves as a composting area for yard debris and recycling center for larger recyclables that cannot be collected curbside. The Town is currently seeking assistance to transform portions of the capped Marshall Street landfill into recreational areas, including playing fields, for use by Town residents. There is also an inactive landfill located on Union Street, which has been abandoned for decades. This landfill is capped, although not by today's standards, and unlined. According to Mark Rovani, the Holliston Highway Superintendent, most of the waste at the landfill consists of ash.

Erosion and Sedimentation

Erosion is defined as the loss of permanent soil, and results from the action of water and wind on the land surface. Erosion contributes to several environmental problems, including the loss of fertile soils, a reduction in the land's ability to restore its vegetative cover, and an increase of pollution and sedimentation in surface water bodies. Sedimentation is perhaps the most serious of these problems because it can severely alter aquatic ecosystems by increasing turbidity, reducing light penetration, harming aquatic species, and serving as a transport medium for toxic materials and trace metals.

For engineering purposes, slopes greater than 33% are considered potentially unstable and prone to erosion, depending on the soil type. Percentage of slope is defined as the vertical distance divided by the horizontal distance, then multiplied by 100. Steep slopes should remain vegetated and undisturbed to prevent erosion, sedimentation, and the loss or damage of property or infrastructure. Many human activities promote erosion, including the removal of vegetation and the creation of impervious surface. These activities are especially destructive when they occur in naturally fragile areas, such as steep slopes. As the easily developable flat terrain in Holliston is built out, development is encroaching into the steeper areas, resulting in greater erosion problems.

Under the Massachusetts Wetlands Protection Act, the Conservation Commission requires erosion and sedimentation barriers for work within wetlands and their buffers. These barriers are placed at the limit of work, between the construction site and the wetlands, and help to detain eroded soil and keep it from reaching the wetland. The Commission also requires that the disturbed soils are stabilized prior to the removal of the erosion control barriers. In addition, the Conservation Commission administers the DEP's Stormwater Management Guidelines for projects within the Wetlands Protection Act jurisdiction. These standards require the project to maximize groundwater recharge, remove certain percentages of pollutants and suspended solids, avoid increasing peak runoff rates, and meet other standards. While these protections in theory provide a high degree of protection against erosion and sedimentation, in reality the Holliston Conservation Commission has had difficulty in enforcing these requirements because of understaffing.

Chronic Flooding

Floodplains are generally associated with the many brooks in Holliston, and are identified on the Flood Insurance Rate Maps (FIRM). Partially because of the Town's Flood Plain District, which severely restricts development in floodplains, the Town has avoided serious flooding problems.

2.1.3 NATURAL RESOURCES GOALS

The goals discussed below appeared in the Town's 1993 Open Space and Recreation Plan. Under each broad goal is a list actions achieved toward meeting the goal, as well as a list of additional actions required to meet the goal. These outstanding actions include unmet (but still relevant) goals from earlier plans, as well as new goals identified through the recent meetings, forums, workshops, and surveys.

1. Protect and Enhance the Quality of Holliston's Surface and Ground Water

The following progress has been made since the 1993 Open Space and Recreation Plan: planning and funding of a new sewer system; enhanced Title V (sewage disposal) regulations implemented in 1995; Town acquisition of all land within Zone I wellhead areas & around Weston Pond well; implementation of Stormwater management requirements for projects subject to the Wetlands Protection Act; numerous lake management activities by the Lake Winthrop Watershed Association (LWWA); Town acquisition of numerous wetland parcels through tax takings.

The following are outstanding goals:

- 1) Study and, if necessary, mitigate the hydrological impact of the new sewer system
 - 2) Target water quality threats from household contaminants
 - 3) Prevent erosion and sedimentation in wetland areas by better enforcing Orders of Conditions
 - 4) Strengthen the Town's Aquifer Protection Bylaw to maintain adequate groundwater infiltration rates
 - 5) Continue to improve Lake Winthrop's water quality
- 2. Increase Environmental Awareness Among All Sectors of the Holliston Community.**
The following progress has been made: trail maps, guided walks, and numerous lectures on environmental topics, sponsored by HCA; initiation of a curbside recycling program for most recyclable materials; expansion of the Town's water conservation program, including the education of school aged children on water conservation issues; creation of a map and database of conservation lands in Holliston.

The following are outstanding goals:

- 1) Increase awareness of the impact of household chemicals on the aquifer
- 2) Promote recycling of waste oil and hazardous materials

2.1.4 NATURAL RESOURCES RECOMMENDATIONS

1. Recommendations: Groundwater and Drinking Water

In the future, Holliston is likely to face threats to its groundwater and drinking water resources from both the new sewer system and the increase of developed land associated with normal growth. We recommend the following actions, in addition to Holliston's existing Aquifer Protection District, as a way of further protecting Holliston's aquifers.

- 1) Further protect aquifer recharge areas in the Aquifer Protection District (APD) by implementing a performance standard related to groundwater infiltration. Specifically, the law should state that no project in the APD may reduce groundwater infiltration by more than 10% compared to existing site (pre-development) conditions. A performance standard allows the project engineer to choose the most suitable and cost-effective mechanisms to achieve the groundwater recharge objective.
- 2) The Town should require that all new residential and industrial projects in Holliston adhere to the DEP's Stormwater Management Policy.
- 3) Restrict the types of industrial uses allowed in the APD to prevent contamination of the aquifer. Heavy manufacturing or any other use that uses or produces toxic or hazardous materials should not occur within the APD.

- 4) The Town should consider adopting a restriction on developing steep slopes. Under such a bylaw, work would not be allowed on slopes greater than 33%, existing or proposed, except with a variance from the Planning Board. Therefore, if such work were proposed, the proponent would be required to seek a variance by presenting to the Planning Board his/her plans to stabilize the slope and prevent erosion. Since the steep slope bylaw is intended primarily to protect water resources, it should apply only within the Aquifer Protection District.
- 5) The Town, with assistance from its sewer consultant and the Charles River Watershed Association, should analyze the impact of the new sewer system on the quantity of groundwater in Holliston's aquifers. If necessary, the Town should consider alternatives to treating the sewage in the Medway facility, such as localized shared treatment plants within Town boundaries.
- 6) The Water Department should continue to expand Holliston's water conservation program to minimize the Town's long-term need for new drinking water wells.
- 7) The Water Department should use its water bill mailings as a way to disseminate water conservation information to residents. The Department should also inform residents about things they can do to reduce aquifer contamination from household chemicals, driveway runoff, and domestic fertilizers and pesticides.

2. Recommendations: Wetlands

State and local wetland protection laws provide significant legal protection for Holliston's wetlands, but these laws have not always been effectively enforced. To increase the protection on these wetlands, we recommend the following actions:

- 1) The Town should hire a conservation agent to administer and enforce the Wetlands Protection Act and local wetland bylaw. In particular, the agent should enforce Orders of Conditions and ensure that siltation at construction sites is not impacting wetlands.
- 2) The Planning Board should augment Section V-I, 4, of the Zoning By-law to require a minimum portion of each buildable lot, such as 50%, to be upland. A sample by-law provision of this type from Duxbury, MA is provided in Appendix 3-2.
- 3) The Planning Board should consider not allowing wetlands to be included in density calculations for subdivisions or multi-family developments.
- 4) Amend the local wetland bylaw (Article XXX of the Town By-laws) and Section V-I of the Zoning By-law to discourage individual landowners from altering wetlands on their property (beyond that allowed by State Law). One way to achieve this goal is to include in the bylaw a provision allowing the Board of Appeals to require that the wetlands be delineated with some kind of permanent physical marker (such as survey markers) for any new development within the vicinity of wetlands. These markers, which have been proposed in other towns, remind the property owner where the wetland begins so that he or she does not accidentally alter the wetland. In addition, they allow the Conservation Commission to determine more easily whether a violation of the wetland laws has occurred.

3. Recommendations: Freshwater Waterways and Water Bodies

Management of Holliston's streams and ponds should focus on maintaining high water quality and providing adequate buffers between water resources and developed areas. The following actions will help to meet these goals:

- 1) In conjunction with the Charles River Watershed Association (CRWA), which is preparing a hydrological model of Holliston's surface and ground water, the Sewer Department in cooperation with the Conservation Commission and Planning Board should evaluate the impact of present land use and future growth on its waterways. If necessary, zoning laws should be amended so that future land uses are compatible with water resources. A hydrological study and zoning recommendations from the CRWA are expected to be provided to the Town in late 1998 or early 1999.
- 2) The Town should establish undeveloped riparian corridors by enforcing the 200 foot setback regulations under the MA Rivers Protection Act. As shown in the Open Space Recommendations Map, we recommend that riparian corridors be maintained along Beaver Brook, Hopping Brook, Bogastow Brook, and Dopping Brook.
- 3) The Town should implement an erosion control by-law to reduce the impact of erosion and sedimentation on water bodies. Included in this by-law should be a provision that restricts cutting and filling to the minimum feasible amount. The law should be administered in conjunction with the Planning Board's site plan approval process.
- 4) The Conservation Commission should consider establishing a volunteer Waterways Committee to assist with the implementation of riparian protection measures. This committee would be responsible for prioritizing riparian lands that the Town may want to acquire.
- 5) The Town should initiate a water quality monitoring program on the major streams in its watersheds. This purpose of such a program would be diagnostic: to help identify water quality threats such as failing septic systems and excessive fertilizer use by testing for fecal coliform counts, biological oxygen demand, and perhaps other indicators. The majority of water quality monitoring could be performed by interested citizens and by students in the Holliston schools, thus providing environmental education and community involvement for Town citizens.
- 6) The Town should contact lakeshore residents on Lake Winthrop about the possibility of forming a homeowners' association to involve residents in the lake management process and promote a cooperative approach to meeting water quality objectives.

4. Recommendations: Fisheries and Wildlife

In the upcoming years, Holliston's large open spaces and critical habitats will serve as a refuge for wildlife that is being squeezed out of other developing areas in Boston's western suburbs. While Town involvement is necessary to protect important habitats, the work of individual citizens can also go a long way toward improving the Town's wildlife habitat. We recommend the following programs:

- 1) The Town should expand its Wetlands and Flood Plain Protection Zone to include all certified vernal pools in Holliston, plus a 100 foot buffer around the pools. The 100 foot buffer is critical because salamander species that use vernal pools for breeding also

require an area of uplands around the pool for adult habitat. The law should also state that, as additional vernal pools are certified in the future, they are automatically included in this Zone.

- 2) Land acquisition priorities should focus on protecting additional land in Holliston's large contiguous habitats, including the Town Forest area in West Holliston, the Dopping Brook wetland area, and Cedar Swamp. These priorities are reflected in the Open Space Recommendations map, which shows areas of recommended open space acquisitions.
- 3) The Conservation Commission should establish a Vernal Pools Committee to locate and certify additional vernal pools in Holliston. Local volunteers have already made much progress toward identifying vernal pools, but these areas have no legal protection until they are certified with the Natural Heritage and Endangered Species Program.

5. Staffing and Management Recommendations

Holliston's conservation staff is limited by money and person-power; most of the Conservation Commission's work is currently performed by dedicated volunteers. An effective land and resource conservation program is likely to require additional staff, including a part-time or full-time conservation agent. Keeping in mind the Commission's budget constraints, we recommend the following measures:

- 1) The Town should hire a Conservation Agent to administer the Wetlands Protection Act, inspect work sites, and enforce compliance with Orders of Conditions. The Agent could also assist in open space planning and grant writing. This position should be funded primarily by Conservation Commission filing fees (see the following recommendation).
- 2) Section V-I of the Zoning By-law should be amended to include a provision that requires the proponent to submit a filing fee for work within the Holliston Wetlands and Flood Plain Protection Zone. The fee structure should be similar to the MA Wetlands Protection Act fee structure. This revenue should be used to pay for conservation staff to enforce state and local wetland laws.
- 3) The Town should actively pursue grants from state and federal sources. A variety of grants for open space acquisition, water quality protection, trails and greenways, and other projects is described below in Appendix 3-3.
- 4) The Conservation Commission should establish citizen committees to address conservation issues and open space planning needs such as greenways, vernal pools, and the protection of farmland. This strategy would ease the Conservation Commission's existing workload and encourage citizen participation in Town conservation.
- 5) The Town should consider providing an abatement of local taxes (in addition to Chapter 61 and 61A) for landowners with productive farms and forests. The residents of Holliston receive direct and indirect benefits from protecting forests. The American Farmland Trust completed a study in Massachusetts on the economic impacts of land use, and determined that the expenses of providing town services to residential, commercial and industrial users often exceeds the revenues they generate. However, agricultural and forest lands generate almost three times more revenue for a community than the cost to provide services.

- 6) Since many of Holliston's open spaces and natural resource areas abut town boundaries, land use planning in Holliston should include collaboration with neighboring towns. Potential areas for collaborative planning include the land along Dopping Brook which abuts Sherborn, the farmland corridor on Highland Street extending into Ashland, and the Town Forest area on the Holliston/Milford/Hopkinton border.

2.2 CULTURAL RESOURCES

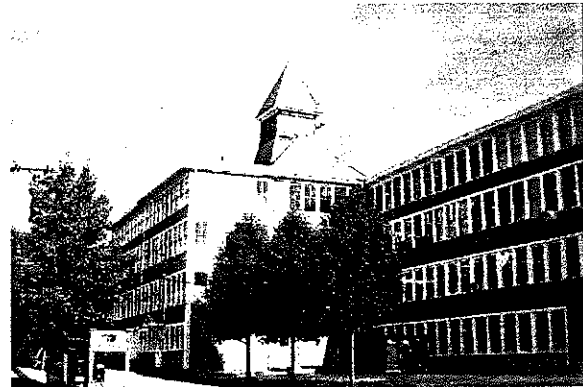
2.2.1 EXISTING CULTURAL AND HISTORICAL RESOURCES, AND PROVISIONS FOR THEIR PROTECTION

Holliston is rich in historic and cultural resources, including historic buildings, sites, landscapes, railroad rights-of-way, and roads. Its greatest historic resource is the Thomas Hollis Historic District, which runs along Washington Street from Highland Street to Winter Street. Historic sites are shown on the Figure 2-4 entitled "Historic Resources".

A current priority of the Historic Commission is to place Mudville, a former immigrant Irish working-class settlement area near the mills, dating back to Holliston's early industrial period, on the National Register. Additionally, the Historical Commission is currently petitioning the State to create a new historic district called the East Holliston Historic District on Washington Street, running from the intersection with Concord Street to the old train track that crosses Washington Street near Locust Street. This proposed district would include over forty Washington Street homes built in the late 1700s and early 1800s. Another goal is to preserve the Lake Winthrop area as a National Historic District.



Historic Cemetery – Town Center



Mill Property in Mudville

A Brief History of the Town of Holliston

(Adapted from the 1993 Open Space and Recreation Plan)

Holliston was originally populated by indigenous Indian peoples (known to have been in the region since the 17th Century) such as the Nipmuck and Massachusetts who called their village Mucksquit ("Place where there is much grass") and identified their major transportation route as Bogastow Brook ("Water full grown"), which allowed them to travel by canoe all the way to the Charles River.

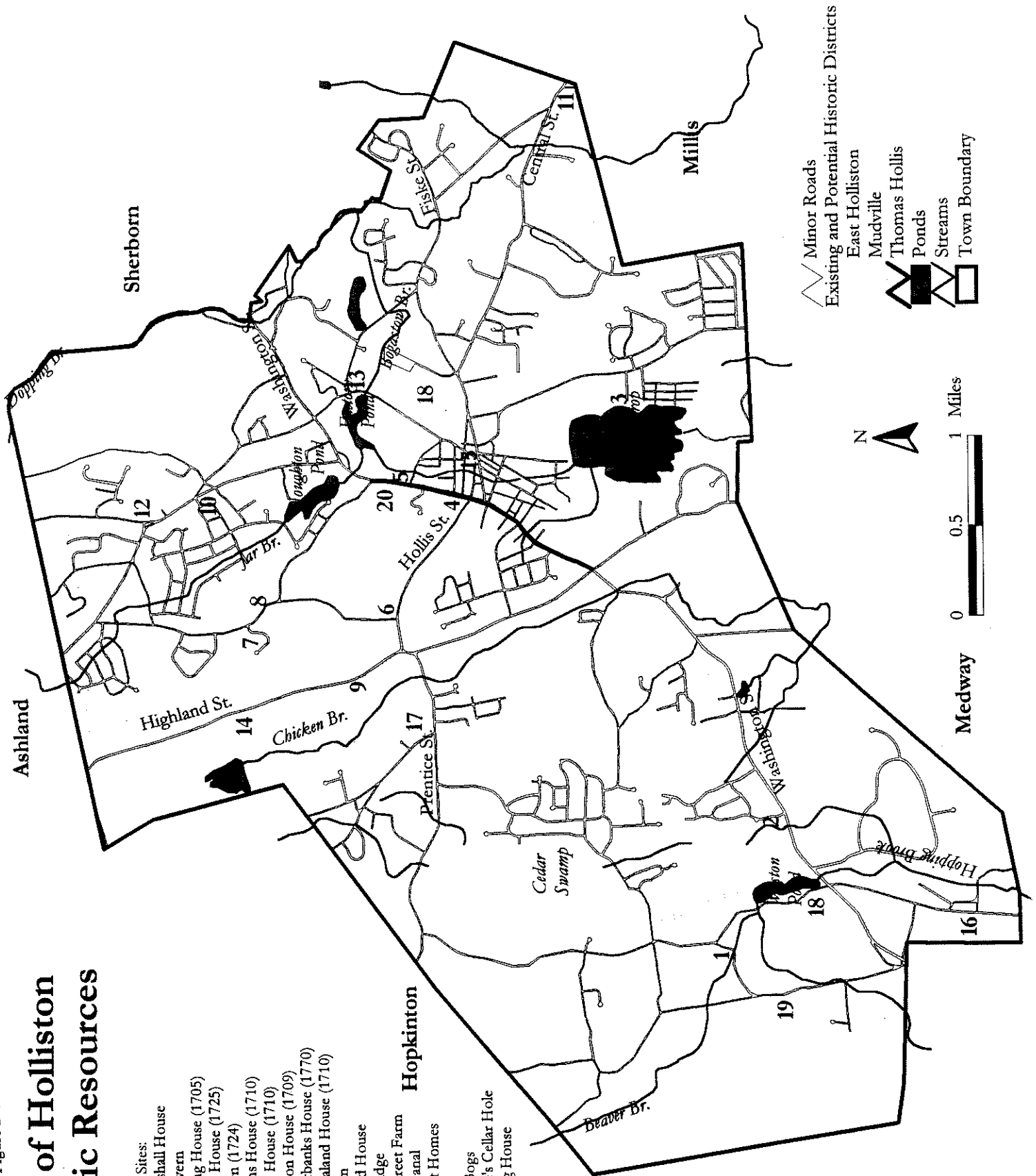
As Europeans began to settle the area, the town's rivers played an important role. Not only did they provide transportation and a source of food, but they also powered the many mills that were to be built on Jar and Bogastow Brooks, Chicken Brook, Linden Pond, and elsewhere. The mills supplied products for an agricultural economy, including sawed logs, milled corn, casks and barrels, and scythes. Most of the remaining settlements in this colonial era were farms.

Figure 2-4

Town of Holliston Historic Resources

Key to Historic Sites:

1. Thomas Marshall House
2. Littlefield Tavern
3. John Goulding House (1705)
4. First Meeting House (1725)
5. Russell Tavern (1724)
6. Benoni Adams House (1710)
7. John Lealand House (1710)
8. Joseph Johnson House (1709)
9. Jonathan Fairbanks House (1770)
10. Timothy Lealand House (1710)
11. Bullard Farm
12. Isaac Bullard House
13. Railroad Bridge
14. Highland Street Farm
15. Winthrop Canal
16. South Street Homes
17. Stone Pile
18. Cranberry Bogs
19. Paul Revere's Cellar Hole
20. Asa Whiting House



A broad region southwest of Boston was once part of the town of Dedham. Medfield separated from Dedham in 1649. Sherborn separated from Medfield in 1674. Originally a part of Sherborn, Holliston was settled in 1659, and incorporated in 1724. In 1846, Ashland's incorporation altered town lines once again and a northern portion of Holliston was linked to portions of Hopkinton and Framingham to create the new town.

As remains the case today, early settlement patterns were dispersed. When the first church was established in 1728, there were 150 residents on 30 farms. However public buildings such as the meeting house and public taverns, have historically been centrally located along Washington Street. The meeting house was sited in an area now occupied by the Congregational Church, the Town Common, and the central cemetery. Today, these properties are a key part of the Thomas Hollis Historic District which includes all properties with frontage on Washington Street between Winter and Highland Streets. This District was entered into the National Register for Historic Places in 1989.

Many of Holliston's major roads were established prior to 1866. These include Washington and Prentice Streets (1683), Winter Street (1736), Concord Street (1745), Marshall Street (now Adams Street) (1738), Summer Street (1736), and Jennings Road (1737).

As industry continued to evolve, Holliston became known for the manufacture of shoes. A grain mill and wheelwright shop on Chicken Brook grew to include a tannery, cloth mill, cooper shop, thread shop and carriage shop under the ownership of one man: Elihu Cutler, one of Holliston's first entrepreneurs. As industry continued to grow, so did the town. By 1819 the population had reached 1,042 residents. The mid-1800s were a period of prosperity and further growth when factories produced boots, combs, copper pumps, and nails.

Farming remained an important part of the economy. In 1850, there were 700 acres of tilled land plus 2000 acres of mowing fields. Commercial production of cranberries began in 1854. Some of these old cranberry bogs, such as the former bogs owned by Boston University to the southeast of the railroad and north of Fiske Street, though no longer in active production, remain partially intact.

In 1847 the railroad arrived in Holliston and spurred the town's growth. New inns and taverns were built along the rail line. By 1860, the population was 3,339, a peak not reached again until after World War II. In 1896, a street railway linking Holliston to Boston was inaugurated. With this construction, the intricate stone arched bridge on Woodland Street and the tunnel under Highland were constructed, and remain a legacy today.

At the beginning of the twentieth century, Holliston's beautiful scenic open spaces - Lake Winthrop in particular - were beginning to be seen as tremendous assets, and visitors came to Holliston as a summer retreat. Several large summer homes were built, as well as recreational facilities such as the Mount Hollis Golf Club, the Canoe Club on Lake Winthrop, the dance pavilion at Pleasure Point, and the baseball club. At the same time, farming had become difficult to sustain, and active farms were abandoned and then reused as vacation spots for "gentlemen's estates."

Over the years, Holliston has expanded its leisure and recreational lands and facilities in keeping with this early twentieth century trend. Generous private landholders initiated many of these open space acquisitions. In 1935, Mr. and Mrs. Arthur Ashley Williams donated Goodwill Park on Green Street to the Town as a recreational area. In 1937, Dr. Ernest Stoddard donated a

portion of his property adjoining Lake Winthrop as a recreation area. And, in 1939 a group interested in sports and outdoor activities formed the Sportsmen's Association on land donated by Mr. Lovewell along Bullard Street.

The 1950s and 1960s brought a tremendous growth spurt, with the population more than tripling from 3,753 in 1950 to 12,365 in 1970. After a relatively minor growth spurt in the 1980s, the growth rate has leveled off in the 1990s.

Present and Potential Future Historic Districts

Holliston currently contains one designated historic district, and the Historic Commission is seeking to preserve additional areas as historic districts. These districts include:

- **Thomas Hollis Historic District** (existing historic district) along Washington Street. This linear historic district, running along Washington Street for 1.5 miles from Winter Street to Highland Street, has been on the National Register of Historic Places since 1989. This street includes many of Holliston's historic buildings and sites, including Town Hall, the Historical Society Building (Asa Whiting House), the center cemetery, the Town Common, and several churches. The Historic District includes the "village center district," the only zone in Holliston where multi-family dwellings are allowed and where mixed uses are encouraged.
- **East Holliston** (proposed historic district) along Route 16. Running along Washington Street in East Holliston, this district would contain 46 historic homes, most of them dating from the late 1700s and early 1800s. In 1997 the Historic Commission began petitioning the U.S. Department of the Interior to include this district on the National Register of Historic Places.
- **Mudville Area** (proposed historic district) around Water Street. This former immigrant Irish working-class settlement and the nearby mill area dates back to Holliston's early industrial period. The Holliston Historic Commission is currently working to place this district on the National Register of Historic Places.

Historical Resources Inventory

Holliston's historic houses, sites, and artifacts recount the town's long and interesting history. The most important of these resources and sites include:

- **Railroad Bridges/Underpasses**, Across Bogastow Brook and Arch Street, and beneath Highland Street. The stone arched street railway bridges across Bogastow Brook and Arch Street, and the underpass beneath Highland Street, are legacies of Holliston's street railway era connecting Holliston to Boston. These bridge and underpass structures are worthy of preservation.
- **Historic Houses and Public Buildings**. Located primarily in the Town center, these pre-Revolutionary War buildings were used as meeting houses, taverns, and houses of prominent individuals. Significant structures include the Thomas Marshall House, Littlefield Tavern, John Goulding House, First Meeting House, Russell Tavern, Benoni Adams House, John Lealand House, Joseph Johnson House, Jonathan Fairbanks House, and Timothy Lealand House.
- **Winthrop Canal**. The old Winthrop Canal channel running approximately parallel to Washington Street through the town center area and the Mudville district and linking Factory

Pond to the north and Lake Winthrop to the south is now largely hidden in the town center area. However, it historically supported the old mill district through which it passed.

- **Asa Whiting House/Holliston Historical Society**, Washington Street. This two-story house in the Georgian Federal style dates from 1812 and currently serves as the Holliston Historical Society's museum. The collection includes historic documents and maps, artifacts from Holliston's agricultural and industrial eras, a costume collection, and a small research library.
- **Isaac Bullard House**. The Isaac Bullard House is listed on the MA State Register of Historic Places as a National Register individual property and also part of the First Period Buildings of Eastern MA National Register Thematic Resource Area.
- **Highland Street and Bullard Street Farms**. Residents value these farmlands for their scenic beauty, which recalls Holliston's agricultural origins. The Bullard Farm is listed as a National Register property.
- **Paul Revere's Cellar Hole**, Adams Street. In 1986, the Historic Commission identified this site as historically significant.
- **South Street Homes**, on South Street near the Holliston/Medway border. The Holliston Historic Commission considers six homes on South Street to be historically significant.
- **Old Cranberry Bogs**, throughout the town. These abandoned cranberry bogs recall an era of Holliston's agricultural history.
- **Stone Pile**, Pinecrest Golf Course. The Historic Commission believes that this symmetrical stone pile may have Indian origins, and is pursuing National Register Protection.

2.2.2 HISTORIC RESOURCES GOALS AND OBJECTIVES

The 1993 Open Space and Recreation Plan identified the protection of historic resources as one of its five goals, and specified several action items to attain this goal (the other goals are discussed in the *Open Space and Recreation* section of the Master Plan). This goal is examined here to determine which of these action items have been attained, which are no longer relevant, and which remain outstanding actions. The outstanding actions also include new historic resource goals identified through recent meetings, forums, workshops, and surveys conducted for the Master Plan and Open Space and Recreation Plan updates.

1. Goal: Protect Historic Resources

The following progress has been made: the Miller Hill subdivision includes open space that has been donated to the Town, including portions of the historic road between Gorwin Drive and Highland Street; the Highway Department has improved the view of the historic stone arch near Woodland Street and the appearance of Winthrop Canal; the Town Hall Restoration Project has continued to raise money and fund improvements to the Town Hall.

The following are outstanding goals:

- 1) Protect pathways along Bogastow Brook, under historic railroad arches, and along old cranberry bogs.
- 2) Establish protection for the Mudville Historic District.
- 3) Establish protection for the East Holliston Historic District.
- 4) Establish Local Historic District protection for the Thomas Hollis Historic District (currently a National Register District).
- 5) Create design guidelines for historic areas.

2.2.3 HISTORIC RESOURCES RECOMMENDATIONS

1. Establish Additional Protection for Historic Resources

- 1) Establish Local Historic District protection for the Thomas Hollis National Register Historic District. The National district's current protection applies only to projects that receive partial or complete federal funding, not to private projects. Local Historic District regulations would apply to privately-funded projects as well and would require that *any* project conform to design guidelines drafted by an established district historic commission that will maintain the area's historic qualities.
- 2) Support the Historic Commission's current efforts to nominate the historic East Holliston district along Washington Street to the National Register of Historic Places. This district includes approximately 46 historic homes, some of which date from the late 1700s and early 1800s. Also, consider establishing a Local Historic District to protect further this area.
- 3) Seek State Historic Register designation and Local Historic District protection for the Mudville District along Water Street. This district of old mill buildings and worker housing represents an important part of Holliston's industrial heritage and recalls a wave of immigration.

2. Promote Public and Private Projects that Maintain and Enhance Historic Areas

- 1) Complete the Design Guidelines and Signage Guidelines currently under preparation by the Zoning By-Law Study Committee, and incorporate these guidelines into the Town Bylaw. These guidelines should require that new buildings and alterations to existing buildings conform to the massing, scale, and palette of materials of existing 18th and 19th century buildings.
- 2) The Town should establish a Design Review Board to administer and enforce these design guidelines.
- 3) Any improvements to the Washington Street corridor (including the roadway, the pedestrian system, and the parking facilities) should be designed so as to enhance the

Highland St. ?

historic character of downtown Holliston and East Holliston. See the Public Facilities and Transportation sections of the Master Plan for more information on this topic.

- 4) Investigate further the possibility of burying overhead utility lines in Holliston Center and East Holliston. If Town residents support this measure, work with Boston Edison to implement this improvement as soon as possible.

Appendix 2-1

Historic Resource Protection Tools Available To Holliston

Options for Protecting Historic Resources

As described above, Holliston possesses a wealth of historic places and resources, including the Thomas Hollis Historic District along Washington Street. Should Holliston wish to explore the establishment of new historic districts in the future, the variety of options available is presented below.

Historic Districts may be established at the federal, state or local levels. Each provides varying degrees of protection. Local Historic Districts can provide the greatest protections to historic properties. National Register properties and State Register properties provide more limited protections. Privately deeded restrictions or easements can provide the greatest protections, but must be either purchased or donated.

Local Historic Preservation Programs & Districts

The Massachusetts Historical Commission (MHC) was established in 1963 to identify, evaluate and protect important historical and archaeological assets of the Commonwealth. The MHC includes the office of the State Historic Preservation Officer and the office of State Archaeologist. The MHC works closely with local preservation groups and with the Local Historic Commission (LHC) in towns which have a LHC.

As the State Historic Preservation Office, the MHC also acts as liaison to federal, state, and local development agencies. The MHC is authorized by state and federal law, through the environmental review processes, to review and comment on certain state and federally licensed or funded projects that have an impact on historic properties.

Local Historical Commission (LHC)

Once established, the LHC is the municipal agency responsible for ensuring that historic preservation concerns are considered in community planning and development decisions. The LHC serves as a local preservation advocate and as an important resource of information about the community's cultural resources and preservation activities.

Local Historic Districts (LHD)

An LHD is established and administered by a community to protect the distinctive characteristics of important areas and to encourage new construction that is compatible with the historic setting. A District Study Committee is appointed to conduct a survey of the area and to prepare a preliminary report for state and local review. A final report is then submitted to the local governing body for approval of the local ordinance. Once the LHD is established, a Local Historic District Commission (LHDC) is appointed to review all applications for exterior changes to buildings within the district.

This design review process assures that proposed changes to properties will not destroy the district's character. Review criteria, which may be either quite restrictive or quite flexible, are determined locally by each town and vary considerably for each local district. Therefore, it remains the decision of the town as to the degree of discretion given to the LHDC to review proposed exterior property changes.

National Register of Historic Places

The National Register of Historic Places (NRHP) documents the nation's significant buildings, sites, and objects as well as districts worthy of protection. Based on local and state surveys, nominations to the NRHP are generally initiated by the Local Historical Commission, which works with MHC staff to prepare the nomination form. Nominations are then reviewed by the MHC State Review Board at a public meeting and forwarded to the Keeper of the National Register for approval.

(Continued)

(Appendix 2-1 continued)

Listing on the NRHP provides a basis for making informed planning and development decisions. NRHP status places no constraints on what owners may do with their properties when using private funds. While the NRHP is not a design review program, it does provide limited protection from state and federal actions, as well as eligibility for matching state and federal restoration and research grants and certain federal tax benefits for certified rehabilitation projects.

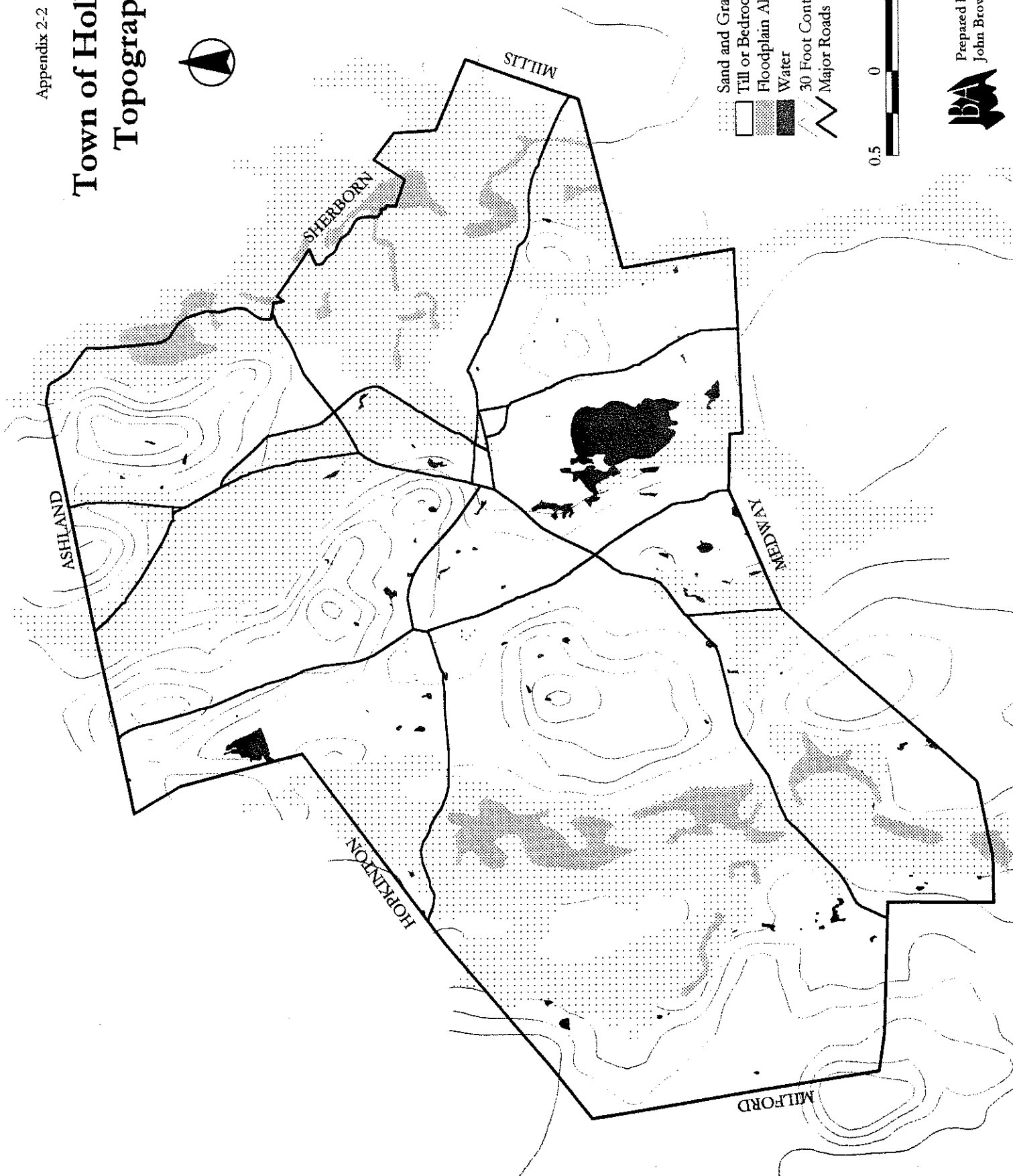
State Register of Historic Places

The State Register of Historic Places (SRHP) was created to serve as a master list of designated historic properties in Massachusetts and to provide an added measure of protection to these properties. Properties are included on this Register if they are: listed or determined to be eligible for listing in the NRHP; local historic districts; local, state and national landmarks; state archaeological landmarks; or properties with preservation restrictions. The State Register serves as a guide for project developers to determine whether a state funded or licensed project will affect any historic properties. The State Register review process is modeled closely after the federal review process and ensures that State Registered properties will not inadvertently be harmed by activities supported by State agencies.

Preservation Restrictions

Preservation Restrictions protect historic properties from changes that may be inappropriate. A preservation restriction (easement) on a property restricts present and future owners from altering a specified portion of a building, structure, or site. A restriction can run for several years or in perpetuity and may be included as part of a property deed. Preservation restrictions can be donated or purchased by a government body or private preservation organization and are enforced by the holder of the restriction. Charitable donations of easements on historical buildings or archaeological sites may qualify for federal income tax deductions.

Town of Holliston Topography



Appendix 2-3
Natural Resource Protection Tools Available To Holliston

Adequate protection of Holliston's natural and cultural resources will require the use of a variety of tools, including state and local environmental regulations, self-help grants, technical assistance programs, and other tools. In 1996, Massachusetts passed a \$400 million Open Space Bond Bill, providing \$50 million to replenish the Self-Help and Urban Self-Help grant programs. The following list describes some of the important resource protection tools available to Holliston.

State Environmental Regulations

- **Massachusetts Environmental Policy Act.** The MEPA review process requires the proponents of large projects to examine and mitigate the environmental impacts of their projects. The Town of Holliston may influence this process by submitting comments on projects proposed in Holliston.
- **Massachusetts Wetlands Protection Act and Rivers Protection Act.** The Holliston Conservation Commission and the DEP administer these state regulations. The Commission has some discretion to determine whether activities (such as the construction of houses, septic systems, and roads) are permitted in wetlands and the 100 foot buffer zones around wetlands, and within 200 feet of perennial streams.
- **Areas of Critical Environmental Concern.** Designated and administered by the Department of Environmental Management, ACECs are intended to protect natural resources of regional importance, which often span two or more municipalities. Local citizen or government groups may petition the DEM for inclusion in the ACEC program of an outstanding natural resource in their area. Once designated, an ACEC provides additional protection against development
- **Massachusetts Endangered Species Acts.** This Act, administered through the Holliston Conservation Commission, allows for review by the Natural Heritage and Endangered Species Program of projects proposed within designated habitat areas.

Self-Help Grants

- **Massachusetts Self-Help Program.** This program provides up to 90% reimbursement for the cost of land purchase for conservation or passive outdoor recreation purposes. Projects that are successful typically protect water resources, include rare or endangered species habitat, link to other protected open space, or contain historic or archaeological resources, and include participation with other governmental or private non-profit agencies. Annual filing deadline is June 1. Contact the Division of Conservation Services at 617-727-1552.
- **Massachusetts Urban Self-Help Program.** This program provides up to 90% reimbursement for the cost of purchasing and/or developing land for recreational uses, including ballfields, golf courses, playgrounds, and other facilities. Successful acquisition projects typically provide water based recreation, link protected open space, protect rare or endangered species habitat, or protect cultural or archaeological sites. Cooperation with other governmental and nonprofit agencies is encouraged. Only municipalities with a park, playground, or recreation commission are eligible. Annual filing deadline is June 1. Contact the Division of Conservation Services at 617-727-1552.
- **Greenways and Trails Demonstration Grants Program.** The DEM provides grants of \$1,000 to \$3,000 to municipalities and non-profits to support innovative projects that advance the creation and promotion of greenway and trail networks in Massachusetts.

(Continued)

(Appendix 2-3 continued)

- **Lake and Pond Grant Program.** This program provides grants for comprehensive, integrated approaches to lake management, protection, and restoration. A maximum grant of \$10,000 is available on a 50/50 cost sharing basis. Annual application deadline is in November or December. Contact the DEM, Office of Water Resources, at 617-727-3267.
- **National Recreational Trails Act Grant Program.** These grants provide funding for trail projects to private organizations and municipalities. Contact the DEM at 617-727-3180.
- **Forest Stewardship Program.** This program provides incentives for sound forest management on private lands. Landowners, with the assistance of DEM foresters, develop a forest stewardship plan for their property, which makes them eligible for federal cost-sharing dollars to help carry out the plan. Most grants range from \$3,000 to \$5,000. Contact the DEM at 617-727-3180.
- **Urban Forest Planning and Education Grants.** Grants of up to \$10,000 are available to assist communities and non-profit groups in developing forestry programs that involve local residents and educators. Contact the DEM at 617-727-3180.
- **State Revolving Fund.** This fund supports water pollution abatement projects, and especially watershed management projects with substantial water quality and public health benefits. Typical projects include new wastewater treatment facilities as well as nonpoint source pollution abatement efforts. Contact the DEP at 617-292-5749.
- **Acquisition and Development Funds for Statewide Trails.** This program offers grants to acquire long-distance trail corridors as greenways linking public and nonprofit conservation land and to incorporate long-distance trails into local open space planning.
- **City and Town Commons Program.** This program provides grants to rehabilitate commons and squares in municipal centers.
- **Aquifer Land Acquisition Program.** This program provides grants to purchase lands in the primary area of contribution (Zone II) to public water supplies.
- **Massachusetts Highway Department's Bikeways Program.** Grants are available to develop bikeways and to provide bicycle parking facilities.
- **Clean Lakes Program.** This program aids municipalities in addressing problems of eutrophication of publicly owned lakes and ponds used for recreational purposes.

Community Preservation Act

Over the last several years, the Massachusetts State legislature has been debating legislation that would enable municipalities to establish a small excise tax on the transfer of land to be used for open space preservation or affordable housing. To date, this legislation has failed, although several towns have succeeded in enacting special legislation that allows them to proceed with such a program. While debate continues on the statewide legislation, the legislature will no longer consider special legislation on a town-by-town basis.

It is important to note that the legislation does not require municipalities to enact the deeds excise tax. In the current draft of the bill, the maximum excise tax is 1%, and a community can exempt up to \$100,000 of

(Continued)

(Appendix 2-3 continued)

every purchase from this tax. The legislation would mandate that at least 10% of the fund be used for each of three programs: open space, historic preservation, and affordable housing. The remaining 70% could be allocated in a manner that meets the community's goals and objectives. In Holliston, such a revenue stream could be used to address a number of concerns expressed by residents and town officials such as open space preservation, historic preservation, affordable housing, and septic system improvements.

This approach has worked in other communities, most notably Nantucket and Martha's Vineyard, which have used the funds predominantly for open space preservation, affordable housing, and maintaining community character.

If this legislation becomes law, we recommended that the Town consider adopting a real estate transfer tax. It will enhance the implementation of the recommended land use scenario by providing additional financial resources for acquiring open space and preserving historic resources, thereby protecting community character and the Town's environment.

Other Resource Protection Tools

- **Conservation Restrictions.** A landowner may place restrictions on his or her deed, either temporarily or in perpetuity, to keep the land in an open, natural, or scenic condition. Local Conservation Districts provide technical and financial assistance to landowners seeking Conservation Restrictions.
- **Agricultural Protection Restrictions.** Under this program, the state purchases the development rights on a farm so that the land will stay in agricultural production in perpetuity. APRs greatly benefit the town because they protect farmland at no cost to the town or the owner. Quality of the farmland is an important criterion for the state in deciding whether to purchase an APR on a piece of land.

Section 3:
OPEN SPACE & RECREATION

Section 3: OPEN SPACE & RECREATION

Introduction

Holliston has a strong tradition of open space planning. Prior to this Master Plan, the 1962 Master Plan promoted many conservation goals, and more recently the 1978, 1986, 1993, and 1998 Open Space and Recreation Plans have each re-evaluated Holliston's open space and recreation objectives and provided an action plan for meeting these goals. The 1998 Open Space and Recreation Plan prepared by the firm of Beals & Thomas for the Holliston Conservation Commission outlines a five-year course of action to protect the town's open spaces, water resources, recreational opportunities, and historic character. To meet these goals, the action plan recommends specific programs including land acquisition, resource management, and public education.

This section of the Master Plan uses the 1998 Open Space and Recreation Plan both as a resource for information and as starting point for conservation goals, strategies, and recommendations. While the recommendations presented in this section complement those in the 1998 Plan, they address a longer time frame (10-25 years for the Master Plan versus 5 years for the Open Space and Recreation Plan), with a commensurate focus on general planning rather than specific actions by the Town departments. The Master Plan also proposes policy mechanisms such as new zoning laws that will help the town meet their conservation goals.

3.1 EXISTING OPEN SPACE AND PROVISIONS FOR ITS PROTECTION

Holliston's open space lands and recreational facilities were identified using information from the 1993 and 1998 Open Space and Recreation Plans, MassGIS (a branch of the Massachusetts Executive Office of Environmental Affairs), and the Holliston Conservation Commission. Geographic Information System (GIS) maps accompany this section to show the location of recreational facilities and the extent of open space.

Open Space Acreage

Holliston currently has about 3,350 acres of designated open space, or about 28% of the town's total land area. Less than half of this land is permanently protected from development. The level of protection on open space varies greatly with ownership, and therefore much of the land that appears to be open space may actually be subject to development. Holliston's open space is owned by various public and private entities, including several Town agencies, the U.S. Government, non-profit organizations, and private citizens. The open space inventory in this report includes conservation and recreation lands, water protection land, farmland and forestry land enrolled in the State's reduced taxation programs, and other designated open spaces. The inventory excludes all other privately-owned, unprotected land.

Table 3-1 offers a brief inventory of open space in Holliston, classified according to ownership and degree of protection. A detailed parcel-by-parcel list of open space lands may be found on page 5-7 of the 1998 Open Space and Recreation Plan. Figure 3-1 entitled "Protected & Unprotected Open Space" shows Holliston's protected and unprotected open space lands. Approximately 20% of the permanently protected or publicly owned open space is wetlands. It is not known what proportion of the remaining unprotected open space is wetlands.

Figure 3-1

Town of Holliston Protected and Unprotected Open Space

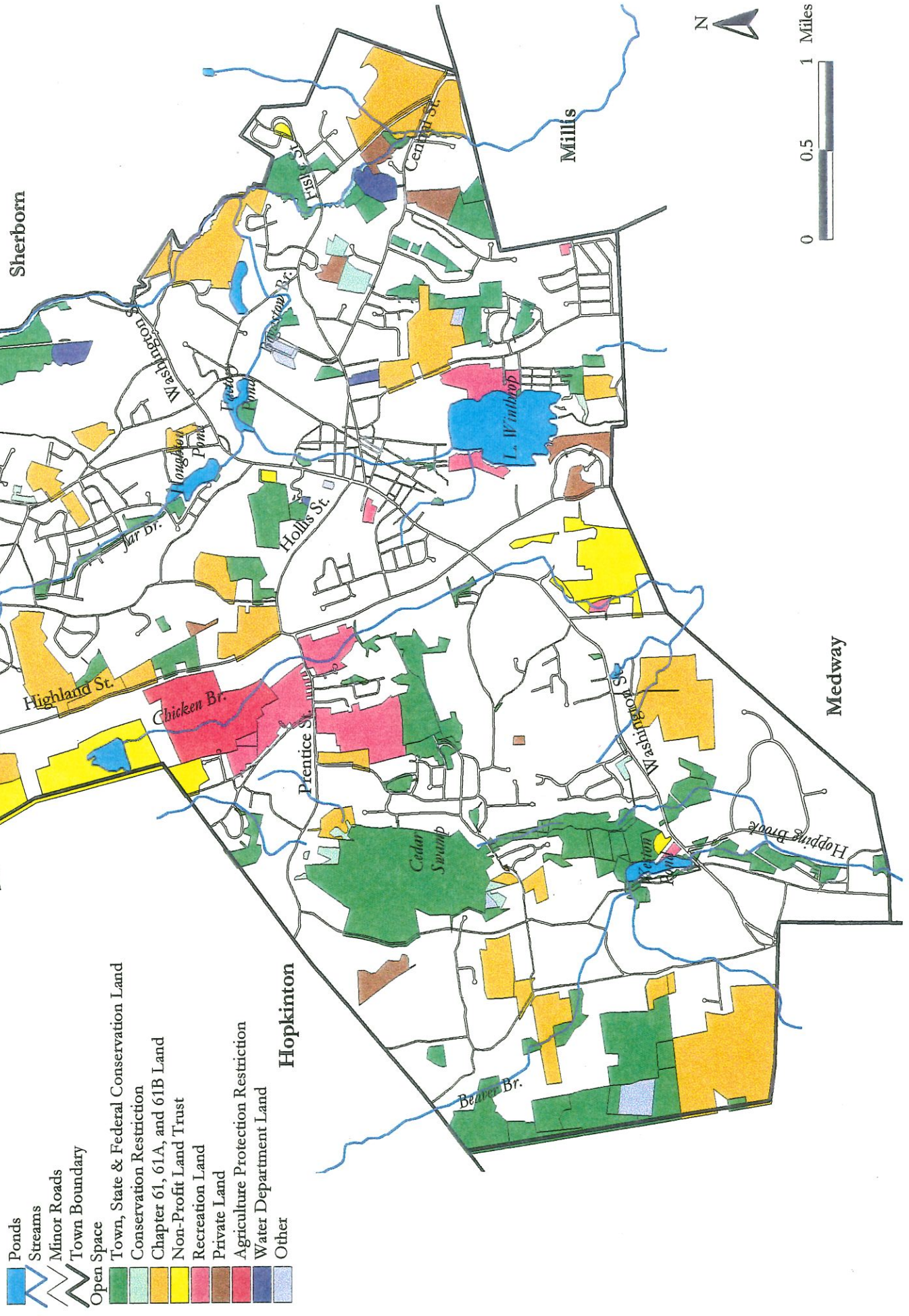


Table 3-1
Open Space in Holliston, Classified According to Ownership and Degree of Protection

<u>Ownership/Management</u>	<u>Acres (% of town)</u>	<u>Protection Status</u>
Holliston Conservation Commission	504 (4.2%) ⁽¹⁾	Protected in perpetuity
U.S. Army Corps of Engineers	402 (3.4%) ⁽¹⁾	Protected in perpetuity
Water Department	60 (0.5%) ⁽¹⁾	Protected in perpetuity
Town Forest Committee	199 (1.7%) ⁽¹⁾	Protected temporarily
Other undeveloped town land (parks, cemeteries, golf course)	323 (2.7%) ⁽¹⁾	Protection status varies
Non-profit Organizations & Private Land with Conservation Restrictions	567 (3.2%) ⁽¹⁾	Protected in perpetuity
Private: in Chapter 61 for forestry	455 (3.8%)	Protected temporarily
Private: in Chapter 61A for agriculture	697 (5.8%)	Protected temporarily
Other lands: repossessed, owner unknown, etc.	145 (1.2%)	Not protected

Summary

Total Protected in Perpetuity	1,533 (12.7%)
Total Protected Temporarily	1,351 (11.2%)
Total Other/Unprotected	468 (3.8%)
Total Open Space	3,352 (27.9%)

Source: 1993 and 1998 Open Space and Recreation Plans.

⁽¹⁾ Included as protected open space for Land Use Analysis

Municipal, State, and Federal Lands

Several departments of the Town of Holliston own open space, including the Conservation Commission, Forest Committee, Park Commission, and Water Department. These lands include conservation lands, parks and recreation fields, tax title lands, and cemeteries. It is important to note that town ownership or tax-exempt status does not always confer protection from development. Except for the Conservation Commission, Forest Committee, Water Department, and certain Park Commission lands, Holliston town lands are subject to changes in land use. Current open spaces, such as school fields, may be developed at the discretion of the Board of Selectmen if the need arises.

The U.S. Army Corps of Engineers owns 402 acres of land in the Cedar Swamp area. The land is within the Charles River headwaters, and was acquired for flood control purposes because of its large flood water storage capacity. The MA Division of Fisheries and Wildlife owns 1.3 acres of land near Bogastow Brook, which is managed for wildlife habitat.

Descriptions of the natural features and recreational opportunities on several of Holliston's larger publicly-owned open spaces are provided below.

- **Brentwood Conservation Land** (Gorwin Drive): This land contains much of Cedar Swamp, as well as upland communities including a unique mature beech forest.

- **Poitras and Daniels Conservation Lands** (north of Hollis Street): These parcels include a total of 64 acres of mixed forest and red maple wetlands. A trail connects the two parcels and provides good views from the hills. The Daniels property contains a house that the Conservation Commission intends to develop into a nature center. A trail currently connects the Poitras and Daniels parcels, and the Commission is investigating connecting the two parcels through acquisition or easement.
- **Rocky Woods/Town Forest** (Adams Street): This area of primarily upland forest extends into Hopkinton and Milford. Granite outcroppings and boulders are a unique scenic feature of this land, and make it ideal for hiking and mountain biking. Upper Charles Conservation, Inc., a local land preservation organization, is working to expand this network of open space.

Private Forest and Farm Lands

Privately-owned open spaces include conservation lands held by non-profit organizations as well as lands actively used for farming and forestry. The provisions of Chapters 61, 61A and 61B of the Massachusetts General Laws encourage landowners to retain their property in undeveloped uses by providing tax incentives for forestry, agricultural, and recreational uses, respectively. These laws are described below.

Chapter 61 of the MGL is designed to keep forested land under productive forest management. Owners with more than 10 acres of forest are eligible for enrollment. They must submit a Department of Environmental Management (DEM) approved forest management plan and a management certificate to the town assessor for a new tax classification to begin. The assessment of land classified under Chapter 61 is reduced by 95%. The loss of taxes to the town is partially offset by a yield tax of 8% that the owner pays on the value of wood harvested from the land annually. The town also places a lien on the property in the Registry of Deeds. This lien is notice to all purchasers that the property is subject to the provision of Chapter 61.

Chapter 61 classifications run for ten year periods. An owner who wishes to sell land classified under Chapter 61 for a different use during the first ten years of certification must repay all back taxes to the town, plus interest, minus payments made for the 8% yield tax. The town has a 120-day right of first refusal to purchase the land if it can match the price offered to the landowner. Under recent amendments to the law, the town may transfer the right of first refusal to a non-profit conservation organization under terms set by the Board of Selectmen, provided most of the property stays in Chapter 61 use. At present, eight percent, or 273,000 acres, of Massachusetts forests are classified under Chapter 61. As of 1998, 455 acres of land in Holliston are enrolled in this program.

Chapter 61A is most commonly applied to agricultural or horticultural land but can also be used for the forested portions of a farm, provided a management plan is approved by the DEM. To qualify for Chapter 61A, a farm owner must have five or more contiguous acres being used for agricultural or horticultural purposes. This land must produce annual gross sales of at least \$500. For each additional acre over five, the minimum produce value is \$5. There is no product value for woodlands and wetlands, for which the added value is \$0.50 per acre. Property under Chapter 61A is assessed at rates that vary for different agricultural uses. Generally, classification will result in a reduction of 80% in assessed value. As of 1998, 697 acres of land in Holliston are enrolled in this program. The penalties associated with removing land from Chapters 61A classification are similar to those for removing land from Chapter 61. Also, the town or a town-

designated non-profit conservation organization may exercise the right of first refusal on the sale of this land for 120 days.

Holliston has no private recreation lands in the Chapter 61B program, which is a program similar to Chapter 61A but is applied to land used for recreation purposes.

In order to take advantage of the right of first refusal, the town or a non-profit organization must have a cash reserve to purchase Chapter lands placed on the market, as well as the organizational structure to rapidly approve such a transaction. At present, the Holliston Conservation Commission does not have an annual land acquisition budget or an emergency fund to purchase Chapter lands or other property. All land acquisition proposals must therefore be brought before the annual town meeting. This process may severely hinder purchases because, when parcels are for sale on the open market, the Town is often unable to approve a purchase within the 120-day period allowed by the law. Without an emergency conservation fund, Holliston is not well equipped to acquire Chapter lands as they go on the market. For practical purposes, Chapter lands are protected from development only temporarily.

Non-profit conservation organizations own several hundred additional acres of private open space. Upper Charles Conservation, Inc. is a regional organization dedicated to protecting the Charles River headwaters, and is very active in Holliston. Its current projects include building the Upper Charles Recreation Trail (see the *Greenways* section, below) and expanding the matrix of conservation lands along the Holliston/Milford/Hopkinton border.

Holliston's two largest non-profit lands are:

- **Weenakeening Woods** (Summer Street): This 110 acre forested parcel was donated by Avery Dennison Corporation in 1992 and is now owned by Upper Charles Conservation, Inc. Habitats include upland oak/pine forest, red maple wetlands, an abandoned cranberry bog, and three certified vernal pools. Accessibility is good, with two miles of hiking trails on the property, and visitor parking available off Summer Street. The proposed Upper Charles Trail is also adjacent to this site.
- **Audubon Society Land** (Mill Street, Hopkinton): This 165 acre parcel is part of the Waseeka Wildlife Sanctuary. Hiking trails and a dammed pond are located within the Holliston portion of this land.

A final category of private open space is the land set aside within cluster developments, which are allowed in Holliston by special permit. In cluster developments, homes may be built on lots smaller than the usual minimum size in exchange for the provision of open space set-asides. In a cluster development, the minimum lot size is reduced to 40,000 sf in Agricultural-Residential District A, to 25,000 sf in Agricultural-Residential District B, and to 20,000 sf in the Residential district. The area of the open space set-aside must, at a minimum, be equal to or exceed the area of land saved by taking advantage of the reduced lot size requirements. This open space must be accessible to all residents of the cluster development, but need not be open to the public.

Agricultural Resources

Although agriculture is not an important component of Holliston's economy, it contributes to the town's rural character, employs a small number of town residents, and provides the regional benefit of fresh, local produce. Fertile farm soils were once among New England's most

important resources, and may once again become very important if local and organic farm products continue to increase in popularity.

Prime farm soils have the necessary combination of physical and chemical characteristics, growing season, slope, and moisture supply to produce high-yield crops on a sustainable basis. However, these soils are often choice sites for development since they are flat, well-drained, and free from vegetation or tree stumps. An additional threat to farmland is the reversion of former fields and pastures to second-growth forest, which begins to occur within a few years if farms are not actively maintained.

Existing farmland in Holliston is displayed on Figure 3-2 entitled "Scenic Resources". With the exception of the 149 acre former Twomey farm on Highland Street, which has an Agricultural Preservation Restriction, all of Holliston's farmland is unprotected. Active farm parcels in the Chapter 61A program are listed in Table 5-4 of the 1998 Open Space and Recreation Plan.

Scenic Resources

According to input solicited from Holliston citizens during the preparation of the 1993 and 1998 Open Space and Recreation Plans, as well as the Phase I Master Plan report, the most valued scenic resources include the town's undeveloped woodlands, farmland, open vistas, historic resources, and trails. Some of the specific sites mentioned include:

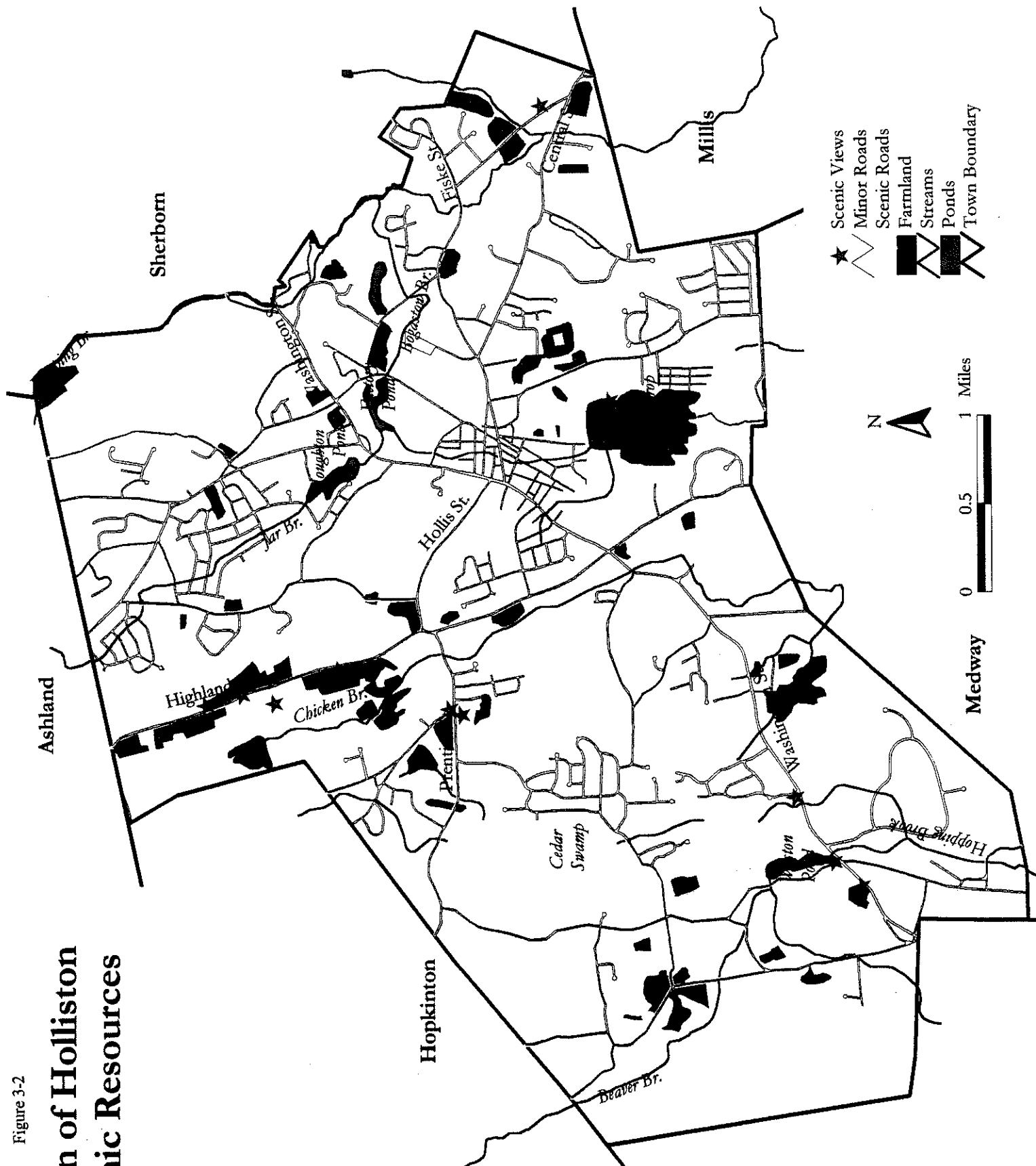
- Farmland along Highland Street and Bullard Street, which provide scenic vistas and a contrast to Holliston's mostly-wooded landscape;
- Town Forest on Adams Street;
- Several of the town's larger ponds, including Lake Winthrop, Weston Pond, Factory Pond, and Houghton's Pond;
- The Winthrop Canal;
- Natural cranberry bogs (one off Woodland Street and another near Courtland Street);
- Miller Hill and Bald Hill, which have historically offered hiking trails, but are currently being developed for residential use;
- Cemeteries; and
- The Thomas Hollis Historic District.

Many of Holliston's most scenic areas are also highly prone to development. Recent construction of single family homes on Miller Hill and Bald Hill, as well as on the western side of Highland Street demonstrate that open areas with scenic vistas are especially attractive to developers.

Holliston's rural beauty is apparent from many historic tree-lined roadways and other scenic routes. By Town Meeting action, Holliston has designated twenty-seven roads - 31 miles in total - as scenic, including many of the town's oldest roads dating from before the Civil War. These scenic roads include: Adams Street, Brook Street, Bullard Lane, Bullard Street, Central Street, Courtland Street, Fisher Street, Fiske Street, Gorwin Drive, Granite Street, Hanlon Road,

Figure 3-2

Town of Holliston Scenic Resources



Highland Street, High Street, Hill Street, Jennings Road, Linden Street, Locust Street, Marshall Road, Mellen Street, Mill Street, Norfolk Street, Oak Street, Prentice Street, Rockland Street, Underwood Street, Wilson Street, and Winter Street.

The Scenic Roads Act (MGL Chapter 40, Section 15c) allows a town to designate any non-numbered route as a “scenic road.” This designation allows the Planning Board to review and/or prohibit any proposed maintenance, construction, or road expansion work if it would damage or remove roadside trees, stone walls, or other historic features or views. The Scenic Resources map shows the location of Holliston’s designated scenic roadways.

Greenways: Present and Future

Holliston is one of 50 towns in the Bay Circuit greenbelt, a ring of land between Route 128 and I-495 that the Massachusetts Department of Environmental Management (DEM) has identified as a potential corridor of conservation and recreation lands connected by trails, bikeways, and waterways. Specifically, the DEM envisions a corridor through western Holliston, including the farmland west of Highland Avenue and Cedar Swamp. The regional significance of these lands should be considered when establishing open space priorities in Holliston.

In 1994, Upper Charles Conservation Inc., a local land trust, approached the Metropolitan Area Planning Council with a plan to create a 27-mile long multi-use recreation path from the Framingham Commuter Rail station through Sherborn, Holliston, Milford, Hopkinton, and Ashland. The portion of this trail in Holliston would utilize the abandoned Conrail right-of-way. In its 1997 feasibility study, the MAPC determined that the construction Upper Charles Trail is feasible, and encouraged its development. Upper Charles Conservation Inc. is currently in the process of acquiring the rights-of-way for this project, and will work with Holliston and other town governments to plan, design, and build the trail.

The implementation of the Upper Charles Trail will offer Holliston a chance to integrate and connect its recreational and open space facilities. The Trail is near two major recreational areas - Lake Winthrop and the privately-owned 110 acre Weenakeening Woods - and could be linked to other areas, such as the town forest in western Holliston, the trails in Cedar Swamp, and town lands along Dopping Brook in northeastern Holliston. By linking these natural areas, Holliston could create a network of trails set apart from vehicular use and serving both recreational and transportation needs for the town.

The map entitled “Open Space Recommendations” shows the location of the proposed Upper Charles Trail in relation to existing open space and recommended open space acquisitions.

3.2 EXISTING RECREATIONAL FACILITIES

Most of Holliston’s active recreational facilities - including playfields, parks, and sports facilities - are located at the schools, at the Pine Crest Golf Course, or adjoining Lake Winthrop. These active recreational opportunities are discussed in Section 6, Public Facilities & Services.

Holliston’s natural areas provide numerous opportunities for passive recreation, including the following:

- **Fishing** occurs on several of Holliston's ponds and streams. The Massachusetts Division of Fisheries and Wildlife annually stocks Bogastow Brook and Hopping Brook with brown trout. Anglers also fish for warm water species in Lake Winthrop.
- **Hunting** by bow and arrow is permitted on some Town lands distant from private homes, including the Brentwood Conservation Area, Bullard Farm, and the Town Forest. Otherwise, hunting is prohibited on Town lands. Sportsmen hunt for deer, turkey, Canada geese, ducks, squirrels, and other game.
- **Water-based recreation** is available at Lake Winthrop, including beaches and a public boat ramp.
- **Hiking, mountain biking, and cross-country skiing** trails in the Town Forest and in other wooded lands extending west into Milford are regionally known and used. Upper Charles Conservation, Inc. is currently working with the Holliston and Milford Conservation Commissions to expand this trail network. Holliston Conservation Associates has been active in building and maintaining trails throughout the Town, and also provides trail users with free maps and guides.
- **Bird watching, nature study, and outdoor education** opportunities are available on Holliston's public and land trust lands.

3.3 OPEN SPACE & RECREATION GOALS

Process

Prior Open Space and Recreation Plans in 1978, 1986, 1993, and 1998 have each evaluated Holliston's open space and recreation objectives and charted the attainment of these goals. Over the last eighteen months, Holliston residents and town officials again offered their input on open space and recreation issues through a variety of channels. These include:

- **Phase I of the Master Plan (June 1997):** The primary purpose of this document was to identify goals and visions for the Town's future. The consultant team who prepared the report interviewed 32 Town residents and employees and solicited input at three public forums and three sessions with the Planning Board.
- **Town-wide Survey:** This survey was distributed to all 5,200 households and businesses in Holliston during March 1997. The results of the 716 returned surveys are tabulated in Phase I of the Master Plan.
- **The Open Space and Recreation Planning Committee (OSRPC):** This committee consists of local volunteers concerned about Holliston's environment, open space, and recreation facilities, as well as members from the Planning Board, Parks Commission, and Board of Health. The OSRPC helped to define the goals for the 1998 Open Space and Recreation Plan.

- **Master Plan Public Forums:** The consultant team held several forums both early and late in Master Planning process to solicit public input. The March 14, 1998 public forum was devoted specifically to identifying goals and needs in the Town.

Goals

The goals discussed below appeared in the Town's 1993 Open Space and Recreation Plan. Under each broad goal is a list actions achieved toward meeting the goal, as well as a list of additional actions required to meet the goal. These outstanding actions include unmet (but still relevant) goals from earlier plans, as well as new goals identified through the recent meetings, forums, workshops, and surveys.

1. Increase Awareness of and Access to Existing Conservation Lands, and Create a Greenbelt Corridor through Holliston.

The following progress has been made since 1993: new trail networks, free maps and guides, and numerous walks and public programs held on conservation lands by the Holliston Conservation Associates (HCA); new signage on conservation lands provided by HCA; joint efforts by Holliston and Upper Charles Conservation, Inc. to increase open space uses in West Holliston; initiation by HCA of a road cleanup program, an Elm Tree replanting project, and a land stewardship program; creation of an electronic database of conservation lands, including their owner and degree of protection; planning and progress on the Upper Charles Trail.

The following are outstanding goals:

- 1) Acquire additional open space until at least 25% of the town is protected in perpetuity, as recommended in the 1962 Comprehensive Plan
 - 2) Acquire the parcels specified in the 1993 Plan, including outparcels near the Town Forest, Audubon land, and Cedar Swamp; connections among the Jasper Rock, Poitras, and Daniels parcels; and others
 - 3) Provide better protection for many of Holliston's agricultural lands currently under Chapter 61A
 - 4) Change the Cluster Zoning bylaw to make open space in cluster developments more useable and to promote linking of open space
 - 5) Acquire the Wheeler Farm and the Fairbanks property (adjacent to the Town Forest)
 - 6) Continue land acquisition and begin construction of the Upper Charles Trail
- #### **2. Increase and Improve Recreational Facilities in Holliston.**
- See Section 6, Public Facilities & Services for a discussion of active recreational facilities.
- #### **3. Increase Environmental Awareness Among All Sectors of the Holliston Community.**
- The following progress has been made: trail maps, guided walks, and numerous lectures on environmental topics, sponsored by HCA; initiation of a curbside recycling program for most recyclable materials; expansion of the Town's water conservation program, including the education of school aged children on water conservation issues; creation of a map and database of conservation lands in Holliston.

The following are outstanding goals:

- 1) Increase awareness of the impact of household chemicals on the aquifer
- 2) Promote recycling of waste oil and hazardous materials

3.4 NATURAL RESOURCES, OPEN SPACE AND RECREATION RECOMMENDATIONS

1. Recommendations: Open Space

Holliston's most recent master plan in 1962 proposed that the town set aside 25% of its land as open space, including forests, farms, wetlands, parks, and riparian corridors. Presently, public and private owners maintain approximately 28% of Holliston's land area as open space with varying degrees of protection. The key to meeting the ambitious 1962 goal will be to increase the level of protection on much of this land.

Open Space Pays. Appendix 3-1, Cost/Benefit of Open Space Acquisition compares the taxpayer cost of acquiring undeveloped land as open space versus the cost of developing the land for residential use. In Holliston, the revenue generated from new homes typically does not pay for the new services (especially schools) required by those homes. By estimates, the development of a 100-acre parcel into single family homes would cost the average taxpayer \$16.63 per year in new property taxes, indefinitely. By comparison, it would cost the average taxpayer between \$16.62 and \$20.32 per year for 20 years (assuming the purchase is funded with a 20 year bond program) to acquire the 100-acre parcel as open space. After the 20 year bond repayment period, the open space would cost the taxpayer nothing, while the hypothetical 100-acre developed parcel would continue to cost the average taxpayer \$16.63 per year.

This analysis demonstrates that, in the short term, buying open space is not significantly more expensive than allowing undeveloped land to be converted to residential use. In the long term open space is significantly less expensive. In addition, open space provides many benefits that are difficult to quantify in monetary terms, including the protection of water and land resources, wildlife habitat, recreational opportunities, and scenic beauty.

Land Acquisition and Protection. Based on the conclusions of the Cost/Benefit analysis for open space acquisition, the Town should initiate an active program of land protection as follows:

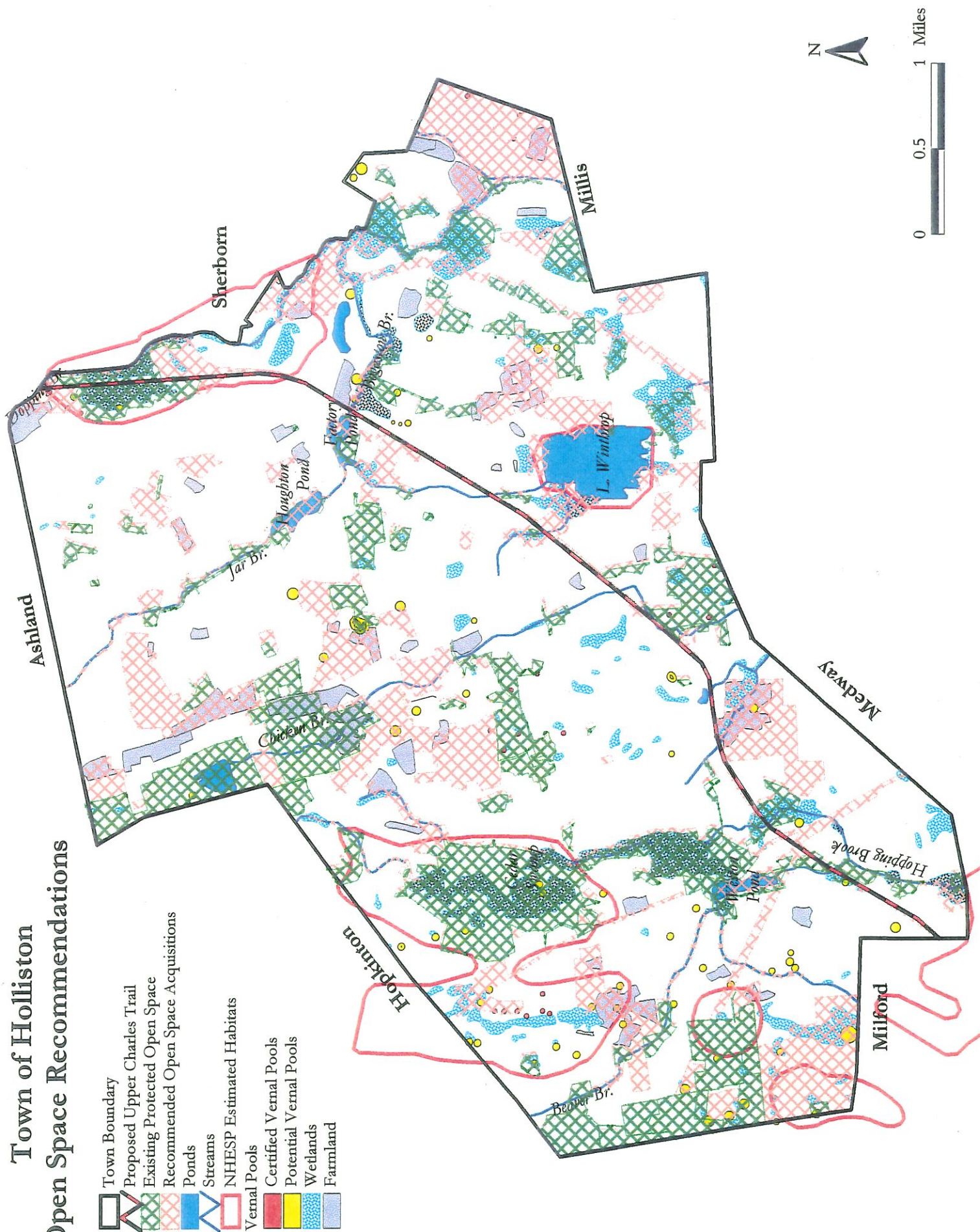
- 1) Priorities for open space protection should focus on Holliston's most unique and most irreplaceable resources, as well as those resources not currently protected by state and local environmental laws. The highest-priority areas for open space acquisition should be parcels that contain some of the following features or serve some these purposes:
 - Groundwater recharge areas (permeable soils above productive aquifers)
 - Protection of surface water quality (e.g. buffer strips along ponds and headwater streams)
 - Habitat for rare or endangered plants and wildlife
 - Active farmland, especially on excellent agricultural soils

- Scenic views, especially open fields and hilltop areas
 - Contiguous to large protected areas (e.g. Cedar Swamp and Town Forest/Rocky Woods)
 - Lands that connect existing open space parcels or create corridors (“greenways”)
- 2) Figure 3-3 entitled “Open Space Recommendations” identifies some of the areas that best meet these criteria and that should be considered for protection for open space.
 - 3) The Town should aggressively pursue the protection of Chapter 61 and 61A properties, which currently account for almost 10% of Holliston’s land area. The first step in this process is to prioritize the Chapter lands in terms of their value to the Town. Then, the Town should contact the owners of especially important Chapter lands to negotiate purchase or easement before such lands are placed on the market.
 - 4) The Town should enlist the help of regional land trusts in exploring open space protection alternatives other than outright purchase, especially for farmland.
 - 5) The Town should establish an emergency land acquisition fund to purchase open space in time-critical situations, including land made available to the Town under Chapter 61’s Right of First Refusal. This fund should be established and maintained by a set annual contribution from the Town budget. \$250,000 - \$500,000 is a reasonable amount to budget for such a fund, which in addition to the acquisition of some smaller parcels, would be used to cover such expenses as appraisals, acquiring options on critical lands, or making initial deposits for purchases which will later be bonded.
 - 6) The Planning Board should encourage the creation of Open Space parcels through the Cluster Subdivision process.

Relation to Land Use Element. Because it is neither possible nor desirable for Holliston to protect the majority of its land area as open space, land use patterns for the remaining unprotected sections of the Town must be sensitive to natural resources, landforms, and scenic and historic resources. The Guide Plan for Future Land Use presented in the Land Use element complements the Open Space recommendations by designating compatible land uses throughout the Town. Several elements of the Guide Plan are especially critical for promoting Open Space protection:

- 1) Development should be directed to those areas of Town served by public water and (in the future) sewer. In outlying areas, especially those areas with significant groundwater recharge potential, impermeable coverage and sewage disposal should be limited. The residential lot size requirements in the Guide Plan promote such land use patterns.
- 2) Development should be clustered to reduce sprawl, which has numerous negative environmental impacts. The expansion of the village-center concept as well as the provision of multifamily housing districts in the Guide Plan legalize and promote less-consumptive land use practices in Holliston.
- 3) Open spaces must be linked wherever possible to allow for wildlife movement and long-distance recreational trails, as shown in the Guide Plan. Where the Town cannot purchase these links, the Planning Board should work with developers, either in cluster

Town of Holliston **Open Space Recommendations**



developments or ordinary subdivisions, to retain green space that links lands on either side of the development parcel.

2. Recommendations: Greenways

Greenways provide several benefits, including wildlife migration corridors, visual buffering, and sites for long-distance recreation trails. One way to provide these links is to protect many of the river watershed areas along Beaver Brook, Hopping Brook, Chicken Brook, Dopping Brook, and other streams. This approach would not only provide a scenic, interconnected corridor system, but would also help safeguard stream habitat, fish populations, and surface water quality. In addition, recent studies in the scientific literature suggest that generous buffer strips along rivers and lakes are a very effective way to control nonpoint source pollution generated by suburban land uses.

- 1) The protection of these river corridors should be achieved through the enforcement of the provisions of the Massachusetts Rivers Protection Act (which restricts development within 200 feet of perennial streams).
- 2) The Town should work to connect its open space parcels through a variety of other mechanisms, including the donation of linear easements to permit public access through private property. Within cluster developments, the Planning Board should encourage developers to set aside land that connects to other open spaces adjacent to the development.
- 3) The Town should continue to work with Upper Charles Conservation, Inc. to implement the Upper Charles Trail.
- 4) The Conservation Commission should establish a volunteer "greenways committee" to determine the feasibility of, obtain funding for, and implement additional greenways and recreational trails in Holliston.

3. Recommended Changes to the Zoning By-law Related to Open Space

Cluster Zoning By-law. The Town should thoroughly review its Cluster Zoning By-law and consider ways to make this law more effective. In particular, the review process should consider:

- 1) Does the law provide developers with adequate financial incentives to build cluster developments instead of ordinary developments? Would a small "density bonus" or other additional incentives result in more clustered developments?
- 2) Does the Cluster Zoning By-law ensure that development avoids a site's most environmentally sensitive, scenic, or otherwise valuable natural resources? Does it promote the creation of open spaces that are appropriate and large enough for passive or active recreation, wildlife habitat, or groundwater protection?

Other Changes. In addition to performing a comprehensive review of its Cluster Zoning By-law based on the above considerations, we recommend that the Town make the following specific changes to the law:

- 1) Open space in cluster developments should consist of one or more upland areas accessible from the street.
- 2) In deciding whether to grant a cluster development permit, the Planning Board should consider whether the open space areas are designed to have maximal value to wildlife and whether these areas link to open spaces on adjacent properties as much as possible. These considerations should be added to section V-H, 2.a. of the bylaw.
- 3) The Planning Board should require that applicants for subdivisions, multi-family developments, and cluster developments submit a plan of environmental “constraints and opportunities” on the site, early in the planning process (prior to the submission of a preliminary site layout plan). This schematic plan should include wetland and water bodies, significant wildlife habitats or corridors, farmland, scenic views, large shade trees (e.g. trees greater than 14” diameter at breast height), and historic or archaeological resources. Based on this information, the Planning Board and Conservation Commission should work with the developer to create a development plan that builds on the most suitable portions of the site, while preserving significant site features and natural resources.

4. Recommendations: Recreation

Creating a strong program of passive recreational opportunities (e.g. hiking, picnicking, and bird-watching) requires that there is an ample supply of public or semi-public open land and that this land is accessible to visitors. In recent years Holliston has made significant strides toward this objective by acquiring land, building trails, and publishing trail maps. Holliston Conservation Associates should continue its commendable efforts at making Holliston’s open space accessible to the public for recreational activities. (Active recreation recommendations are contained in the Public Facilities & Services section.)

Appendix 3-1
Cost/Benefit of Open Space Acquisition

As an example, a 100 acre parcel in the AR-2 zone is considered for acquisition for open space conservation. The following analysis shows what the fiscal cost is to the town a) if the land is developed for single-family residential use; or b) if the land is acquired for open space. The fiscal cost for land that is developed includes the cost of added services that will need to be provided to the new households less the increase in tax revenues that results from the development. The fiscal costs for acquiring land include the cost of financing the purchase and the loss in tax revenue. The cost of acquiring the land is computed for land taxed at its full assessed value as well as for Chapter 61 land for comparison. (Although actual cost of acquisition will depend upon market conditions at the time.) The following table shows how the tax rate would increase as a consequence of development or Town acquisition. This analysis shows that the cost to the taxpayer of acquiring land for open space is equal or comparable to the taxpayer cost of developing the same parcel of land for residential use.

Table C-1
Comparison of the Tax Rate Impacts After Development/Acquisition of Land

Tax rate increase <u>with development</u>	\$0.09/1000 ⁽¹⁾
Tax rate increase <u>with acquisition of Chapter 61 land (for open space)</u>	\$0.09/1000 ⁽¹⁾⁽²⁾
Tax rate increase <u>with acquisition of land taxed at full assessed value (for open space)</u>	\$0.13/1000 ⁽²⁾

Inputs:

a) 1996-97 school enrollment (School Dept.)	3,081	
b) Total number of homes in 1997 (Cherry Sheet)	3,867	
c) School children per unit (1990 U.S. Census)	1.47 ⁽¹⁾	
(From FY97 Town Budget)	\$	
A) Total Budget Appropriation	24,650,347	
B) Tax Levy	15,454,210	
C) Total Valuation of Property	895,377,160	
D) School portion of appropriation	15,553,623	
E) Tax Rate	17.26/1000	
F) School portion of tax rate	10.87	[(D/A) E]
G) Non-school portion of tax rate	6.39	(E - F)
H) School portion of tax levy	9,732,750	(C F)
J) Non-school portion of tax levy	5,721,460	(C G)
K) School tax per student	3,159	(H / a)
L) Non-school services cost per household	1,480	(J / b)
M) Average single-family assessment	184,753	
N) Average assessment of new homes	300,000	

(Continued)

- ⁽¹⁾ This does not include the fiscal impact of the repayment of back taxes in the case of the sale of Chapter 61 land.
- ⁽²⁾ The fiscal impacts from the purchase of open space vary dramatically with the sale value of the land being purchased and the terms of a bond used to finance the purchase. See Part 2 for details.
- ⁽³⁾ This estimate differs from the estimate provided by DHCD that is used for the buildout analysis. For the buildout analysis a lower estimate is used that is closer to the projected average household size. For the purposes of this exercise an estimate is used that more closely approximates the size of families that occupy new homes in the present market.

(Appendix 3-1 Continued)

Part 1 – Cost of Development

If the land were developed, it could accommodate up to 87 single-family homes, yielding 128 additional school children.

- I.* The total assessed value of new homes is \$26,100,000 ($N * 87$).
- II.* The annual school cost for the development is \$404,352 ($K * 128$).
- III.* The school portion of the tax rate increases by \$0.13 ($IIIa - F$).
- IIIa.* New school portion of tax rate = $\$11.00 [(II + H) / (I + C)]$
- IV.* The annual school revenue generated by development is \$287,100 ($I * IIIa$).
- V.* The net annual school cost from development is \$117,252 ($II - IV$).
- VI.* The non-school services cost of development is \$128,760 ($L * 87$).
- VII.* The non-school services portion of the tax rate decreases by \$0.04 ($VIIa - G$).
- VIIa.* New non-school portion of tax rate = $\$6.35 [(VI + J) / (I + C)]$
- VIII.* The annual non-school revenue generated by development is \$165,735 ($I * VIIa$).
- IX.* The net annual non-school benefit from development is \$36,975 ($VIII - VI$).
- X.* The net tax rate impact from the new development is \$0.09 ($III - VII$).
- Xa.* New tax rate = $\$17.35 (E + X)$
- XI.* The average homeowner's taxes will increase by \$16.63 ($M * X$).

(Continued)

(Appendix 3-1 Continued)

Part 2 – Cost of Acquisition

Assume the assessed value for the undeveloped land is \$500,000. Assume that if the land is protected under Chapter 61 the taxable value is \$30,000. Assume the cost to purchase the land is \$1,000,000.

- Ia.* At full assessed value, the increase in the tax rate due to the loss in tax revenue would be \$0.02
[$B / (C - \$750,000)$].
- Ib.* For Chapter 61 land, the increase in the tax rate due to the loss in tax revenue would be negligible
[$B / (C - \$40,000)$].
- II.* The annual payment for the land purchase over 20 years would be \$93,036 (1,000,000 raised by 20 year bond at 7% interest).
- III.* The new tax levy including the appropriation for land payment is \$15,547,246 ($B + II$).
- IVa.* At full assessed value, the cost of payment for the acquisition would raise the tax rate by \$0.11
[$III / (C - \$750,000)$].
- IVb.* For Chapter 61 land, the cost of payment for acquisition would raise the tax rate by \$0.09
[$III / (C - \$40,000)$].
- Va.* At full assessed value, the new tax rate after the acquisition would be \$0.13 ($Ia + IVa$).
- Vb.* For Chapter 61 land, the new tax rate after the acquisition would be \$0.09 ($Ib + IVb$).
- V.* The average homeowner's taxes would increase by \$20.32 if the land is taxed at full assessed value, while the increase would be \$16.62 if the land is protected under Chapter 61.

Appendix 3-2
Sample Bylaw Provisions For Calculating Lot Area Requirements In A Wetland District

Duxbury Zoning Bylaws - Duxbury, MA

MODIFICATION OF LOT AREA REQUIREMENTS

The following standards shall be applied to the requirements for lot area when involved in wetlands protection district areas and power line easements:

- 1) **Residential Compatibility District**
In this district a lot may be utilized for development of permitted uses provided that thirty thousand contiguous square feet shall be outside any power line easement, and forty thousand contiguous square feet shall be outside the wetlands protection district, or outside of any land under any waterbody, bog, swamp, wet meadow or marsh, as defined in M.G.L., c. 131, S 40, The Wetlands Protection Act. and as determined by the conservation commission.
- 2) **Residential Cluster Development**
In a Residential Cluster Development, a maximum fifty percent of any single lot of contiguous site which is in the wetland protection district may be used to meet the area, yard and open space and/or common open space requirements for the district in which the site or lot is located but shall not be built on or used for septic fields or tanks.
- 3) **Planned Development**
In a Planned Development District a maximum of fifty percent of any single lot or contiguous site which is in the wetlands protection district may be used in the computation of the area, yard and open space and/or common open space requirements. A maximum of twenty-five percent of the allowed density on the adjoining designated planned development district upland for any single lot or site may be used in the density calculation for the wetlands protection district in question, if the applicant shows that the proposed use of such densities will not harm or cause the pollution of areas within the wetlands protection district. In no case shall the acreage within the Wetlands protection district used for density calculation exceed the acreage of the site outside the wetlands protection district. When a proposed site for a planned development includes within its boundary a designated residential compatibility district, a maximum of fifty percent of the allowed density on the adjoining designated planned development upland may be used in the density calculation for the residential compatibility district, if those areas in the residential compatibility district are left open and unbuilt upon. In this district a lot may be utilized for development of permitted uses provided that 30,000 contiguous square feet shall be outside power line easement and 40,000 contiguous square feet shall be outside of Wetlands Protection District.

Appendix 3-3
Worksheet for Assessment of Value
Conservation Land

Step 1: Community Values Rating

**Rate the community-wide importance of Each Value Below by
Distributing a total of 100 points over the following listed values.**

- | | |
|--|-------|
| <input type="checkbox"/> Flood Control | _____ |
| <input type="checkbox"/> Water Supply | _____ |
| <input type="checkbox"/> Protection of Water Quality (from pollutants, sediment) | _____ |
| <input type="checkbox"/> Maintenance of Biological Diversity/Wildlife Habitat | _____ |
| <input type="checkbox"/> Buffer from Undesirable Uses | _____ |
| <input type="checkbox"/> Recreational Opportunity / Character-Building / Spiritual | _____ |
| <input type="checkbox"/> Production of Natural Resources | _____ |
| <input type="checkbox"/> Scenic Views | _____ |
| <input type="checkbox"/> Historic Resources | _____ |
| <input type="checkbox"/> Education _____ | _____ |
| <input type="checkbox"/> Other _____ | _____ |

Step 2: Identify Property and Rights to Be Acquired

Fee?

Restrictions Only?

Other?

Step 3: Estimate Market Base Value

Estimate Value Based on the Following:

Developable Land

- i. Identify mean sale price per lot (ML) for sites in the same zone as subject (from Assessor's information).
- ii. Determine the average number of lots yielded per acre (LYA) within this zoning district (from Planning or Building Dept. utilizing zoning regulations and/or comparable recent subdivisions).
- iii. Calculate potential gross revenue per acre (GRA). $GRA = LYA \times ML$
- iv. Estimate Base Value per Acre. Base value equals the value prior to developer effort to create lots; therefore, base value is estimated at 50% of GRA. This figure may be adjusted for your community.

Undevelopable Land

- i. Analyze Comparable Sales Data
- ii. Adjust sale price/acre figures for pertinent physical and locational characteristics and reconcile indications to final estimate

Step 4: Determine the Base Value for Public Interest Adjustment

Identify the total assessment of the land portion of all property in the community. Determine the total acreage that this assessment covers. Divide the dollar value by the total acreage to yield a value per acre. Multiply the per acre value by the total acreage of the subject site. This value will be used as the basis in determining the public interest "add-on."

Step 5: Negotiate Public Interest Value or Exchange

Complete the following evaluation of public interest values related to the subject site and complete the associated summary matrix to estimate the potential "add-on" to base value.⁸ This assessment identifies the importance of the subject parcel to the community or region as a whole. This documentation will serve as the land owner's bargaining papers.

A. Rate Each Value as Applicable on a Scale of 0 to 3

Flood Control

- 3** High Storage Capacity
- 2** Medium Storage Capacity
- 1** Low Storage Capacity
- 0** Flood Storage Function Not Lost

(how many properties are protected, how much money is saved by protecting?)

Flood Control Rating _____

Water Supply

- 3** Existing Zone I or Capable of Producing a Yield for Public Supply
- 2** Existing Zone II
- 1** Existing Zone III
- 0** No function as a water supply, Recharge Potential Not Lost

(demand for water, replacement cost, other sites?)

Water Supply Rating _____

Protection of Water Quality/Soil Erosion

- 3** Parcel Protects Class A Water from Upstream Uses
- 2** Parcel Protects Class B Water from Upstream Uses
- 1** Parcel Protects Class C Water from Upstream Uses
- 0** Parcel is Not Adjacent to Any Waterway

Water Quality Rating _____

Maintenance of Biological Diversity/Wildlife Habitat

3 Site is listed in the Massachusetts Natural Heritage Atlas as having Statewide Significance or Provides a Corridor Linking other Open Lands.

2 Site has Local Significance as a Habitat Area - Unique Features

1 Site is of Common Distinction - No Rare or Unique Features

0 Site Does Not Provide a Significant Habitat Function

(ecological "niches", rare or unique ecological features (bogs, rocky ledge, old growth forest))

Diversity/Wildlife Rating _____

Buffer from Undesirable Uses

3 Site Buffers Publicly Accessed⁹ or Large Scale Private¹⁰ Sensitive Receptors from Adjacent Land Uses Causing a Nuisance (light, unsightly views, noise, or odors).

2 Site Buffers Small Scale Private Sensitive Receptors¹¹ from Adjacent Land Uses Causing a Nuisance (light, unsightly views, noise, or odors).

1 Site Acts as a Buffer to Uses that are not Sensitive Receptors

0 Site does not serve a Buffering Role

Buffer Rating _____

Recreational Opportunity / Character-Building / Spiritual

3 Site is a Destination Point Drawing People for Recreational Activity or Site is an Existing Handicapped Accessible Site

2 Site Meets a Priority for Future Need Mentioned in the Open Space and Recreation Plan or in Other Planning Documents

1 Site is not Mentioned in any Current Planning Documents, but is important

0 Not applicable

⁸ If using the spreadsheet form of this evaluation, the results of the assessment will automatically be transferred to the matrix.

⁹ Public sensitive receptors include users such as schools, hospitals, etc.

¹⁰ Large scale private sensitive receptors include residential neighborhoods of greater than 20 units

¹¹ Small scale private sensitive receptors include residences or residential neighborhoods of less than 20 units

	H	M	L
Nature Appreciation			
Hiking			
Hunting/Fishing			
Picnicking			
Biking			
Boating			
Horseback Riding			
Motorized Recreational Vehicles			
Solitude, Personal Reflection			
Stress Reliever			
Active Ball Fields			

Production of Natural Resources

- 3** Site Currently Used for Timber and /or Firewood, Agricultural Production / Community Gardens
- 2** Site Provides a Great Opportunity to be Used for Timber and /or Firewood, Agricultural Production / Community Gardens
- 1** Site Provides Little or Limited Opportunity for Natural Resource Production or Community Gardens
- 0** Site Provides No Opportunity for Natural Resource Production or Community Gardens

Natural Resources Rating _____

Scenic Views

- 3** Site Provides Distinctive Landscape Value or Character Viewable from a Public Way or Provides a Point from which to See Significant Wide-angle Unobstructed Views. Currently Identified with Regional Value
- 2** Site Recognized as a Distinctive Visual Element in Town or Provides a Point from which to See Significant Wide-angle, but Obstructed Views.

1 Site Provides Interesting Landscape Features that are not Readily Accessible (e.g. must hike in to view or see view).

0 Site does not Provide any Scenic Qualities.

Scenic Views Rating _____

Historic Resources

3 Features are Listed on State or Federal Register of Historic Places **or** Documented Ancient Uses of Site are Present

2 Features are Listed on Local Inventory of Significant Historic, Cultural or Archeological Value

1 Features are Not Listed on any Inventory but Contain Significant Historic, Cultural or Archeological value

0 Not Applicable

Historic Rating _____

Education

3 Site Currently Serves or is Planned to Serve as a Destination for Organized Environmental Educational Programs (e.g. interpretive trails, outdoor classroom, observation platforms)

2 Site has Potential as Educational Resource (proximity to school, existing trail system in place, demonstrates a range of educational lessons (succession, diversity of habitat) **and** is Scarce (lack of existence of other educational sites).

1 Site has Potential to Supplement Existing Environmental Education Areas **or** Other Comparable Sites are Available in Town.

0 Not Much Potential **or** Needs are Met by Other Sites in Town.

Education Rating _____

Step 6: Calculate Starting Point for Negotiation

Transfer the Ratings from A. above to the Following Calculation Matrix (or use the spreadsheet version of this assessment) and Calculate Potential "Public Interest Value" Add-on to Base Value to Determine Reasonable Property Value to be Negotiated.

B: Calculate the Weighted Rating

Transfer the Ratings from A. above to the Following Calculation Matrix and multiply each community value rating by the site rating for each public interest value and total. Use the weighted rating to compare various parcels and to facilitate prioritization of those parcels for protection or acquisition.

Public Interest Value	Community Value	Resource Significance Value	Weighted Rating
Flood Control			
Water Supply & Water Quality			
Maintenance of Biological Diversity/Wildlife Habitat			
Buffer			
Recreational Opportunity			
Natural Resources			
Scenic Views			
Historic Resources			
Education			
Other (Agricultural, etc.)			
Total Weighted Rating	---	---	

C: Calculate the Negotiation Price

If a base value has been determined, calculate the potential "Public Interest Value" Add-on and add to the Base Value to determine a reasonable property value to initiate negotiation.

<i>Adjustment to Market Base</i>	<i>Score</i>	<i>Adjustment range</i>
Slightly Higher	0-149	Add 0 - 10% ±
Moderately Higher	150-249	Add 10 - 25% ±
Significantly Higher	250+	Add 25 - 35% ±

Base Price \$ _____ + Add On \$ _____

Negotiation Price \$ _____

Section 4:
ECONOMIC DEVELOPMENT
& DEMOGRAPHICS

Section 4: ECONOMIC DEVELOPMENT & DEMOGRAPHICS

The economic activity of a community provides employment for its residents and supplies them with goods and services. It also contributes to the tax base of a community, and assists in paying for the cost of community facilities and services. When physical and social changes occur in an area, they are generally a result of economic activities.

This analysis includes a review of recent trends and market conditions in Holliston so as to anticipate the directions of future economic development. This analysis draws upon the findings of the Economic Development Strategy Phases I (June, 1994) and II (April, 1997) regarding industrial and commercial development potential, as well as goals and recommendations. The locations of existing and potential industrial and commercial activities are discussed in Section 1, Land Use.



Holliston Center



New Construction – Lowland Industrial Park

4.1 SUMMARY OF EXISTING CONDITIONS

Following is a summary of current socio-economic trends/conditions in Holliston. A more detailed analysis is provided in Appendix 4-1.

The population of Holliston in November, 1998 is estimated at 14,523. It is expected to continue to grow at a rate of about 6% over the next two decades, which is lower than the growth rate for Middlesex County. The number of households is expected to increase more quickly.

The unemployment rate has declined steadily since 1992, and averaged 3.0% in 1997. The greatest number of Holliston residents (37%) are employed in service-related industries, manufacturing (21%) and trade (17%). In 1990, 23% of the workforce residing in Holliston also worked in Holliston. The median household income for Holliston residents in 1994 (the most recent data available) was \$70,565, with 0.6% of the population below the poverty level (household income of \$15,081 for a family of four).

In 1996 there were 393 businesses in Holliston employing 4,242 persons. The average annual wage was \$36,805. Average wages by industry ranged from \$14,074 for retail trade to \$44,002 for wholesale trade.

4.2 TAX BASE

The tax base in Holliston is primarily residential, with homeowners providing approximately 88% of the tax revenues. Exempt properties constitute about 5% of total property value in the town. Industrial and commercial properties combined make up approximately 9.9% of the taxable property in Holliston (see Table 4-1).

Table 4-1
Total Property Values in Holliston by Land Use Category, January 1, 1998

	<u>Total Property Value</u>	<u>%</u>
Residential	838,207,119	88.4
Commercial	31,775,381	3.4
Industrial	57,214,900	6.0
Personal Property	20,712,650	2.2
Total (taxable only)	947,890,050	

Source: Town of Holliston Assessors Department

The total valuation of residential properties has increased relative to the total valuation of commercial and industrial properties since 1990 as shown in Table 4-2. While the total valuations of all three categories have fallen since 1990, residential construction has continued in recent years at a faster pace than nonresidential growth.

Table 4-2
Total Property Valuation in Holliston, 1990-1997

<u>FY</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Total Valuation⁽¹⁾</u>
1990	818,400,800	40,850,700	92,451,600	963,788,000
1991	788,570,000	36,723,400	80,881,400	919,624,200
1992	754,336,400	32,491,700	75,902,000	877,465,519
1993	709,045,400	28,768,100	73,343,000	825,998,219
1994	718,428,500	28,252,600	65,086,600	834,960,300
1995	754,038,800	29,358,000	62,208,100	864,859,050
1996	770,671,454	27,861,346	58,579,600	879,535,820
1997	784,926,579	31,185,821	57,750,100	895,377,160

⁽¹⁾ Includes personal property, not shown.

Table 4-3 shows a comparison of Holliston's tax base with neighboring towns and other towns in the region with similar population and household income profiles. The average single-family residential tax bill in Holliston is slightly lower than average among the towns shown, although residential property covers a greater proportion of the total tax levy. It must be noted, however,

that some of the towns shown have a much higher degree of commercial development than would be desirable in Holliston.

Table 4-3
Comparison of Tax Base - Similar or Neighboring Communities

	<u>% of Total Tax Levy</u>			<u>Tax Rate</u>	<u>Avg Tax Bill</u>
	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Res./Nonres.</u>	
Ashland	83.8%	7.2%	5.4%	\$17.91/21.29	\$3,146
Foxborough	78.0	14.8	4.9	15.65	2,895
Franklin	81.4	6.3	10.4	13.80	2,639
Hanover	78.9	16.3	3.2	17.35	3,599
Hopkinton	82.6	3.3	10.8	14.37/16.62	3,450
Medfield	92.9	3.2	2.3	15.10	4,249
Milford	62.6	16.3	9.0	16.29/29.30	2,320
Sherborn	95.9	1.7	0.2	15.68	6,587
Westborough	62.9	13.4	20.0	16.96	3,647
Holliston	88.4	3.4	6.0	17.08	3,321
Average	79.4	8.6	7.5	15.93	3,438

4.3 TOWN & VILLAGE CENTERS

Holliston's commercial districts are primarily focused along Washington Street (Route 16): Holliston Center at Washington Street and Central Street, the East Holliston commercial district at Washington Street and Concord Street (Route 126), and in West Holliston. The commercial areas are mainly comprised of small businesses. Larger retailers, supermarkets, and shopping centers are located outside of Holliston, often near the Holliston town lines. Holliston's residents find these larger retail centers located in adjoining towns relatively convenient. As a result, there is no need expressed to attract these larger retailers into Holliston itself.

Holliston Center

Holliston Center - bounded approximately by Washington Street, Exchange Street, Elm Street and Railroad/Front Street/the railroad right-of-way - is the historic government, civic, and commercial center of Holliston. It is the seat of government, the primary retail core, and the town's communal center, and it retains the architectural ambience and charm of its 18th and 19th century origins. The intersection of Washington Street and Central Street may be considered the 100% corner of the commercial core. It is here that the Washington Street right-of-way is at its widest and where the traffic flow is most concentrated.

The commercial core is adjoined on the immediate north by the "civic center" at the Washington Street/Hollis Street intersection which is anchored by Town Hall and the Library. The green "Common" along Washington Street in front of the First Congregational Church adjacent to Town Hall on one side, Center Cemetery on the other, and the two churches across from one another on Washington Street are all traditional symbols of historic New England rural town centers that strengthen the composition of this "civic center".

This traditional agrarian era town center is immediately adjoined by another historic district (not officially designated) centered along Water Street - the Mudville District which reflects Holliston's early industrial past. Although the mills are no longer in industrial use, the surrounding residential neighborhood of small houses still reflects this district's earlier function as workers' housing.

Holliston Center today has begun to evolve into a unique specialty retail center featuring shops such as antiques stores that are not typically found at conventional shopping malls. The Center also appears relatively healthy with no storefront vacancies. However, its commercial potential is limited by a lack of convenient and plentiful parking. Even the Library lacks its own parking, making it difficult for library visitors to take full advantage of its services. Further, because of Washington Street's broad width and the relatively heavy volumes of through traffic, pedestrians feel unsafe and uncomfortable at times trying to cross from one side of the street to the other, further discouraging visitations to the center for multiple shopping errands. In summary, Holliston Center is attractive and relatively healthy. But it cannot live up to its full potential until street, sidewalk, traffic, and parking issues are better resolved.

Today, there is renewed citizen interest in the future of the Center. After the Town conducted a successful public "charrette" or "visioning session" for the center in the fall of 1997, a goals document was prepared to reflect the results of that effort. A Steering Committee of citizens has subsequently been formed to identify issues, recommend solutions, and seek to implement them. Additionally, a Zoning By-Laws Subcommittee has been formed to suggest design guidelines for the Center.

Some have expressed concern that the new sewer project through the center of town may encourage pressure for an increase in development intensity in the center. This increased pressure may manifest itself in the form of developers buying and assembling residential house lots in and near the center and redeveloping these sites with larger and taller commercial facilities. However, there are some natural and regulatory mechanisms available to the Town to prevent this possible occurrence. First, the limit on available parking may discourage more intense development for commercial purposes. Second, the use, massing, size, and height of new or renovated buildings can be controlled by zoning provisions. Third, the Town may wish to enact a local historic district in the Center (as a subset of the Thomas Hollis National Register Historic District) and craft enforceable design guidelines associated with this local historic district to prevent tear-downs of older and historic residential properties. Fourth, the Town may wish to strengthen the enforcement provisions of the existing Demolition Delay By-Law to prevent unwanted demolitions.

The sewer project may also increase pressure for conversion of single-family homes in the town center to two-family or multifamily use. This may not be detrimental if parking and design issues can be resolved. It could have positive aspects by increasing the supply of needed smaller dwelling units and increasing the walk-in customer base for town center businesses.

East Holliston Commercial District

The East Holliston Commercial District, focused near the intersection of Washington Street and Concord Street is the eastern "gateway" into the town (being at the intersection of Route 126 and Route 16) and is adjoined to its east by the proposed East Holliston historic district of residential homes along Washington Street.

The East Holliston commercial district is secondary in commercial importance to Holliston Center and is anchored by several popular restaurants, Cumberland Farms, other retail stores, and a service station. Its businesses and restaurants are perceived as auto-oriented destinations with each business having its own parking area located in front and often to the sides and rear (in contrast to Holliston Center, for example, which is a traditional pedestrian-oriented "Main Street" with commercial buildings adjoining sidewalks and curbside parking). There is little landscaping to visually screen parking areas and there are few trees to add appeal.

Roadway improvements are scheduled for this area that will include realignments/resurfacing, improved signalization, and a reduction of uninterrupted curbcuts to the parking areas in front of businesses. Curve Street will be slightly modified to help clarify circulation and expand parking there to support businesses. This project offers the opportunity to resolve some longstanding traffic, parking and safety issues and will hopefully lead to improved landscaping and other needed amenities.

West Holliston Commercial Area

The West Holliston commercial district is located along one side of Washington Street. It includes the Post Office, the two-story Village Plaza, the West Holliston Professional Office Building, and several rather large but underutilized properties including the Algonquin Pipe Company building (now used for storage) and the old State Lumber Company site that is now used as a storage/staging area by FEMA. The commercial district (except for the Post Office) is located across the street from an industrial district which includes the Pope Industrial Park and automotive uses.

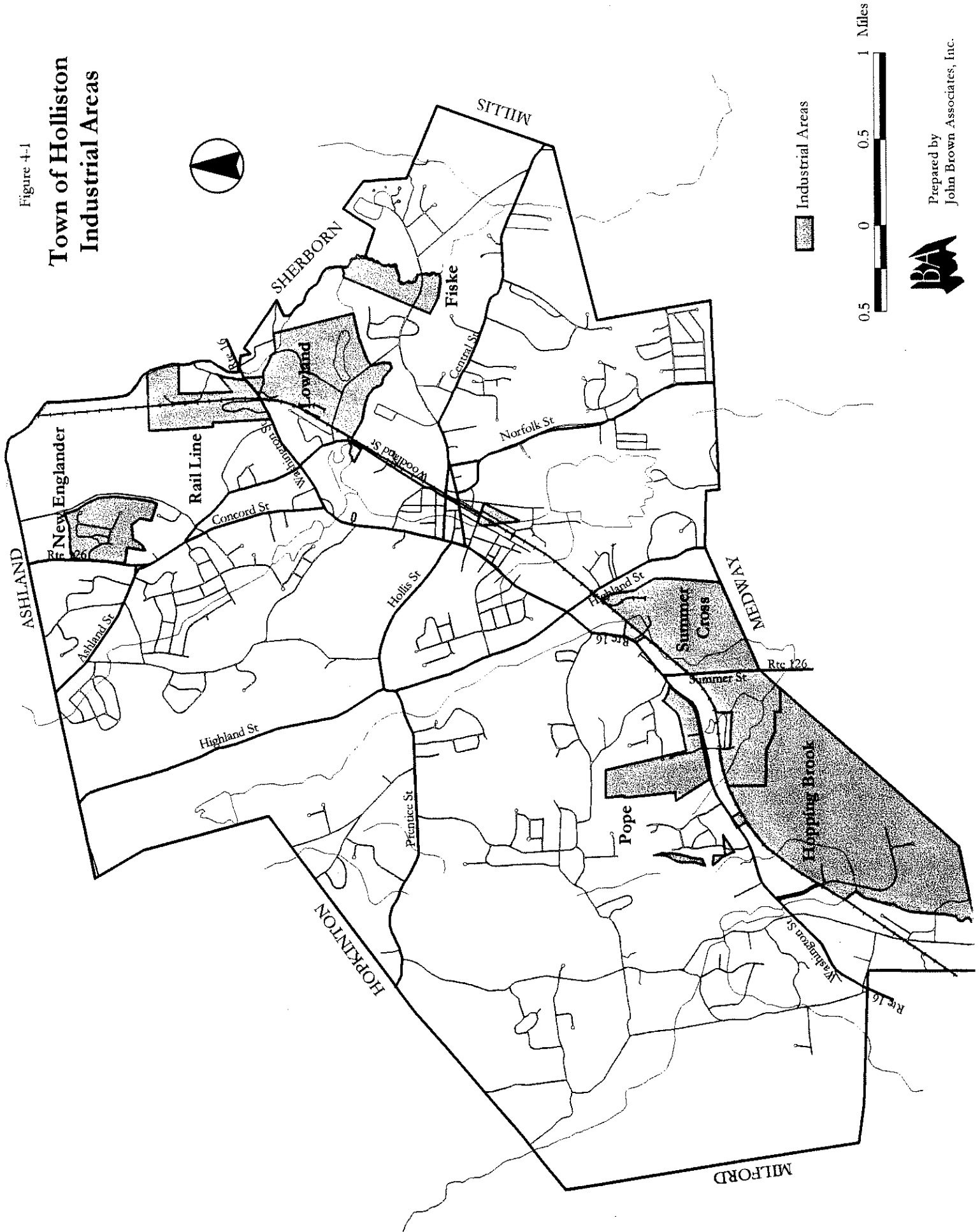
If the now underutilized properties located here were eventually redeveloped for commercial use, this commercial area has the potential to provide "growing room" for additional retail and office establishments in Holliston. Care must be taken to eliminate the possibility of the creation of a "strip development" appearance in this area. The easterly portion of the commercial and industrial districts is recommended for multifamily use.

4.4 HOLLISTON'S INDUSTRIAL AREAS

Holliston has about 745 acres of land currently available for industrial development. The 1997 Economic Development Strategy Phase II Report defined eight industrial areas. Three of these areas contain planned industrial parks, including Hopping Brook Park, New Englander Industrial Park, and Lowland Industrial Park. The Water Street area is a relatively small district near Holliston Center containing historic wood frame industrial buildings. The other industrial areas, Rail Line, Fiske Street, Pope, and Summer-Cross Streets, contain scattered industrial/commercial uses, but no substantial amount of developable land that would be appropriate for future industrial use. (See Figure 4-1, Industrial Areas.)

The Hopping Brook area is well-situated for industrial development. Traffic can access the park from Route 495 and other destinations without traveling through the town center or residential areas. The existence of a planned industrial park is advantageous for attracting quality industrial establishments to construct new facilities. The main disadvantage is the difficulty of providing sewers to serve this area. This will be a limiting factor for certain industrial uses, although a number of alternative methods are being considered to serve the wastewater needs of industrial

Figure 4-1
**Town of Holliston
 Industrial Areas**



Prepared by
 John Brown Associates, Inc.

development in this area. The Hopping Brook industrial area currently contains about 400 acres of developable land.

The New Englander and Lowland Park areas contain older industrial parks which are already largely occupied, although there is still some room for new development. The New Englander industrial area currently contains about 16 acres of developable land, while the Lowland area contains about 85 acres of developable land. The Lowland area is not ideally situated for certain uses, as it sits on an important aquifer and also because two of the three entrances to the industrial park pass through residential areas.

The Water Street area, as mentioned above, is located in the historic Mudville district. The mill structures which are located on Water and Exchange Streets have recently been restored, although there remains some question as to what types of uses might be viable and appropriate for the district. The existing structures are not suitable for the types of industrial uses that are likely to locate in the other industrial areas, thus different zoning regulations pertaining to use and density are warranted for this area.

The Rail Line and Fiske Street areas are both recommended in the Economic Development Strategy Phase II report to be reduced to the extent of existing development. Both of these sites are located in areas that are environmentally sensitive and would not be appropriate for most industrial uses. In addition these areas are adjacent to residential neighborhoods which could be disturbed by additional industrial activity. Together these two industrial areas contain about 60 acres of developable land.

The Summer-Cross Streets area contains some important industrial and commercial establishments including Avery Dennison and the Wilde Company, as well as the Mission Springs elderly housing complex and the Wenakeening Woods conservation land. This area was also recommended to be reduced to the extent of existing industrial development because much of the remaining land is either protected open space or is targeted to be protected in order to preserve valuable agricultural lands and buffers to residential neighborhoods. The Summer-Cross Streets industrial area currently contains about 117 acres of developable land.

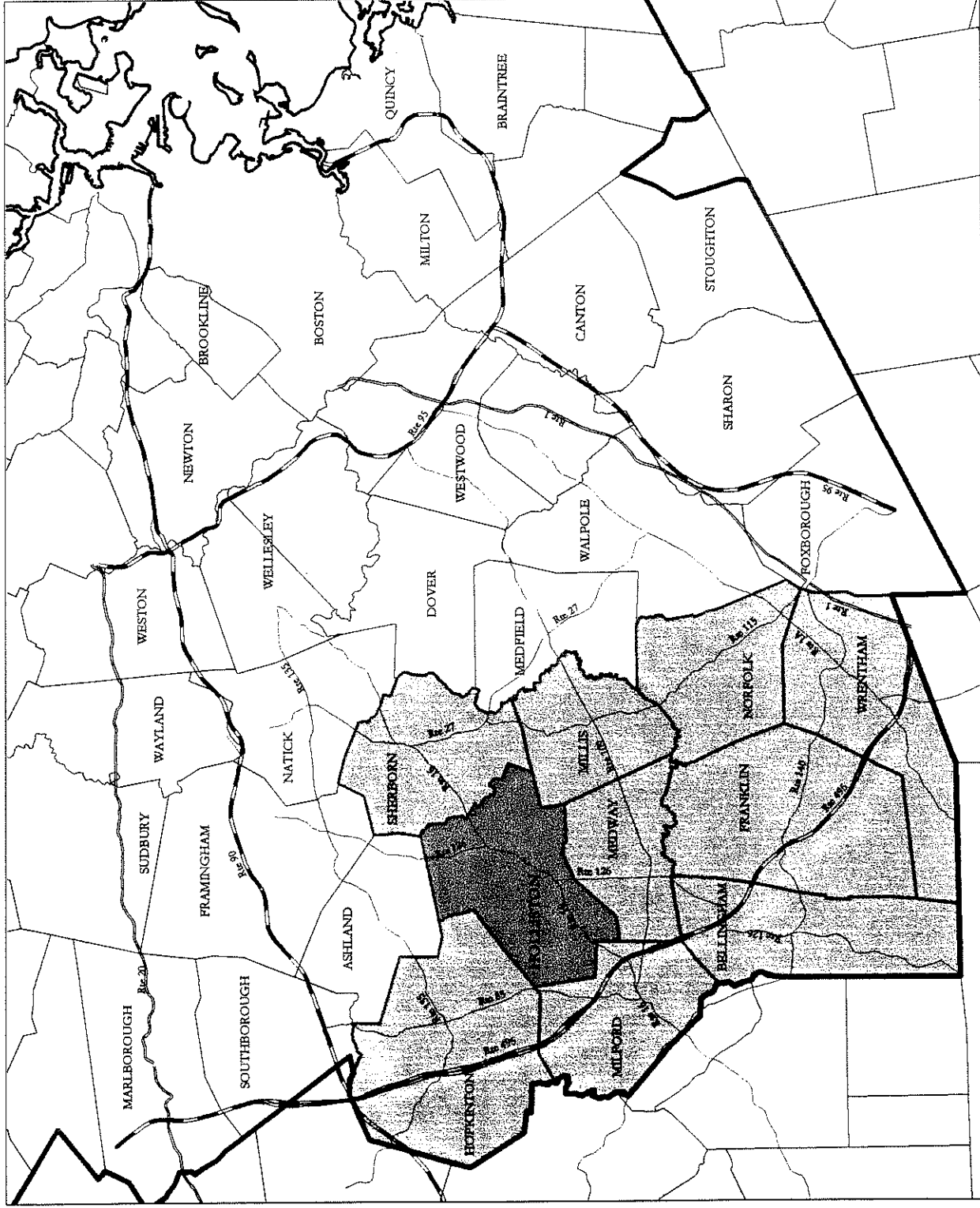
The Pope industrial area is partially developed with a mixture of industrial and commercial uses, including the Post Office. The easterly portion of this area stretches along Washington Street adjoining the West Holliston commercial district. The rear portion of the industrial area is bounded on three sides by residential neighborhoods. The developable land that remains in this district, about 60 acres, is not particularly well suited for industrial uses.

4.5 MARKET AREA CHARACTERISTICS

Holliston is located within the south west subregion of MAPC, and is a part of the MetroWest Chamber of Commerce. Access to transportation and public utilities are key factors related to strength of economic activity within the region, as well as labor force and land. The towns in the region that are the key centers of economic activity are located on or near major highways. These towns include Framingham, Natick, Milford, and Franklin. Holliston, itself, is fairly close to Route 495, but has only indirect access from Route 16 via Route 109. (See Figure 4-2, Regional Context.)

Figure 4-2

Town of Holliston Regional Context



- Interstate Route
- U.S. Route
- State Route
- MAPC Region
- SWAP Subregion

Market Trends

The office, industrial, and high tech real estate market in the Greater Boston area has been strong recently, especially in the Metro West/Route 495-Mass Pike West region. Absorption rates for office and industrial space in the Metro West suburban market areas have continued to climb since the recession in the early 1990s, and vacancy rates are increasingly tight. Financial services and high technology companies have been the primary engines of economic growth in the region.

Many speculative developments are currently underway in the Greater Boston region that are expected to meet the growth in demand for office space. Most of this development in the suburban area is taking place in proximity to the city and to major transportation corridors. Other areas such as Holliston are not likely to see speculative growth, but may still be well situated for individual companies seeking to construct new facilities.

Structural factors limit the functional capacity of much of the region's existing industrial space. Users increasingly require facilities that allow them to utilize technological efficiencies that many older structures cannot accommodate. It is thus economical in the current market for many users to build new facilities to suit their needs, rather than utilizing existing space. Projections of potential market growth are contained in Table 1-6 of the Land Use Section.

Competitors

Holliston's abundance of land is a tremendous resource for the future but cannot alone attract industrial development. Many of the other competing towns in Holliston's subregion also have substantial supplies of land (and empty buildings) and are served by better transportation and public sewer facilities.

Holliston's biggest competitors from an economic development standpoint include Hopkinton, Franklin, Framingham, and Natick. Nearby towns such as Franklin have experienced improved economic growth as a result of strategic planning, and benefit from more convenient access to highway interstate routes and public transportation.

4.6 ECONOMIC DEVELOPMENT GOALS

Many of the following goals were outlined in the 1997 Economic Development Strategy - Phase II report. Additional goals were identified during the public forums.

General Goals

1. Encourage development that increases employment of residents in the town and that increases the industrial and commercial contribution to the tax base.
2. Enhance the unique role, character, and scale of commercial areas within the town including retail, service, office, wholesale and automotive uses.
3. Holliston should not seek to become a major retail destination in the region.
4. Work with State and regional economic development organizations to promote desired commercial and industrial development in Holliston.

5. Integrate economic development planning with town-wide land use planning as a part of the Town's new planning department.
6. Improve the permitting process so that desired uses may obtain expeditious approval.

Town & Village Center Goals

1. Build upon Holliston Center's existing retail mix and strengths as a specialty retail center offering unique merchandise.
2. Retain the adjacent north edge of Holliston Center along Washington Street as Holliston's civic and government center. Do not relocate public facilities out of Holliston Center.
3. Maintain Holliston Center's attractive 18th and 19th century architectural style and scale.
4. Make Holliston Center as friendly and safe as possible for pedestrians.
5. Support Holliston Center merchants and the Library with increased on and off-street parking.
6. Enhance the appearance of Holliston Center - its sidewalks, landscaping, streetscape, signage and building facades.
7. If fiscally possible, remove overhead utilities which mar the appearance of Holliston Center and East Holliston.
8. Improve the visual appeal of the East Holliston commercial district by identifying places for additional landscaping.
9. Encourage the attractive redevelopment of underutilized sites in the West Holliston commercial district for retail, office, and commercial uses.

Industrial Goals

1. Create a balanced development strategy with a broad industrial base that is not vulnerable to boom or bust cycles.
2. Accommodate industrial development within the community in a positive manner and discourage or prohibit undesired uses.
3. Attract environmentally acceptable businesses and industries to the town which will help maintain the quality of life.
4. Coordinate industrial development with the sewer design process.
5. Determine the appropriate scale of each of the industrial areas in view of surrounding land uses, potential impacts, market potential, available infrastructure, and other considerations.
6. Improve transportation facilities serving industrial areas.

4.7 ECONOMIC DEVELOPMENT RECOMMENDATIONS

Introduction

Following are recommendations to improve the function of commercial and industrial areas in Holliston, and to attract economic development that is compatible with the quiet residential character of the town. Quantities of land, potential nonresidential buildout capacities, and anticipated phasing of growth are discussed in Section 1.6, Guide Plan for Future Land Use. Specific recommendations for implementation of economic development regulations are contained in the Implementations section.

• Overall Recommendations

1. **Revise the zoning bylaw to limit permitted uses in commercial and industrial areas to those specifically desired.**
Adopt a Transitional Business zoning district to deal with portions of current Industrial Districts which are no longer considered suitable for industrial use but do not fit into the existing Commercial District. Adopt a new Commercial Service zoning district specifically oriented toward the desired uses in the Water Street area. Limit retail and service commercial uses to the town center, East Holliston business district and West Holliston business district. (See Section 1.6, Guide Plan for Future Land Use, for a description of land use categories.)
2. **Maintain high standards of design and maintenance in existing and new commercial developments.**
The use of site plan review and performance standards for all new or expanded commercial and industrial development will help to assure high standards of design and maintenance.
3. **Encourage development that increases employment of residents in the town and that increases the industrial and commercial contribution to the tax base.**
Seek to attract non-retail businesses to provide employment and contribute to the tax base, while providing adequate space for retail and service businesses that serve the needs of Holliston residents.
4. **Seek State assistance to support economic development goals.**
There are a number of programs and funds that may be available to help provide finance for small businesses or economic development initiatives by public or non-profit agencies, or technical assistance for towns attempting to promote more commercial and industrial development. Chapter 121C provides for the creation of Local Economic Development Industrial Corporations (EDIC), through which towns can actively promote economic development projects. Other programs target economic development in low and middle income communities. See Technical Appendix for a listing of such programs.

• Town & Village Center Recommendations

Issues that affect the commercial viability of the Town Center relate to its historic resources, public facilities, and circulation, in addition to commercial located in the center. Therefore, solutions that address all of these issues are integral to the planning for the center.

1. Encourage the commercial development of the center as a unique specialty retail and family entertainment/dining district.

Holliston Center cannot compete with outlying shopping centers, nor should it try to do so. Holliston Center has neither sufficient parking, building footprint size, or patronage volume to attract the larger chains that locate at shopping malls. Instead, Holliston Center should continue to encourage and build upon the development of local businesses, specialty shops offering unique goods such as antiques, restaurants, and local convenience businesses which have already established themselves in the center.

One or two new modestly sized regional chain stores, such as the CVS on Central Street, can provide a draw of patrons which can help anchor other small local businesses. If, in the future, other appropriate chains such as the CVS indicate interest in the center, they will likely require new construction to provide the building "footprint area" they require. If new construction is proposed, it should conform to design principals which reflect the 18th and 19th century architectural character of the Center. If possible they should also be located within close walking distance of other Washington Street/Central Street shops to provide patronage to these other retailers as well.

2. Retain the center's existing 18th and 19th century architectural character and scale/prepare design and signage guidelines.

The Center today remains an attractive historic center that is protected under the Hollis Historic District corridor along Washington Street. As renovations, additions or new construction are proposed in the center, the designs for such improvements should conform to Design Guidelines and Signage Guidelines which reflect or draw upon 18th and 19th century historic styles and the prevailing massing, scale and height of surrounding buildings. Such Guidelines should also address building setbacks and encourage commercial parking at the rear of buildings rather than in front or side yards. To enforce these design guidelines, a Design Review Board may have to be established.

These design guidelines should be crafted and made readily available to building owners and potential redevelopers before they engage in redesign or renovation efforts so that they understand what is expected of them by the Town. These guidelines will also serve as the basis for the Town's review and approval of new or renovation projects. Guidelines available prior to design or construction efforts also significantly diminish the chances that the Town's review of construction projects are judged to have been made in an arbitrary or capricious manner.

3. Modify the Zoning By-law, if necessary, to prevent the assembly of residential properties and development into larger commercial structures.

Review and modify the dimensional requirements of the Village Center Zoning District to maintain the scale of the existing 18th and 19th century village character. Also review and modify the types of uses allowed in the Village Center District. An alternative is to divide the Village Center District into two districts: one fronting on Washington, Central and Woodland Streets, and another including the current residential areas within the Village Center District.

4. Accommodate additional smaller residential units.

The conversion of large single-family or two-family homes in the town center to two-family or multifamily use can increase the supply of needed smaller dwelling units and increase the walk-

in customer base for town center businesses. Parking and design issues may need to be resolved.

5. Consider the establishment of a local historic district in the Town Center.

At present, the Town Center is included within the Thomas Hollis National Register Historic District. Such inclusion, however, offers little actual protection against unwanted changes since federal or national historic districts only have jurisdiction over changes that are caused by projects that are federally funded. Similarly, State districts or historic places are only protected by review jurisdiction to the degree that proposed changes are a result of state-funded projects. To provide greater protection, the Town may wish to establish a Town Center Historic District. Local districts can establish design guidelines and design review procedures which have jurisdiction over any proposed exterior changes to properties, whether the changes are due to private initiatives or government initiatives (such as street widenings or streetscape improvements).

6. Retain civic and institutional functions in the Center.

In part, Holliston Center remains the center and heart of town because it retains a critical mass of municipal facilities that form the seat of local government and that shape the center of Holliston's institutional or communal life (e.g. the churches and Library). Such public and institutional facilities bring people and life to the center. In the future, when alternative sites for expanded public facilities are examined, favor the retention and expansion of these existing facilities at their current locations in the center if at all possible. Do not relocate or scatter them throughout the town. The Town's past decisions to expand the existing Central Fire Station and Library at their historic locations were correct ones, even though sufficient parking for the Library was not available.

In the future, if and when new public facilities are considered (e.g. youth center), first seek to examine whether there may be available and viable sites or properties in the center to help reinforce the critical mass of activity.

Approach the US Postal Service to determine whether they would be willing to reopen a branch walk-in Post Office in the Center. Traditionally, a Post Office is an important communal meeting place for the town's citizens. Locating a Post Office in Holliston Center would help bring additional life and patronage to the center.

7. Consider acquiring or swapping land from the First Congregational Church's front lawn for use as a public Town Common.

The broad lawn in front of the First Congregational Church can serve visually and functionally as the Town Green. It already serves this purpose in at least a visual manner. If the Town were to acquire this portion of the church's property, it could sponsor active and passive town-wide events here.

8. Design Holliston Center's streets to be friendly, inviting and safe for pedestrians.

Consider street and sidewalk configurations to enhance pedestrian safety and amenity.

- *Consider installing sidewalk extensions or "neckdowns" at key intersections along Washington Street*
Sidewalk neckdowns, at such intersections as Central Street, would narrow the walking distance across Washington Street for pedestrians and would hold back parallel parking spaces from the immediate vicinity of an intersection so that motorists approaching an intersection could better see other cars and pedestrians.
- *Consider installing a planted median along the wide portions of Washington Street*
Installing such medians could 1) provide mid-way "refuge" for pedestrians crossing the wide distance across Washington Street; 2) provide more plantings along the street to help "green" the center; and 3) perhaps help define dedicated left-hand turn lanes. To insure that such a proposal is technically feasible and desirable, a Washington Street Corridor Study should be undertaken including an investigation of possible traffic signalization.
- *Consider Additional Traffic Calming Devices*
Examine the desirability and feasibility of constructing additional traffic calming devices to slow the speed of through traffic in the center in order to make the center more friendly for pedestrians. Devices that have been discussed by town committees, in addition to those mentioned above, include the installation of a round-a-bout (a small traffic circle) at the intersection of Hollis and Washington Streets and angled parking. To test whether these ideas are feasible, however, would require a more detailed Washington Street Corridor Study.

9. Increase parking supply in the Center.

Identify locations to increase off-street parking spaces in the center to support merchants, businesses, employees and library patrons.

- *Seek to identify new sites and increase existing off-street parking lots to help support businesses, merchants, and visitors to town and municipal facilities.*
The municipal parking lot off Central Street behind the Fire Station could possibly be expanded or linked with parking adjacent to the planned expansion of the Central Fire Station to provide better access.

10. Bury overhead utilities, if financially feasible.

Working with the utility companies, identify costs and increases in annual service rates necessary to finance the removal of overhead utilities in Holliston Center and elsewhere along Washington Street. Examine whether cost savings can be obtained by burying overhead utilities in trenches that may be dug through the Center and along Washington Street to provide an expanded sewer network.

11. Improve the visual appeal of the East Holliston commercial district.

Provide additional landscaping and street trees where possible and screen parking lots with landscaping improvements. Consider the preparation of design guidelines for future development.

12. Encourage the attractive redevelopment of underutilized sites in the West Holliston commercial district.

As these sites are redeveloped, discourage "strip development" patterns. Discourage automotive uses.

- **Industrial Recommendations**

1. Attract environmentally acceptable businesses and industries to the town which will help maintain the quality of life.

Encourage the development of the current industrial areas on the model of eco-industrial parks, which seek to attract an efficient, compatible, and environmentally sound mix of industrial and high tech uses. (See the Technical Appendix to the Master Plan for information regarding eco-industrial Parks.) The town must continue to monitor the potential impacts of nonresidential uses so as to protect the natural environment and residential areas.

2. Improve the infrastructure capacity of prime industrial areas.

If sewers cannot be provided to serve the Hopping Brook Park industrial area, cooperate with private developers to construct one or more package treatment plants or seek to arrange connection to a neighboring town such as Milford.

3. Utilize tax increment financing. Use recently adopted tax increment financing to help to finance infrastructure for qualified projects intending to locate in Hopping Brook Park.

4. Implement 1997 Economic Development Strategy report. Utilize the recommendations of the 1997 Economic Development Strategy Report to improve and enhance industrial development opportunities.

Appendix 4-1
Existing Socio-Economic Conditions

A. POPULATION

Much of the following information comes from the 1990 U.S. Census. Estimates for 1996-98 and forecasts are based upon town-level research provided by MAPC or local sources. Although the focus is on Holliston, data on adjacent communities and regional groups is included for comparative purposes, so that a sense of Holliston's role in the region is provided. Holliston is a part of the South West Advisory Planning Committee (SWAP) subregion of the Metropolitan Area Planning Commission (MAPC), which includes Holliston, Hopkinton, Sherborn, Milford, Medway, Millis, Bellingham, Franklin, Norfolk, and Wrentham (see Figure 4-2, Regional Context).

Size and Growth

The 1998 population in Holliston, as reported by the Town Clerk, is 14,523 people. The population of Holliston has grown more slowly in the past ten years when compared to the SWAP subregion of MAPC but the rate of growth has increased in recent years. The population nearly doubled in the 1960s as a home construction boom took place, but has grown much more modestly in the decades since. (see Table A4-1).

Population projections by the regional agencies, MAPC and MISER are currently out of date and do not reflect actual growth that has taken place in recent years. For this reason we have prepared population projections based upon the revised estimate of household growth shown on Table 1-5 in the Land Use section. Updated projections should be available from both MISER and MAPC in 1999. The projections shown on Table A4-1 assume a population per household of 3.00 for all dwelling units in the town based on estimates of household size by housing type from DHCD.⁽¹⁾

Table A4-1
Population And Growth Rates Since 1960 And Projections To 2020

	<u>Holliston</u>	<u>Massachusetts</u>	<u>MAPC SWAP</u>
1960	6,222	5,148,578	
1970	12,069	5,689,170	
1980	12,622	5,737,037	108,990
% Change (1960 - 1980)	102.9	11.4	
1990	12,926	6,016,425	124,253
% Change (1980 - 1990)	2.4	4.9	14.0
1998	14,523		
2000	14,664	6,388,885	143,557
% Change (1990 - 2000)	13.4	6.2	15.5
2010	15,264	6,720,604	157,069
2020	16,914	6,931,000*	167,664
% Change (2000 - 2020)	15.3	8.5	16.8

Source: U.S. Census, MAPC, MISER

* 2020 population for Massachusetts from U.S. Bureau of Economic Analysis

(1) Regional trends indicate a declining size of households in the foreseeable future. The size of households for homes built in the most recent years is about 4 persons per household, while the average household size for the town in 1998 is about 3 persons per household. (It was 3.01 in 1990.) MAPC predicts that household size will decline to an average of 2.82 over the next two decades.

(Continued)

(Appendix 4-1 continued)

Households

In 1998 there were approximately 4,753 households (occupied housing units) in Holliston. The number of households grew 8% between 1990 and 1998. Household growth is discussed further in Section 3, Housing.

Social Characteristics

The population characteristics show an age distribution that leans toward the young end. See Table A5-3 in the Housing Section for age distribution and projections. In 1990, almost 30% were under 20 years old, while approximately 10% were age 65 and over. Approximately 30% were in the 45-64 age group that is approaching retirement.

The ethnicity of Holliston residents is predominantly White, with a small number of Hispanics, Blacks, and Asians (see Table A4-2).

Table A4-2
Racial And Ethnic Characteristics

	1990	
	<u>Persons</u>	<u>%</u>
White	12,517	96.8
Black	122	0.9
American Indian, Eskimo, Aleut	11	0.1
Asian or Pacific Islander	123	1.0
Hispanic Origin	152	1.2
Other	1	0.0

Source: 1990 U.S. Census

The qualifications of the labor force in the area are well-suited. The educational attainment of residents in Holliston is high compared to the state average. 93% of Holliston residents over the age of 16 years have high school diplomas, and 39% have a bachelor's degree or higher. The availability of a highly educated labor force is an attractive feature for high tech industry or research and development type firms (see Table A4-3).

Table A4-3
Educational Attainment

	<u>% Completed</u> <u>High School</u>	<u>% Completed 4+</u> <u>Years College</u>
Holliston	93.4%	38.7%
MAPC	84.3	35.4
Massachusetts	80.0%	27.2%

Source: 1990 U.S. Census

(Continued)

(Appendix 4-1 continued)

B. ECONOMIC CHARACTERISTICS**Labor Force and Unemployment**

In 1990 the annual average number of persons in the civilian labor force was 7,589, representing a participation rate of approximately 77% of the population 16 years old and older. In 1997 there was an average of 7,752 people in the civilian labor force. Of these, 233 were unemployed, resulting in an unemployment rate of 3.0%. The unemployment rate has been in steady decline since its peak in 1992, following trends across the region and state. Holliston's unemployment rate is consistently lower than the unemployment rate for Middlesex County and the State (see Table A4-4). The average unemployment rate for Holliston in 1998 as of September was 2.3% (not seasonally adjusted).

Table A4-4
Average Annual Labor Force And Unemployment, 1986 - 1996

	<u>Holliston</u>		<u>Middlesex County</u>		<u>State</u>	
	<u>Labor Force</u>	<u>Unemployment Rate</u>	<u>Labor Force</u>	<u>Unemployment Rate</u>	<u>Labor Force</u>	<u>Unemployment Rate</u>
1986	7,159	2.0	786,484	2.9	3,058,283	3.8
1987	7,186	1.6	779,576	2.5	3,086,092	3.2
1988	7,663	2.3	791,778	2.6	3,154,492	3.3
1989	7,711	2.9	796,066	3.2	3,179,750	4.0
1990	7,512	4.7	802,310	4.9	3,242,000	6.2
1991	7,354	7.0	780,431	7.3	3,161,800	9.1
1992	7,339	6.3	778,271	7.3	3,162,000	8.5
1993	7,413	4.4	779,331	5.7	3,164,100	6.9
1994	7,532	4.0	780,800	4.9	3,167,100	6.0
1995	7,567	3.6	783,331	4.9	3,167,500	5.4
1996	7,630	2.7	789,907	3.2	3,189,100	4.5
1997	7,752	3.0	808,418	2.7	3,260,200	4.0

Source: Massachusetts Division of Employment and Training

Occupation of Residents

In 1990, 78% of Holliston's labor force was employed in managerial, professional, technical, or sales occupations with the remaining 22% in positions such as entry level or general labor jobs. Service and finance/investment/real estate fields together employed 44% of Holliston's labor force. Manufacturing and trade related fields each employed around 20% of Holliston's labor force. Generally, Holliston has a diverse and balanced occupational composition (see Tables A4-5 & A4-6).

(Continued)

(Appendix 4-1 continued)

Table A4-5
Occupational Groups Of Residents

	<u>1980</u>	<u>1990</u>
Managerial/Professional/ Tech/Sales/Admin	4,433	5,590
Service	567	589
Farm/Forestry/Fishing	32	5
Prod/Craft/Repair	691	585
Oper/Fabr/Laborer	<u>675</u>	<u>397</u>
Total	6,398	7,166

Source: U.S. Census

Table A4-6
Employment By Industry of Town Residents

	<u>1980</u>		<u>1990</u>	
Agriculture & Mining	23	0.4	97	1.4
Construction	297	4.6	424	6.3
Manufacturing	1,564	24.4	1,409	20.8
Transportation, Communications & Utilities	413	6.5	310	4.6
Wholesale & Retail Trade	1,381	21.6	1,156	17.1
Finance, Insurance & Real Estate	342	5.3	634	9.4
Services	2,113	33.0	2,525	37.3
Government	<u>265</u>	4.1	<u>211</u>	3.1
Total Covered Employment	6,398		6766	

Source: U.S. Census

Places of Work

Most of the Holliston labor force commutes to other areas for employment. 26% of Holliston residents work in Framingham, and 23% are employed in Holliston. Other major places of employment are Boston and other suburbs to the west of Rte 128 (see Table A4-7). The majority of persons who are employed in Holliston come from other towns in the surrounding region.

(Continued)

(Appendix 4-1 continued)

Table A4-7
Top Destinations of Persons Traveling To or From Holliston for Work

Town of Residence of Holliston Employees	# of Persons	%	Workplace of Holliston Residents	# of Persons	%
Holliston	966	23.4	Framingham	1,062	15.6
Milford	414	10.0	Holliston	966	14.2
Framingham	303	7.3	Boston	654	9.6
Woonsocket, RI	238	5.8	Natick	461	6.8
Bellingham	164	4.0	Wellesley	295	4.3
Other	2,051	49.5	Other	3,368	49.5

Source: 1990 U.S. Census

Holliston residents generally do not travel far for work. About 5% of the labor force in Holliston worked at home or walked or biked to work in 1990. Approximately 12% traveled 10 minutes or less to work, while 63% traveled less than one half hour by car.

Income Distribution

According to MAPC estimates, the median household income in Holliston in 1994 was \$70,565. The median household income in Holliston in 1989 was \$62,712, well over the median household income for Middlesex County, which was \$43,847. The number of persons in 1989 whose household income was below the poverty level was 83, or approximately 0.6% of the population. The percentage of persons below the poverty level in Holliston was considerably lower than Middlesex County (2.8%) or Massachusetts (8.9%) (see Table A4-8). The poverty rate in 1998 is about the same.

Table A4-8
Income Distribution - 1989

	Households	%
Less than \$10,000	136	3.1
\$10,000 - \$24,999	389	9.0
\$25,000 - \$49,999	1,173	27.4
\$50,000 - \$99,999	1,944	45.4
\$100,000 or more	622	14.5

Source: U.S. Census

C. ECONOMIC BASE

The nature of the economic base is important since the development potential of a town is closely linked to the prospects of its key industries. It is also important to anticipate the direction of future development so that specific programs can be formulated to influence new economic growth.

Recent trends in the MAPC District show a broadening of the regional employment base. Employment in the SWAP subregion of MAPC represented 1.6% of employment in the MAPC region in 1980, and is expected to increase to 2.8% of employment in the region by 2000. Total employment in the southwest subregion grew by 10.4% from 1980 to 1990, and is expected to reach 49,400 in 2000. Holliston, itself, is expected to account for approximately 9% of employment in the SWAP subregion in the year 2000.

(Continued)

(Appendix 4-1 continued)

The economy in Holliston has fully recovered from the recession in the early 1990s. There was a decline in the number of establishments and the number of employees in Holliston between 1990 and 1992, however both have fully regained levels prior to the recession. The structure of the economy has remained fairly stable in the 1990s; that is, the distribution of employment between industries has not changed substantially.

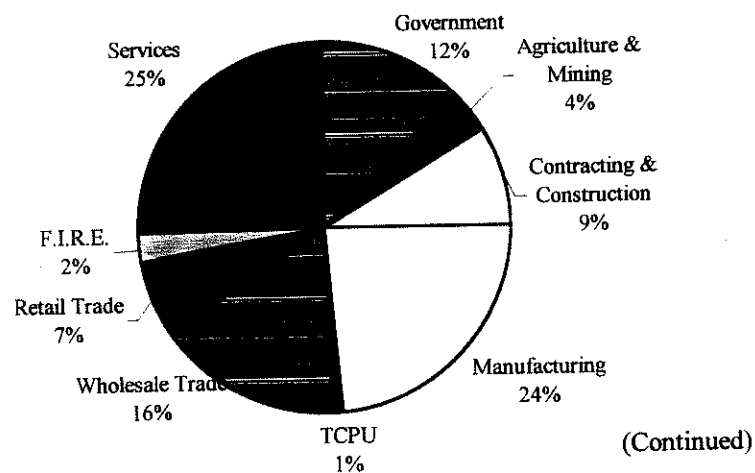
In 1996 a total of 393 businesses in Holliston employed 4,242 persons. (Data for 1997 has yet to be released.) The average annual wage for employees in Holliston in 1996 was \$36,805. The types of industries represented in the town are well balanced. The highest number of jobs were in the services industry (25.4%), followed by manufacturing (23.6%), and wholesale and retail trade (22.8%). Employment in the service industry is expected to grow faster than employment in all other industries in the MAPC region as a whole, reaching over 40% of total employment by 2010 (see Tables A4-9 and A4-10).

Table A4-9
Employment by Industry in Holliston

	Average Annual Wage	Number of Establish- ments	Total Employ- ment	Gov.	Agr. & Min.	Contr. Const.	Manu- facturing	Transpor t Comm. Utilities	Wholes. & Ret. Trade	Finance Insurance Real Estate	Services
1986	\$21,838	341	3,951	553	*	437	817	233	955	60	653
1988	\$24,305	359	4,371	560	353	439	869	251	743	66	1,090
1990	\$26,215	394	4,209	507	124	320	924	262	950	85	1,037
1991	\$26,594	374	3,939	408	108	275	915	239	855	88	1,051
1992	\$31,193	340	3,952	450	102	285	869	238	907	91	1,010
1993	\$30,810	356	3,960	488	116	321	924	130	793	94	1,094
1994	\$32,766	374	3,952	510	125	417	1,032	38	856	108	866
1995	\$33,361	375	4,054	505	153	353	987	33	941	116	966
1996	\$36,805	393	4,242	526	168	370	1,000	35	966	100	1,077
1997	(will be completed when data becomes available)										

Source: Massachusetts Division of Employment and Training (covered employees only)

Figure A4-1
Distribution of Employment in Holliston (1996)



(Appendix 4-1 continued)

Table A4-10
Average Annual Wages by Industry in Holliston

	<u>1992</u>	<u>1994</u>	<u>1996</u>
Government	\$41,777	*	*
Agriculture, Forestry & Fishing	20,920	\$18,509	\$21,114
Contracting & Construction	32,122	31,858	41,035
Manufacturing	30,475	32,977	37,003
Transp., Comm., & Utilities	33,155	46,608	36,002
Wholesale Trade	40,007	43,738	44,002
Retail Trade	13,630	13,846	14,074
Fin., Insurance, & Real Estate (F.I.R.E.)	28,758	32,423	32,334
Services	27,032	32,913	41,272
Average	\$31,193	\$32,766	\$36,805

* Confidential or not reported to avoid disclosing operations individual of firms or agencies.

Source: Massachusetts Division of Employment and Training

Another indication of the economic base is the rate of new commercial construction in the town. Since 1993 there have been about 6 new commercial constructions and several sizeable additions and renovations.

Retail and Wholesale Trade

The 1992 U.S. Census of Retail Trade reported that there were 44 retail establishments with total annual sales of \$31,500,000. The largest categories were gasoline service stations, with nine establishments totaling \$6,304,000 in annual sales. Eating and drinking establishments and food stores were the next largest categories. Annual sales is not reported by the census for other categories of retail establishments in Holliston to avoid disclosing the operations of individual companies or businesses. Retail establishments in 1996 employed 290 people at a relatively low average wage of \$14,074. A total of 58 wholesale establishments employed 676 persons at an average wage of \$44,002 (see Table A4-10).

Table A4-11
Retail Sales by Retail Group, 1992

	<u>Establishments</u>	<u>Sales (\$,000)</u>
Building materials, garden supplies	2	D
General merchandise	2	D
Food Stores	7	4,328
Automotive stores	1	D
Gasoline service stations	9	6,304
Apparel, accessories stores	1	D
Furniture, home furnishings	2	D
Eating & drinking places	7	3,818
Drug & proprietary stores	2	D
Miscellaneous retail stores	11	D

Note: Sales is withheld (indicated with a "D") where it would disclose the operations of individual companies or businesses.

Source: US Census of Retail Trade, 1992

(Continued)

(Appendix 4-1 continued)

Manufacturing

Manufacturing is not a significant presence in Holliston. In 1996 there were 49 manufacturing enterprises employing 1,000 persons. The average wage in manufacturing was \$37,003. The number of persons employed in manufacturing declined in the early 1990's, and has not fully recovered previous levels. The number of establishments likewise reflects this trend.

According to the U.S. Census of Manufactures, the most prominent manufacturing industries in Middlesex County in 1992 by number of establishments were printing and publishing, followed by industrial machinery and equipment, and electronic equipment. The largest employing industries were electronic equipment and instruments & related products (each with 19% of manufacturing jobs) and industrial machinery (12%). The share of jobs in industrial machinery and equipment declined from 20% in 1987 to 12% in 1992.

Section 5:

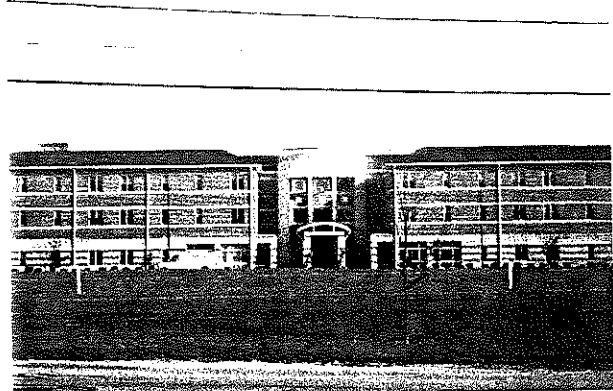
HOUSING

Section 5: HOUSING

There are three important aspects related to housing: the housing structures themselves, the population that inhabits the housing structures, and the environments in which they are located. This analysis examines the existing housing structures in Holliston in terms of their age, condition, cost, availability, and rate of growth, and considers the demographic trends affecting housing needs, as well as the specific needs of different population groups. The recommendations provide a plan to address the needs of Holliston residents and ensure the quality of residential development and the neighborhood environments.



Cole Court Elderly Housing



Mission Spring Senior Housing

5.1 SUMMARY OF EXISTING CONDITIONS

A more detailed analysis of housing and demographic data is provided in Appendix 5-1.

Residential Zoning

The density of residential development that is specified by the Zoning By-law is appropriately distributed, although it does not encourage a diversity of housing types. Existing zoning regulations require a minimum residential lot size of 80,000 s.f. in the AR-1 district which is located in the western part of the town, 30,000 s.f. in the R-1 district which is located in neighborhoods in the central and eastern part of the town, and the remainder of the town's residential area, AR-2, is required to have a minimum lot size of 40,000 s.f. (See Figure 1-3 in the Land Use section.) There are also many single-family older homes with smaller lots located in or around Holliston Center, which is zoned for Village Commercial use.

Apartments are permitted in the Apartment district, which is not currently located anywhere on the Zoning Map, and in the Village Center district in limited cases. Cluster development is permitted in the AR-1, AR-2, and R-1 districts. However, these provisions have not been widely taken advantage of, in part because of the climate of the real estate market in recent years, as well as regulatory requirements that tend to discourage viable and attractive projects.

Existing Housing

The number of housing units in the town as of January, 1998 was 4,753. Of these, about 340 units have been built since 1990. The vast majority of homes are single family, with only 15% of all dwelling units in structures with two or more units. Most units are owner-occupied. Vacancy rates for homes and rental units have been consistently below 5%.

The median sales price for homes sold in Holliston in 1997 was \$202,500. The average assessed value of all homes in Holliston in 1998 was \$84,753, while the average assessed value of homes built since 1994 is \$300,000. Homes built by private developers in recent years have tended to be large single family homes with 4 or more bedrooms. The market for such large homes, however, is bound to be limited, and there is a growing demand for smaller homes and condominium or townhouse units.

Low and Moderate Income Housing

There are a total of 153 publicly assisted housing units in Holliston. In addition the Holliston Housing Authority assists 48 families under the Federal Section 8 program. All of these provide housing for persons of low and moderate income. Low income is defined by the U.S. Department of Housing and Urban Development (HUD) as income that does not exceed 50% of the median family income for the region; moderate income is defined as income that does not exceed 80% of median family income.

The Holliston Housing Authority manages two State-funded complexes. Cole Court, under Chapter 667, has 72 units for elderly, disabled or handicapped persons, and 59 Hollis Street, under Chapter 705, has 6 apartments for families of two or more persons. There are 75 units for elderly persons at the Mission Springs complex located at the site of the former school across from the Fatima Shrine, which is funded under the Federal Section 8-202 program. Both of these housing complexes have waiting lists.

Income limits vary depending upon the federal or state program which subsidizes housing. As of August, 1998, the income limit for state-aided housing programs for a family of four in the Boston area is \$45,300, while the limit for federal aided programs for a family of four was \$43,500 for low income families or \$30,000 for very low income families. The state asset limit is \$15,000. Rent for families under both federal and state programs is fixed at 30% of the household income.

Table 5-1
1998 Income Limits for Federal and State-Aided Programs

<u>Family Members</u>	<u>Total Gross Family Income (Boston PMSA)</u>		
	<u>Federal Low Income</u>	<u>Federal Very Low Income</u>	<u>State</u>
1	\$31,700	\$21,000	\$31,700
2	\$36,250	\$24,000	\$36,250
3	\$40,750	\$27,000	\$40,750
4	\$45,300	\$30,000	\$45,300
5	\$48,900	\$32,400	\$48,900
6	\$52,550	\$34,800	\$52,500
7	\$56,150	\$37,200	\$56,150
8	\$58,800	\$39,600	\$59,800

The Federal Section 8 housing voucher program allows eligible low and moderate income renters to rent in private housing in the region (although demand for vouchers far exceeds the supply). The Holliston Housing Authority administers 48 Section 8 vouchers for low and moderate income families.

Demographics

The number of households is expected to increase at a rate of about 40 units per year over the next two decades (see Table 1-5 in the Land Use Section), while household size is expected to decline. The greatest population growth is expected to take place among persons aged 65 and over, with significant growth also among persons aged 45-64 and children under 14. Other age groups are expected to decline in population.

5.2 HOUSING NEEDS ASSESSMENT

As the preceding discussion has shown, housing, a basic necessity of life, has become increasingly expensive. As housing prices have risen throughout Massachusetts in recent years, more and more residents are being priced out of the housing market. Families and individuals are forced to spend an increasing share of their incomes on shelter, meaning they have less money to spend on other things. For some very low income people this may mean that they do not have enough to spend on other necessities such as food, clothing, or medical care. Holliston residents are not immune to this trend.

Several groups have been more greatly affected by increasing housing costs than the population as a whole. These include young adults, the elderly, single heads of households, would-be first time homebuyers, and persons with low or moderate income. Not all of these people are eligible for, or desire, subsidized housing. They are households that have been priced out of the housing market by rapidly rising costs.

First-Time Homebuyers

The National Association of Realtors (NAR) calculates a First-Time Homebuyer Affordability Index, which indicates the ratio between would-be homebuyer income and the income needed to purchase a home. The First-Time Homebuyers Affordability Index for the fourth quarter of 1997 was 80.7, which means that the typical would-be first-time homebuyer has less than 81% of the income needed to qualify for a mortgage on a "starter home." This index is computed using national averages, with the typical "starter home" price assumed to be \$117,600. Under current affordability conditions, a family earning \$40,000 would have sufficient income to qualify for a \$116,800 loan on a \$146,000 home.

While incomes in Holliston may be higher than the national average, housing costs are also substantially higher. Therefore it may be assumed that would-be first-time homebuyers in Holliston are experiencing the same or greater difficulty.

Older Adults

One of the most rapidly growing age groups in Holliston are the persons over the age of 65 years old. Many of these people are either approaching or have reached retirement and have grown families. After retirement many people are living on fixed incomes that often do not keep pace with rapidly rising costs, and are likely to be affected by increasing housing costs. Some older individuals and couples may be living in a large house they no longer need or want, but cannot move because there is no suitable, affordable, housing available. Home and property maintenance may also become burdensome for elderly persons, adding to the cost of living in single-family homes.

Young Adults

Young adults, including students, singles and young families, frequently need to rent housing until they become more established and can save enough for a down payment on a home. Some young adults may value the mobility that living in a rental unit offers, but want to stay in their hometown. Many of Holliston's young adults cannot find apartments available, nor can they afford the down payment and carrying costs of a single-family home. Frequently these first time homebuyers turn to the condominium market when they are ready to purchase.

Low and Moderate Income Housing

There are insufficient subsidized housing units in Holliston to meet the needs of all who qualify under the income limits shown in Table 5-1. The indication of the need for housing for individuals and families with low and moderate income is the length of the waiting list for available units. Elderly applicants who are Holliston residents can expect to wait 6-12 months for units in Cole Court, while non-residents can expect to wait 3-5 years. There is no local preference for Mission Springs. According to State regulations, veterans are given preference for elderly housing, thus non-veterans may have a difficult time being placed in units that become available. The waiting list for family units is presently closed. Families can expect to wait 2-10 years for subsidized units, and a local preference applies.

State Standards. Another way of assessing demand for subsidized units is through the standards set by the State. Section 20 of Chapter 40B of state law (often referred to as Chapter 774) sets a standard that 10% of the housing stock in a community be available for people with low and moderate incomes. Currently only about 1.8% of Holliston's housing stock is available to persons of low and moderate income. This percent is similar to other suburban communities. Under the

10% standard, Holliston should have a total of approximately 475 units, a shortfall of approximately 397 units. The State guidelines are based on the 1990 U.S. Census count of year round housing units.

Chapter 774 allows the State to override local zoning via the comprehensive permit procedure to provide for the construction of affordable housing units up to the 10% standard. Discretionary state funding can also be withheld from a community if it is deemed not to be making a good faith effort to meet its obligations. The Local Initiative Program (LIP) encourages local governments to work in partnership with developers, providing an opportunity for input into the design and development of projects reserving 25% of their units for low and moderate income persons, while avoiding lengthy litigation. A description of the LIP and other State programs to provide low and moderate income housing is provided in Appendix 5-2.

Housing subsidy needs may be impacted by the Immigration and Welfare Reform Act enacted in August 1996. This landmark legislation significantly changes the type, tenure and amount of welfare assistance to the poor. Although Massachusetts has had welfare reform measures in place prior to 1996, they did not go into full effect until the passage of the Federal legislation. The combination of welfare changes and reduced funding for housing at both the state and federal level are expected to challenge the capacity of local housing authorities.

Special Needs Housing

Special needs housing is housing that accommodates the elderly or persons with mental or physical handicaps. Senior housing may include assistance in home care, meals, and medical care. The provision of elderly housing would prevent or delay seniors from having to leave the town when they are not able to live in single-family homes or live independently.

The term "handicapped" includes people with a wide range of disabilities which include physical, mental, and emotional disabilities. Each of these groups have different, but special, housing needs. Persons with mental or emotional disabilities may need a living situation that includes care. Physically challenged individuals often require special construction that includes extra wide doors, low counters and special bathroom facilities. These special types of housing are frequently ignored by the private sector.

The housing options for persons with special needs in Holliston are limited. The Housing Authority manages 147 units of housing for low/moderate income elderly and handicapped persons at Cole Court and Mission Springs. Up to 13% of the units at Cole Court may be occupied by non-elderly persons with special needs. One house for mentally handicapped adults is maintained in Holliston by the Evergreen Center which operates from Milford. The capacity of this facility is four persons.

Housing Size

A phenomenon in recent years in Holliston, as in much of the region, has been the widespread construction of very large, expensive single family homes. While these homes may initially bring greater tax revenue, this trend raises some issues of concern for towns. So-called "Trophy" homes are out of scale with the existing housing stock, and in large numbers can alter the character of the town. These homes are inappropriate for many population groups who seek housing in the private market, including moderate income households, younger households, and the elderly. In the case of teardowns, this trend may actually decrease the stock of housing that meets the needs of these

population groups. In the future it may be unlikely that the market can sustain such large homes, and there may be pressure to convert some of these homes to two-family dwellings, or they may suffer from poor maintenance and decline.

The Town does not have much control over this private market trend, but some options are listed in the recommendations, including a demolition delay ordinance for historic homes, and limiting the floor area ratio of homes, to prevent the appearance of overcrowding on smaller lots.

5.3 HOUSING GOALS

1. Ensure a wide range of housing options so as to meet the needs of a diverse population.
2. Create diversity in new residential housing units consistent with the community character.
3. Provide for more elderly housing and life-care facilities to meet the needs of Holliston's older population.
4. Preserve and strengthen the character of the town's neighborhoods and protect them from encroachment by all forms of incompatible uses and other potentially damaging environmental influences.
5. Carefully integrate new or expanded housing into existing districts and neighborhoods so that it is not physically or environmentally disruptive to the existing style and scale.
6. Create recreational areas within or near existing neighborhoods.
7. Seek methods to create a sense of identity, image, spirit, and pride within neighborhoods and village centers.

5.4 HOUSING RECOMMENDATIONS

1. **Encourage a diversity of housing options in the town, appropriate to the scale, environmental conditions, and historic character of various areas in the town.** Designate certain areas of the town for future development of multifamily, condominium or townhouse development. Some areas that would be appropriate for such development are shown in the Guide Plan For Future Land Use. The Town should designate other areas for multifamily use as needed in the future. By doing so, the Town can choose appropriate sites instead of responding to ad-hoc proposals. Criteria for selecting suitable sites for multifamily, condominium or townhouse development are provided in Appendix 5-2.
2. **Encourage creative reuse of older homes.** Encourage mixed use and viable reuse of older homes in the Town Center which are too large to be maintained as typical single family residences. Consider expansion of zoning provisions for accessory apartments and

professional uses in residential structures for homes in the Town Center.

3. **Investigate Co-Housing.** Co-Housing is a village-type residential development in which homeowners share common facilities and form an active community (see Master Plan Technical Appendix). Co-housing may include single-family homes, attached dwellings (townhouses), condominiums, or a combination of these housing types. Co-housing communities typically include residents from various age and social groups.
4. **Provide types of housing that will enable citizens of all ages to stay in Holliston.**
Develop alternative and lower-cost forms of housing for young adults, as well as for seniors. These may include townhouses, multifamily, and mixed use developments. Consider the use of density bonuses to encourage the construction of lower-cost housing.
5. **Provide for more elderly housing and life-care facilities to meet the needs of Holliston's older population.**
Determine the appropriate level of assisted housing in accordance with the town's demographics and find means of accomplishing the stated goals. Encourage independent living for elders, handicapped and others with special needs. Appendix 5-3 contains sample bylaws from the Town of Sudbury to encourage the development of senior housing.
6. **Seek State/Federal or private assistance for senior or low and moderate income development .**
Establish a non-profit housing corporation or local housing partnership, which can function to identify housing needs and pursue private or government assistance to meet those needs. State and Federal programs to assist in the provision of low and moderate income and special needs housing are provided in the Technical Appendix.
7. **Discourage "teardowns" – the replacement of traditionally-sized homes with overly large ones.**
Establish a Demolition Delay Ordinance. Maintain the viability of the existing housing stock. Appendix 5-4 contains a demolition delay ordinance adopted by the Town of Duxbury and a sample by-law which was proposed for the Town of Wayland to regulate residential gross floor area.
8. **Improve the zoning regulations for cluster development, and provide incentives for cluster development, especially tied to implementation of open space plan.**
Consider changes to the cluster development provisions in the Zoning By-law to ensure quality site design and to allow a slightly higher number of lots that can be developed in a cluster development if the designated open space is identified as important in the open space plan. More specific changes are discussed in the recommendations of the Open Space and Recreation section as well as the 1998 Open Space and Recreation Plan.
9. **Seek methods to create a sense of identity, image, spirit, and pride within neighborhoods and village centers.**
Encourage more grass roots participation and involvement within neighborhoods in matters concerning individual neighborhoods and the town as a whole.
10. **Consider adoption of an inclusionary housing by-law.**
Promote the development of affordable housing through the use of inclusionary zoning. The town

should consider requiring that 10% of all units in multifamily or mixed-use developments be set aside for affordable housing. These units can be placed under the management of the housing Authority or if they are ownership units they may be given a deed restriction which requires that they be sold for less than market rate. As an alternative to providing units on-site, developers can be required to contribute to a special fund that will be used to develop affordable housing elsewhere in Holliston.

See the Land Use section for recommendations regarding the location of nonresidential uses with respect to residential neighborhoods. The Economic Development section also contains recommendations regarding the monitoring of commercial activities near residential neighborhoods.

Appendix 5-1
Housing & Demographic Data

A. OVERVIEW OF EXISTING HOUSING CONDITIONS

Existing Housing

As of January 1998 there were approximately 4,753 housing units in Holliston. This is an increase of approximately 340 units since 1990.

The age of the housing stock in Holliston is shown in Table A5-1. Close to 82% of Holliston's housing was constructed after 1949. The decade of the 60's was the most active period for building single-family residences. Home construction has declined since then, although it is still fairly active. Only one multi-family development has taken place since 1990, converting a former school into 75 residential units at the Mission Springs on Summer Street.

Table A5-1
Age of Housing Stock, Holliston, MA

<u>Year Built</u>	<u>Total Units</u>	<u>Percent</u>
1939 or Earlier	872	18.3%
1940 to 1949	123	2.6
1950 to 1959	711	15.0
1960 to 1969	1448	30.5
1970 to 1979	763	16.1
1980 to 1989	496	10.4
1990 to 1998	<u>340</u>	7.2
TOTAL	4,753 units	

Source: U.S. Census, Town of Holliston Building Permit data

The type of housing structures in Holliston in 1998 is displayed in Table 5A-2. Close to 85% of the housing in Holliston is single-family, while buildings with two or more units comprised approximately 15% of housing in 1998. There is a very small presence of mobile homes or trailers in the town.

(Continued)

(Appendix 5-1 continued)

Table A5-2
Units By Type of Housing Structure, 1990 and 1998

<u>Units in Structure</u>	<u>April, 1990</u>	<u>Percent</u>	<u>1998</u>	<u>Percent</u>
Single-family	3,760	85.2%	4,025	84.7%
Two-family	138	3.1		
3-4	230	5.2	714	15.0
5 or more	271	6.1		
mobile homes	11	0.2	11	0.2
other	3	0.0	3	0.1
Total	4,413		4,753	

Source: U.S. Census, Town of Holliston Building Permit Data (as of January 1, 1998)

Approximately 87% of housing units in Holliston in 1990 were owner-occupied. A total of 544 units were renter-occupied. This rate of home ownership is about the same in 1998. The rate of occupancy by homeowners is higher in Holliston than in the region as a whole.

Over three-fourths of housing units in Holliston in 1990 had three to four bedrooms. Approximately 21.2% percent had two or fewer bedrooms. The median number of rooms in all housing units in Holliston in 1990 was 6.7. Houses built in the past 3-5 years have tended to be larger.

Availability

Vacancy rates are an indicator of the availability of housing units. A vacancy rate of 5% is considered to be ideal because it allows occupants to move freely in the marketplace. A vacancy rate of under 5% indicates that there is demand for additional rental housing.

Vacancy rates for single and two-family homes have been consistently low in Holliston. In 1990 the vacancy rate was 2.9% for all units. There are typically between 75 and 100 homes on the market at any given time, including 3 to 4 condominium units at the most. According to real estate professionals interviewed, there are very few, if any, rental units on the market presently. Turnover for rental units is quite low. Almost all units are rented directly by the owners, and turnover is generally in the late summer.

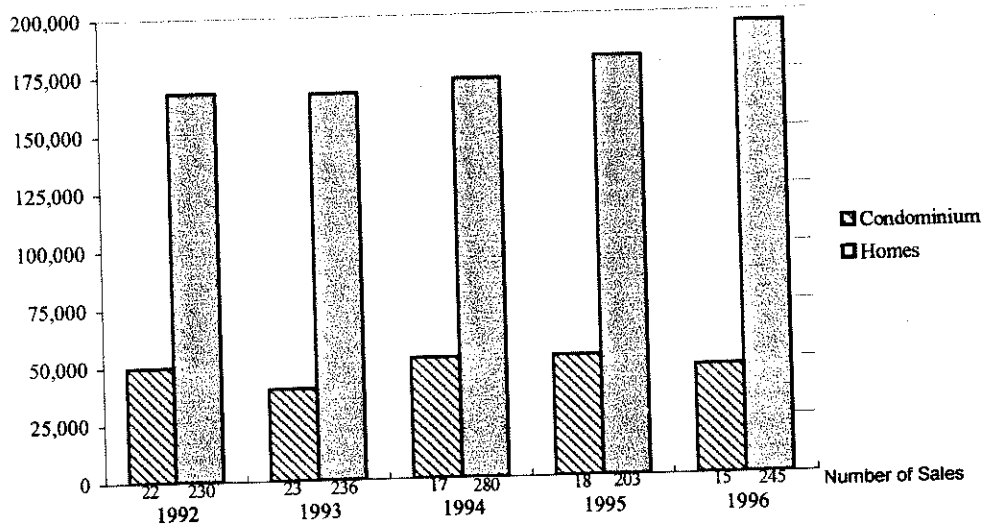
B. HOUSING COSTS AND AFFORDABILITY

There were 260 residential units sold in 1996, of which 245 were single-family homes. The median sales price for a single-family home in 1996 was \$195,000, while the median sales price for a condominium was \$47,000. This represents an increase of 4.9% in the median sales price for all residential units from 1995 to 1996. In comparison, the median sales price for residences in Hopkinton in 1996 was \$225,000, for homes in Sherborn it was \$392,000, and for homes in Ashland the median sales price was \$157,990.

(Continued)

(Appendix 5-1 continued)

Figure A2-1
Median Residential Sales Price Holliston 1992-1994



Source: Banker & Tradesman

Cost of Rental Housing

The cost of renter-occupied housing in Holliston has also increased. Although the rate of the increase was somewhat less than that for owner-occupied homes between 1980 and 1990, current estimates show higher rates of rent increase since 1990. In 1990 median gross rent was \$684 per month, an increase of 161% over 1980. Current median gross rent is estimated at \$650 to \$950 per month for 2 bedroom apartments.

Affordability

Affordability of housing is measured not only in terms of the price of housing, but also in terms of the household living in it. A generally accepted standard used to define affordability of housing is that it should cost no more than 30% of household income. A guideline used by banks when evaluating home mortgage applications is that monthly payments do not exceed 30%-33% of household income. Homeowners in Holliston in 1990 (with mortgages) spent an average of 22% of their monthly income on housing costs, while renters paid approximately 27% of their monthly income on housing costs. The gap between housing costs and household income is steadily widening.

It should be noted that the term "affordable housing" is relative, since it depends on the income of the household. Affordable housing is not the same thing as subsidized housing for persons of low and/or moderate income, although subsidized housing is one type of affordable housing.

(Continued)

(Appendix 5-1 continued)

C. DEMOGRAPHIC TRENDS AFFECTING HOUSING

There are several demographic trends that affect the demand for quantity and types of housing.

Population growth is shown in Table 2-1 of the Economic Development Section. Table A5-3 provides a breakdown of the age structure. Although these forecasts likely understate the total population growth (updated projections of population growth by age cohort are not yet available at this time), the relative changes between the age groups can be assumed to be accurate.

There was an increase of 12.9% in the number of residents in the 30 to 44 year old age range grew by 12.9% from 1980 to 1990. This is the age at which many people are married and are starting families, or are living in independent households. Although there was an increase in overall population, there was decrease of 16.1% in the 0 to 14 year old age cohort, and a decrease of 20.1% in the 15 to 19 year old age cohort between 1980 and 1990. Despite the decline in the number of school age children and young adults when the Census was taken, recent school enrollment figures show a substantial increase in children in grades PK through 8, indicating a rise in young families.

There was a 21.4% increase in persons 65 and over and a 30.8% increase in the 45 to 64 year old age group. Population forecasts show a marked increase in persons of retirement age in Holliston, with the number of persons aged 45 and older consisting of about 40% of the population by the year 2010.

Table A5-3
Age Distribution 1980 - 2010

	<u>1980</u>		<u>1990</u>		<u>2010</u>		<u>Percent Change (1990 - 2010)</u>
	<u>Persons</u>		<u>Persons</u>		<u>Persons</u>		
0-14	3,443	27.3%	2,889	22.3%	3,017	21.1	4.4%
15-19	1,209	9.6	965	7.4	994	6.9	-3.0
20-29	1,768	14.0	1,626	12.5	1,292	9.0	-20.5
30-44	3,341	26.5	3,771	29.1	3,299	23.0	-12.5
45-64	2,147	17.0	2,808	21.7	4,274	29.9	52.2
65 & over	714	5.7	867	6.5	1,445	10.1	66.7
Total	12,622		12,926		14,321		10.8

Source: U.S. Census, MAPC

Table A5-4
School Enrollment 1985 - 1995

	<u>PK-5th Grade</u>	<u>6-8th Grade</u>	<u>9-12th Grade</u>	<u>Total</u>
1985-86	1,167	628	843	2,638
1987-88	1,217	574	781	2,572
1989-90	1,230	536	696	2,462
1991-92	1,301	540	648	2,489
1993-94	1,394	610	653	2,657
1995-96	1,451	605	708	2,764

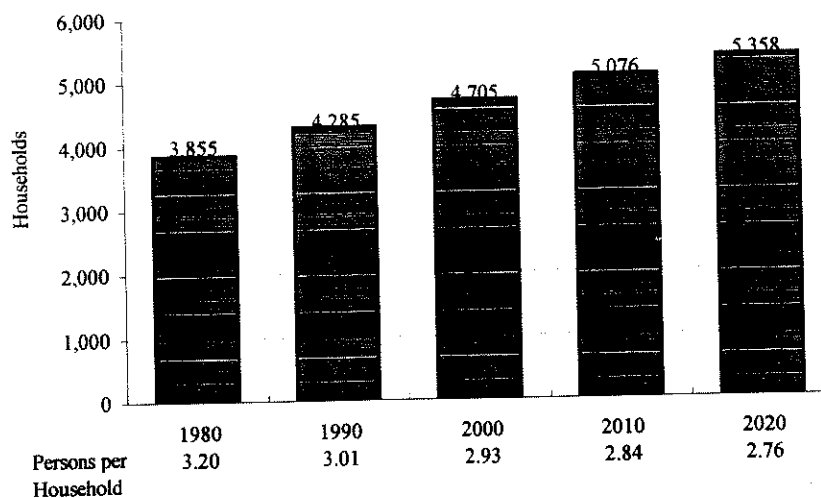
Source: H.C. Planning Consultants, Inc. 11-28-95

(Continued)

(Appendix 5-1 continued)

The number of households in Holliston increased from 3,922 in 1980 to 4,284 in 1990, an increase of 9.2% in this period, compared to an overall population growth of only 2.4%. A related trend is the decline in the number of persons per household. The number of persons per household in Holliston declined from 3.22 persons in 1980 to 3.02 persons in 1990. This decline reflects a regional, indeed national trend, to smaller household size. This trend is expected to continue into the future.

Figure A2-2
Household Forecast for Holliston⁽¹⁾



Source: Metropolitan Area Planning Council

⁽¹⁾ For revised estimates of residential growth, see Table 1-5 in the Land Use section.

There has been a slight decrease in the number of family households that are headed by females. In 1980 9.7% of the families in Holliston were headed by females; by 1990 this figure had decreased to 7.9%. This counters the state-wide and national trend, in which a rise in the number of female-headed households reflects an increase in separate households. The trend in Holliston may reflect the changing age structure. An increase in non-family households also reflects a change in the structure of household types. The proportion of households in Holliston that were not families rose from 15.1% in 1980 to 18.1% in 1990.

To conclude, trends indicate that the rate of new households in Holliston is increasing faster than the population as a whole. Households also tend to be slightly smaller than in previous years, and less likely to be composed of families. Population trends indicate a demand for additional housing units for emerging new families, separate households, and for the elderly.

Appendix 5-2
Criteria For Evaluating Multifamily Housing Sites

The ideal site is usually not available so that some compromises may have to be made. Most environmentally sound sites near the center of the community are acceptable. Sites to be avoided are those that are isolated from the community (physically and socially), are on marginal lands, or are imposed on neighborhoods of a different design scale.

Environmental Criteria

- Development shall not be permitted in a flood plain.
- Development shall not be permitted in a wetland
- The proposed project should respect other natural features, such as hills, major tree stands, etc. The proposal shall be designed to blend in with the existing topography of the site.
- Very steep sites are probably unsuitable.

Land Use Criteria

- The adjacent land uses must be appropriate, so that the multi-family housing is not subject to undue adverse impacts. Sites should not be adversely impacted by heavy traffic, industrial noise or dirt, or visual pollution.
- The site, or the design of the proposed development, should not adversely affect existing adjacent land uses. The external design and appearance shall be compatible with adjacent properties.
- Multi-family developments should be scattered, in relatively small scale projects, throughout the town, assuming other criteria can be met, including compatibility with single family development.
- For assisted housing, sites conveniently located to shopping services are preferred. Some elderly and moderate income families may not have access to an automobile or may have only one automobile.
- The site should be a minimum of 5 acres in size.
- The site shall have sufficient depth from the principal roadway to support the proposed development.
- The site should be capable of encouraging a housing design that will offer attractiveness, privacy, and protection from adverse impacts through the creative use of grade changes, landscaping, screening, building orientation and other design techniques.
- Sites should be developed with a density of 8-12 units per acre.

Infrastructure

- The site should be served by public water facilities.
- The site should be served by public sewer facilities or have the necessary septic capacity for on-site treatment.
- The site should be served by roadways that meet Town standards.
- Sites shall not unduly impact already heavily congested roadways and intersections.

Appendix 5-3
Town of Sudbury Senior Development By-law

INCENTIVE SENIOR DEVELOPMENT

The Planning Board, acting as Special Permit Granting Authority, may grant a Special Permit for construction of an Incentive Senior Development and accessory structures, in all zoning districts listed below in section 3.a subject to the following:

1. Objectives - The objectives of the Incentive Senior Development Special Permit are to provide a more affordable means of housing for a maturing population; to provide a type of housing which reflects the senior population desire to reduce residents' burdens of property maintenance; which provides a type of development which reduces demands on municipal and educational services; and to promote flexibility in land use planning in order to improve site layouts, protection of natural features and environmental values and utilization of land in harmony with neighboring properties.
2. Planning Board Action - The Planning Board shall grant a Special Permit for an Incentive Senior Development if it finds, after holding a public hearing in accordance with requirements of Chapter 40A of the General Laws, that: (i) the development complies with the objectives of the Bylaw as stated in Sections 1-6 hereof, (ii) the development is in an appropriate location and does not significantly alter the character of the neighborhood in comparison to a single family residential development; (iii) adequate and appropriate facilities will be provided for the proper operation of the development; (iv) the special permit use would not be detrimental or offensive to the adjoining zoning districts and neighboring properties due to the effects of lighting, odors, smoke, noise, sewage, refuse materials or other visual nuisances; (v) the special permit use would not cause undue traffic congestion in the immediate area; (vi) the development plan responds to the recommendations of Town Boards and Agencies; and (vii) the granting of the Special Permit would not result in unsuitable development of the land in question.
3. Qualifications - The following qualifications shall apply to all Incentive Senior Developments:
 - a. Zoning District - An Incentive Senior Development shall be located in a Single Residence "A", Single Residence "C", Limited Business Districts, Village Business Districts and Research Districts.
 - b. Tract Qualification - At the time of granting a special permit by the Planning Board, the property under consideration for an Incentive Senior Development shall be located on a contiguous parcel, not separated by a public or private way, with definite boundaries ascertainable from a recorded deed or recorded plan, having an area of at least 10 acres. For parcels greater than 20 acres, parcels may be separated by a private or public way.
 - c. Age Qualification - An Incentive Senior Development shall constitute housing intended for persons of age sixty-two (62) or over within the meaning of M.G.L. c151B, §4, ¶6 and 42 USC §3607(b)(2)(c), and in accordance with the same, one hundred percent (100%) of the dwelling units in an Incentive Senior Development shall each be owned and occupied by at least one person sixty-two (62) years of age or older per dwelling unit, and such development shall be operated and maintained in all other respects in compliance with the requirements of said statutes and regulations promulgated pursuant thereto. In the event of the death of the qualifying owner/occupant(s) of a unit, or foreclosure or other involuntary transfer of a unit in such a development, a two-year exemption shall be allowed for the transfer of the unit to another eligible household.

(Continued)

(Appendix 5-3 continued)

- d. **Applicant Qualifications** - The applicant for a Special Permit under the provisions of this section shall be the owner of the tract proposed for such Development or be authorized in writing by the owner to apply for and be issued such Special Permit, and shall establish to the satisfaction of the Planning Board that the applicant has knowledge, experience and financial resources sufficient to construct and complete the Development.
4. **Rules and Regulations and Fees** - The Planning Board shall adopt, and from time to time amend, Rules and Regulations consistent with the provisions of this Zoning Bylaw, Chapter 40A of the General Laws, and other applicable provisions of the General Laws, and shall file a copy of said Rules and Regulations with the Town Clerk. Such Rules and Regulations shall, subject to and in accordance with provisions of section 7 of this Bylaw, prescribe as a minimum the size, form, contents, style and number of copies of plans and specifications, the Town Boards or Agencies from which the Planning Board shall request written reports, and the procedure for submission and approval of a Special Permit under the provisions of this section. The Planning Board shall also specify the fees to be paid in connection with application for a Special Permit for an Incentive Senior Development, bonding requirements to satisfy conditions of approval, and owner/ occupancy reporting requirements to satisfy compliance with the age restriction. Other specifications as deemed necessary by the Planning Board shall be included in the Rules and Regulations.
5. **Tract Requirements** - The following requirements shall apply to all Incentive Senior Developments:
 - a. **Number of Dwelling Units Permitted** - The maximum number of dwelling units shall be computed based on the number of buildable lots permitted under a conventional subdivision, with each lot satisfying minimum lot area, frontage and all other applicable zoning regulations, possessing suitable soils as determined by the Board of Health, and sufficient upland, buildable area to sustain a single family home. In Village Business Districts, Limited Business Districts and Research Districts, a minimum lot area of 40,000 sq. ft. and minimum frontage requirement of 180 feet shall be used to calculate each buildable lot. For the purposes of this section, minimum lot area in every district shall contain no more than 25% of land which is underwater land or wetland resource as defined in Chapter 131, Section 40 of the M.G.L. or in the Sudbury Wetlands Administration Bylaw. For each buildable lot calculated, a maximum of 4 units shall be permitted to be constructed.
 - b. **Minimum Open Space** - Open Space requirements shall beset forth according to the acreage of the parcel, as follows:

10-15 acres (total parcel size):	35% open space required
16-20 acres (total parcel size):	40% open space required
21-25 acres (total parcel size):	45% open space required
over 25 acres:	50% open space required

Wetlands and adjacent upland resources as defined in the Sudbury Wetlands Administration Bylaw, as determined and specified by the Conservation Commission shall not qualify as Open Space in the above calculation. The open space areas shall be selected in order to maximize the value of wildlife habitat, shall be contiguous to the extent required to preserve significant habitat, and shall be configured to minimize the perimeter to surface area ratio in order to preserve large blocks of undisturbed land. The open space areas shall be subject to the review and approval of the Conservation Commission. The open space shall be left in an undisturbed, natural state. Landscape plantings shall not be permitted, except in areas where revegetation may be necessary to increase buffering, as determined by the Planning Board.

(Continued)

(Appendix 5-3 continued)

- c. Ownership of Open Space - The open space shall be owned in common by the owners of the dwelling units in the development, or by an organization or entity owned and controlled by such dwelling unit owners, or can be offered to the Town, or another non-profit organization whose principal purpose is the preservation of open space, for conservation purposes. An enforceable restriction shall be recorded on all open space parcels providing that such land shall be kept in an open or natural state and not be built for residential use or developed for accessory uses such as parking, roadway or active recreation.

On smaller parcels where conveyance of the open space property is not valuable to the Town or a conservation organization, the required open space as calculated above may be left in the control of the owners of the dwelling units in the development without the granting of a conservation restriction or other perpetual easement, with a notation on the Map that such property is not available for construction of any structures and removal of vegetation is prohibited.

- 6. Building and Dwelling Unit Requirements - The following requirements shall apply to all buildings and dwelling units in an Incentive Senior Development:
 - a. Dwelling units can be attached or detached, or a combination of these types.
 - b. No building shall contain more than four dwelling units.
 - c. No dwelling unit constructed in an Incentive Senior Development shall contain more than two (2) bedrooms. No more than ten percent (10%) of the total units in an Incentive Senior Development shall have fewer than two bedrooms.
 - d. Accessory Buildings and Structures - Accessory buildings and structures may be permitted, including clubhouse, swimming pool, tennis court, cabanas, storage and maintenance structures, garages, and other customary accessory structures, however, any common facilities or structures must be constructed on land owned in common by the owners of the dwelling units in the development, or by an organization or entity owned and controlled by such dwelling unit owners. Accessory buildings and structures shall be shown on the development plan, and may not be constructed within any minimum open space required in section 5.b. above.
 - e. Interrelationship of Buildings - The proposed buildings shall be related harmoniously to each other with adequate light, air, circulation, privacy and separation between buildings. Buildings shall comply with a minimum setback of twenty (20) feet from other structures in the development.
- 7. Additional Physical Requirements - The following requirements shall apply to all Incentive Senior Developments:
 - a. Parking - Two parking spaces shall be provided for each dwelling unit (with the exception of one-bedroom units, which shall require one parking space per unit), in reasonable proximity to the dwelling, or in garages. Additional parking in proximity to any clubhouse or other facility serving residents in common, or guest parking, shall be provided in off-street parking areas, provided that no single accessory parking area shall contain more than twelve parking spaces, and all such areas shall be adequately landscaped. The Planning Board may authorize a decrease in the number of parking spaces up to 30% of the total number required. The reserved spaces shall be set aside and shall not be intended for immediate construction, but shall be properly designed as an integral part of the overall parking layout. Such spaces shall be labeled as "Reserve Parking" on the plan.

(Continued)

(Appendix 5-3 continued)

- b. Roadways - Roads and driveways within the development shall meet such width, grades, radius of curvature and construction standards as the Planning Board shall determine, based upon the standards provided in the regulations governing subdivisions, as the same may be waived or modified by the Planning Board to meet site conditions and design requirements.
 - c. Other Facilities - All facilities for utility services, drainage, lighting and signage shall be in accordance with requirements established by the Planning Board, consistent with applicable provisions of the Zoning Bylaw and the regulations governing subdivisions, as the same may be waived or modified by the Planning Board to meet site conditions and design requirements.
 - d. Project Maintenance - In every development there shall be an organization of the owners of the dwelling units which shall be responsible for the maintenance and repair of common elements and facilities owned by and serving the residents of the development, and the Town of Sudbury shall not be responsible therefor.
 - e. Wastewater Disposal - In every development wastewater disposal shall comply with the requirements of the Sudbury Board of Health, the Sudbury Water Resources and Wastewater Bylaws, and applicable Department of Environmental Protection regulations.
8. Price Restrictions
- a. Cost per unit - Units developed under this Bylaw shall be sold and resold at no more than 2 times the cost for the sale of 2 bedroom, detached or attached homes, whichever is applicable, under the Department of Housing and Community Development guidelines for the Local Initiative Program, or other state or federal affordable housing program that determines purchase price for housing units in the Boston area (plus 25%). Condominium fees are excluded in the cost per unit calculation.
 - b. Enforcement of Sale and Resale Provisions - Original purchase and resale prices shall be permanently restricted, to the extent legally permissible, to ensure long-term affordability. Sale and resale provisions shall be contained in applicable deed restrictions, covenants, contractual agreements such as limited equity provisions, condominium association Bylaws and/ or other mechanisms to ensure compliance. Such restrictions shall not be permitted to be altered without consent of the Town of Sudbury. Annual reporting to the Planning Board is required for all units sold or resold.
9. Procedure - The procedure for issuance of a special permit for an Incentive Senior Development shall be as follows:
- a. Application for Special Permit - Any person who desires a Special Permit for construction of an Incentive Senior Development shall submit a written application to the Planning Board. Each such application shall be accompanied by the following information:
 - (i) Identification of applicant; information as to the record title to the tract; identification of applicant's professional and development associates.
 - (ii) A preliminary subdivision plan showing the development of the tract under the provisions of the Zoning Bylaw without regard to this section, for the purposes of determining density. Such plan shall generally conform to provisions described in section IV.B.4 of the Rules and

(Continued)

(Appendix 5-3 continued)

Regulations Governing the Subdivision of Land for a preliminary plan. Drainage design and calculations are not necessary. Such plan shall be accompanied by a report from a Certified Soil Evaluator, with confirmation that the results have been approved by the Board of Health, stating which lots on said plan contain soil conditions suitable for subsurface sewerage disposal in accordance with rules and regulations of the Town of Sudbury and applicable laws of the Commonwealth of Massachusetts. Soil testing witnessed by the Board of Health or its agent is required. The preliminary plan shall also contain the boundaries of all wetland resource areas as defined in the Sudbury Wetland Administration Bylaw.

(iii) A Site Plan showing, insofar as pertinent, all of the information required for a definitive subdivision plan, as specified in the Town of Sudbury, Subdivision Rules and Regulations, as amended, and showing the following additional information: soil characteristics as shown on Soil Conservation Service Maps; resource areas as defined by M.G.L., Chapter 131, section 40, (The Wetlands Protection Act), and delineation of the official wetland area boundaries as accepted by the Sudbury Conservation Commission pursuant to the Sudbury Wetland Administration Bylaw; existing floodplain boundary lines; existing and conceptually proposed locations of buildings containing dwellings and other buildings; all setback lines; existing and proposed roads and driveways; lighting; signs; proposed and existing wells and wastewater disposal systems on the parcel and abutting properties if such systems are within 200 feet of the property line; existing and proposed topography; existing perimeter of trees; proposed landscape features (such as fences, walks, planting areas, type, size and location of planting materials, methods to be employed for screening); the proposed use of the common land including improvements intended to be constructed thereon; the proposed ownership of all common land; and any other information required by the Planning Board.

(iv) A schedule of the stages or phases of development in accordance with which the applicant proposes to construct the development, including dates.

(v) Sample floor plans of dwellings; elevation drawings or models of dwellings; schedule of building materials.

(vi) Plans showing proposed methods of stormwater management, including drainage calculations.

(vii) Plans showing proposed wastewater disposal facilities;

(viii) Sample copies of the legal structure formed for the operation, maintenance, management and enforcement of this development, including a master deed and Bylaws of the organization. All such documentation shall include a reference to the objectives of this Bylaw and the requirement for 100% of the units to be owned and occupied by at least one person age 62 or over.

- b. Reports from Town Boards or Agencies - The Planning Board shall transmit forthwith a copy of the application and plan(s) to the Board of Selectmen, Board of Health, Conservation Commission, Design Review Board, Park and Recreation Commission, Board of Assessors, Historic Districts Commission, Building Inspector, Fire Department, Department of Public Works, Police Department and the Sudbury Water District. Failure of any such board or agency to make a written recommendation or submit a written report within 35 days of receipt of the application shall be deemed a lack of opposition.

(Continued)

(Appendix 5-3 continued)

- c. Special Permit Conditions - In order to implement a Special Permit for an Incentive Senior Development and to assure compliance therewith, the Planning Board shall in the Special Permit set forth requirements and conditions that before a building permit is issued for any buildings (i) the applicant shall have submitted to the Planning Board detailed plans showing the locations, designs and layouts of such buildings and all driveways and accessory structures included in such stage or phase, (ii) the applicant shall have provided security by covenant, bond or other means satisfactory to the Planning Board securing the construction and installation of driveways, utilities, drainage and related services in such phase, and (iii) the Planning Board shall have determined that the detailed plans are in substantial conformity with the conceptual plans approved in the Special Permit.
- d. The Planning Board shall have so notified the Building Inspector of Its review and approval of each phase.
- e. The Planning Board may set forth further requirements and conditions in the Special Permit as the Board shall deem appropriate to accomplish the purposes of this Bylaw, including requirements of recording of plans and documents and report thereof to the Board.

10. Enforcement

- a. In accordance with the provisions of M.G.L. Chapter 40, Section 31, Chapter 40A, Section 7, Chapter 41, Section 81 U and every other authority and power that may have been or may hereafter be conferred upon it, the Town may enforce the conditions and safeguards imposed on the exercise of special permits under this Section IV,E in equity or at law and to recover from the applicant, his successor or approved assignee(s) all moneys that may be required to complete the development plan approved.
- b. The penalty provisions of these Bylaws may be imposed upon the applicant, his general agent, tenant(s), architect(s), contractor(s), or any and all persons having an interest in the development site.
- c. All provisions of the development plan approved shall run in favor of the residents thereof but only to the extent expressly provided in the plan and in accordance with the terms of the plan, and to that extent such provisions, whether recorded by plan, easement, covenant, or otherwise, may be enforced at law or in equity by said residents acting individually, jointly or through their organization.
- d. In the event of a violation of law, an unauthorized sale or lease of the approved development site or any dwelling unit therein, development that deviates from the development plan approved, any use of the property that is not permitted in the development site, the failure to maintain residential land or if the applicant shall otherwise fail or neglect to comply with the conditions and safeguards imposed on the exercise of the special permit, the Building Inspector or Zoning Enforcement Officer may deliver a stop order to the applicant or his agent by certified mail, return receipt requested, and by posting the same in a conspicuous location in said site. The order shall describe the nature of the violation, and the date on which said order shall expire, which date shall not be less than six days later than the date of the stop order. Failure of the Town to deliver a stop order for any reason shall not prevent the Town from pursuing any other legal remedy permitted under law. Any person who shall violate the provisions of a stop order shall be deemed in violation of the Zoning Bylaw.

Appendix 5-4

Part 1: Duxbury By-Law Relating to Demolition Delay

Section 609.1 Purpose

"This bylaw is adopted to protect and preserve buildings and structures within the Town which reflect or constitute distinctive features of the architectural, cultural, economic, political or social history of the Town and to encourage the preservation and restoration rather than the demolition of such buildings and structures. By furthering these purposes the public welfare shall be promoted making the Town a more attractive and desirable place in to live, learn and work.

To achieve this purpose the Duxbury Historic Commission is empowered to advise the Director of Inspectional Services with respect to the issuance of permits for demolition. The Commission is mandated to offer its advice and expertise to owners of any building or structure within the Town.

Section 609.2 Definitions.

"Demolition" - the intentional act of pulling down, destroying, removing or razing a building or structure or commencing the work of total or substantial destruction with the intent of completing same.

"Regulated Buildings or Structures" - the provisions of this bylaw shall apply only to buildings or structures which in whole or in part were built seventy-five (75) years or more prior to the date of the application for a demolition permit and are:

- a) listed or eligible to be listed on the National Register of Historic places, or on the State Register of Historic Places; or
- b) is associated with one or more historic persons or events, or with broad architectural, cultural, economic, political or social history of the Town; or
- c) is historically or architecturally significant in terms of period style, method of building construction or association with a significant architect or builder either by itself or as part of a group of buildings.

Section 609.3 Procedures

No permit for the demolition of any building or structure shall be issued other than in conformity with this bylaw. Upon receipt of an application for a demolition permit, the Director of Inspectional Services shall forward a copy to the Historic Commission and to the Planning Director.

Within ten (10) business days of receipt of the application from the Director of Inspectional Services to the Commission, the Commission shall make a determination whether or not the building or structure is a "regulated building or structure." If the Commission determines that the building or structure is not regulated by this bylaw, it shall sign the permit immediately and forward it to the Director of Inspectional Services whom shall issue the permit.

If a determination is made that the building or structure is historically significant meeting one of the three criteria of a "regulated building or structure", the Director of Inspectional Services shall not issue a demolition permit for a period of six (6) months from the date of notification to the Director of Inspectional Services, unless the Commission informs the Director of Inspectional Services in writing prior to the expiration of the six (6) month period that the Commission is satisfied that the applicant has made a reasonable but unsuccessful effort to locate a purchaser to preserve, relocate or rehabilitate the building or structure.

In an emergency, nothing in this bylaw shall prohibit The Director of Inspectional Services from exercising the authority of Mass General Laws, Chapter 143 but the Director of Inspectional Services shall make every reasonable effort to inform the Commission of his actions in such an emergency."

(continued)

(Appendix 5-4 Continued)

Part 2: Wayland Petition To Regulate Residential Gross Floor Area

Proposed: That the Zoning By-Laws of the Code of the Township of Wayland be amended in order to control the density of population and regulate the gross floor area of new single family dwellings by adding to Article 1, General Provisions, Section 198-104.2, Definitions, the following:

RESIDENTIAL GROSS FLOOR AREA ("RGFA") - The sum of the horizontal area(s) of the above-grade floors in the residential building(s) on a lot, excluding unfinished attics but including attached or detached garages. The RGFA shall be measured from the exterior face of the exterior walls.

and

amending Article 10, Area, Yard and Bulk Regulations Section 198-1004.1.1 by deleting "Residence Districts: 20%" and inserting:

Residence Districts: for any new single family residence constructed pursuant to a building permit issued on or after June 1, 1998, the greater of 3,500 square feet of Residential Gross Floor Area ("RGFA") or 10% of the lot up to a maximum of 6,000 square feet of RGFA. Any single family residence constructed in excess of 6,000 square feet of RGFA shall require site plan approval by the Planning Board in accordance with Section 198-1202.

FINANCE COMMITTEE COMMENTS - This article proposes to limit the gross floor area of a structure on a residential lot to 3,500 square feet of Residential Gross Floor Area (RGFA) or 10% of the lot up to a maximum of 6,000 square feet of RGFA. This article only applies to new single family residences.

The existing requirement states that the percentage of a lot that can be covered by any building shall not exceed 20% in all residential districts. This has been interpreted to include pavement. The proposed article would not control lot coverage including pavement.

ARGUMENTS IN FAVOR (FINANCE COMMITTEE): The proposed limits on residential structures' RGFA will help the Town keep its semi-rural character by trying to prohibit dense neighborhoods.

Section 6:
PUBLIC FACILITIES &
SERVICES

Section 6: PUBLIC FACILITIES & SERVICES

1/26/99

Introduction

The purpose of this Public Facilities & Services section of the Master Plan is to catalogue Holliston's existing town-owned buildings, schools, active recreational playgrounds and fields, and water and sewage disposal systems; describe their suitability to serve their intended purposes; articulate the community's goals for new or improved facilities; summarize current Town plans to improve or expand public facilities; identify any existing facility deficiencies or anticipated future demand for services that will impact upon their continued functionality or capacity to serve Holliston in the future; and make recommendations to improve existing public facilities or construct new ones. To conduct this analysis, existing town documents were reviewed, each facility was visited, and Town Department Heads were interviewed. Based upon this analysis, and the goals established by Holliston's citizens, recommendations are then offered for the Town's consideration as to how to achieve its defined goals.

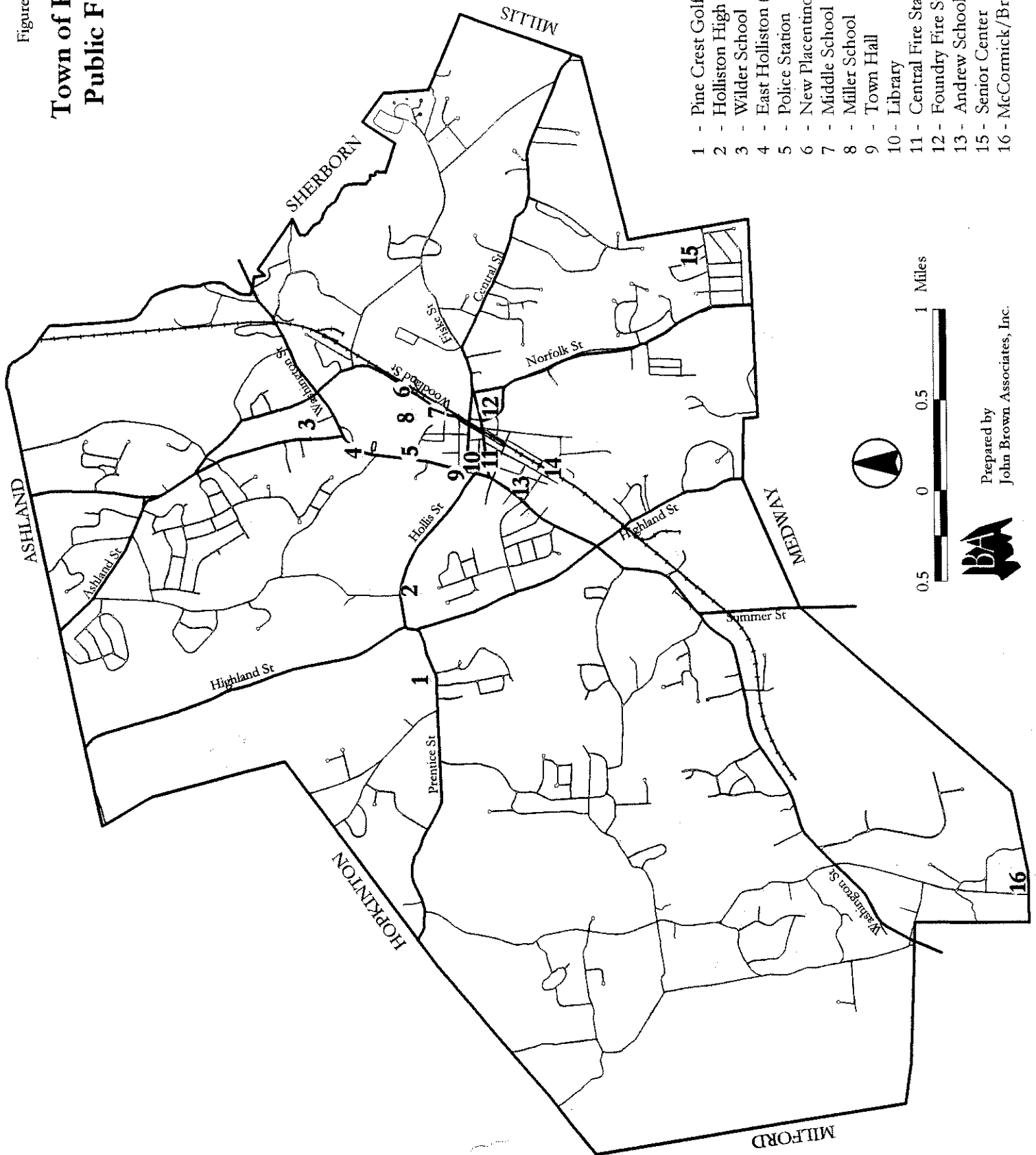
New Placentino School



In recent years, Holliston has not always devoted sufficient resources to properly maintain its public facilities, provide for the growth that has occurred, or comply with federally-mandated and State accessibility laws. As a result, facilities such as the Town Hall and Central Fire Station have deteriorated; space shortages have resulted; certain buildings are not yet legally compliant with accessibility laws; and the schools have become overcrowded. More recently, however, Holliston's citizens have become increasingly aware of these deficiencies and have expressed concerns over these deteriorating and overcrowding conditions. In response to these accumulated deficiencies, the Town has begun to aggressively address these concerns by initiating several construction programs to meet its future facilities needs. For example, there are plans to renovate Town Hall in phases; and the schools are undergoing a major grade reorganization based upon the decision to construct a new elementary school and expand the adjacent Miller Elementary School. Plans exist to provide a major expansion of the Central Fire Station. Additionally, the Town has prepared a capital facilities budget and schedule to forecast when major repairs or expansions to all its facilities are required. Just last year, the Facility Maintenance Study Committee issued its "Preliminary Report on Facility Maintenance for the Town of Holliston", which recommends a strategy of establishing a permanent facilities maintenance department to maintain all of Holliston's municipal facilities as a

Figure 6-1

Town of Holliston Public Facilities



- 1 - Pine Crest Golf Club
- 2 - Holliston High School
- 3 - Wilder School
- 4 - East Holliston (Gates) Fire Station
- 5 - Police Station
- 6 - New Placentino Elementary School
- 7 - Middle School
- 8 - Miller School
- 9 - Town Hall
- 10 - Library
- 11 - Central Fire Station
- 12 - Foundry Fire Station/Water Dept.
- 13 - Andrew School
- 14 - DPW
- 15 - Senior Center
- 16 - McCormick/Braggville Fire Station



Prepared by
John Brown Associates, Inc.

means to correct the years of deferred maintenance from which many of Holliston's town buildings have suffered.

There have also been additional discussions, around which consensus has not been attained, as to whether Holliston needs to provide certain new services that it does not now offer - such as a Youth Center to provide a place of gathering and after-school/weekend activity. Such discussions will need to continue in the future. If the construction program cited above is fulfilled, Holliston may be in the fortunate position of having surplus buildings (i.e. Andrews School, Braggville Fire Station) that could possibly be converted for such new uses.

Given these various initiatives already underway, it is not the purpose of this section of the Master Plan to replicate these ongoing efforts, but instead, view them comprehensively, and build upon them to add recommendations where they may prove helpful.

6.1 MUNICIPAL, SCHOOL, AND RECREATIONAL FACILITIES

6.1.1 EXISTING CONDITIONS, INVENTORY, & ANALYSIS OF NEEDS

The following is a summary of Holliston's municipal, school, and recreation facilities. For a more detailed analysis see Technical Appendix, Section 4 (bound separately).

Municipal Facilities

Holliston provides a wide variety of municipal services for its citizens that range from highway maintenance and public safety to programs for its seniors and library resources. All of these services depend upon facilities from which to operate. Many of Holliston's municipal facilities are aging, have been allowed to physically deteriorate over the years, and have become overcrowded, thereby diminishing, in some instances, Holliston's ability to provide the quality of services that the town's citizens expect. Described below is a summary of Holliston's municipal facilities and an analysis of their capacity to serve the town's needs – now and in the future. For the location of public facilities, see Figure 6-1, Public Facilities.

Town Hall. The three-story Town Hall on Washington Street is in the heart of downtown and is within the Hollis Historic District. It is the administrative center of town government. The building is rich in character and stately in design. Although exterior improvements and accessibility improvements to the first floor have recently been made, much of the building's interior remains in poor condition, after many years of deferred maintenance. Because there is no elevator, the lower level and second floor (including the great Meeting Hall) are inaccessible to the disabled. The building is therefore not in compliance with federal and state accessibility laws and regulations. Many Town Hall offices are overcrowded and, as presently configured, do not provide suitable work environments. Nor is there room to provide additional space for new employees or expanded staff. Additionally, there is not sufficient meeting space for the Town's many committees and boards. To correct these many deficiencies, the Town has appropriated monies to study the more efficient use of internal space and determine whether an expansion is required. It is likely that the results of this Study will define a phased renovation plan in which the installation of an elevator will be a high priority to make the entire building accessible. During renovations, depending upon the construction phasing strategy selected, Town Hall employees may need to be temporarily relocated - perhaps to the Andrews School building.

Holliston Public (Center) Library. Holliston Public Library is located on Washington Street in the heart of the town center. The Library has a growing circulation of over 90,000 volumes. The Library, several years ago, became a member of the Minuteman Library Network which links 30 different libraries by computer and allows a sharing of resources between them. This network allows access by Holliston's citizens to thousands of volumes in other libraries that need not necessarily be stocked at the Holliston Public Library.

The Library is a three-level brick building consisting of the original library and a major building addition at the rear which was completed in 1988. When the addition was constructed, an elevator was added. In general, the Library is an attractive building and is in reasonably good condition. In addition to typical library functions such as reading rooms, book stacks, administrative space and circulation desk, the library includes a large size meeting room together with several smaller rooms that are often pressed into service for community meetings when required. The Library addition in 1988 was designed with excess capacity and continues to have space available for the expansion of its book and media collections. However, meeting room spaces are now booked to capacity and beyond. Perhaps the Library's greatest limitation on its capacity to serve Holliston's citizens is its lack of dedicated parking spaces.

In the future, library space needs to accommodate a growing population and expanded circulation become more difficult to predict than has been the case in the past. This is because the Library's new "on-line" network capability, with its resultant capability to share resources with thirty other libraries, together with the growing use of the Internet, reflects a revolution in how libraries operate and how much space they will require in the future.

Police Station. The Police Station is a two and a half story brick building which is built into the incline of a hill. The Station appears to be a one-story building when seen from Washington Street, and is seen as a two-story building from the rear parking lot. The building has been made accessible to the disabled at the main level by the provision of an exterior ramp to the front entry. In general, the building appears to be in good condition. However, there is insufficient office space, training/meeting space or patrolmen's lounge. To remedy these space shortages, \$100,000 has been designated in the Town's Capital Budget forecast to add an expansion to the main floor in the year 2000 to provide new conference/meeting/classroom space and expanded office space.

Fire Department Facilities. The Holliston Fire Department is largely a volunteer fire department. The Department presently operates from the Center Station as headquarters as well as three unstaffed substations - Foundry, East Holliston (Gates), and Braggville (McCormick). The Fire Department staff is comprised of two paid full-time staff - the Chief and firefighter - together with 48 volunteer on-call firefighters (many are certified EMTs as well) who are paid modest stipends for their services.

The four stations are geographically well distributed to serve all parts of town: The Center Station and Foundry Station serve the middle of town; the Braggville Station serves the western and southern sides of town; and the East Holliston Station serves the eastern side of town. Ideally, response times to emergency calls should not exceed four minutes. The current geographic distribution of Holliston's stations would allow this response time to be met if all stations were staffed. However, since all but the Center Station are unstaffed, response times are dependent upon how quickly volunteers can respond and reach their respective stations and equipment. This volunteer system has worked well in the past. As Holliston continues to grow and develop,

however, continued reliance on volunteer firefighters will at some point have to be reexamined and preparations perhaps made to eventually convert to a staffed operation.

At present, there are plans to complete a major new addition to the Center Fire Station. When this expansion is completed, apparatus will be redistributed and consolidated so that the Fire Department is operated from the Central Station, East Holliston, and Braggville. In two years, the Chief expects that a new fire substation will be constructed on donated land at Hopping Brook Industrial Park as a replacement for the Braggville Substation.

When this cycle of improvements is completed, the existing Braggville Substation will be decommissioned, as will be the Foundry Substation. Therefore, the Town will have to identify new uses for these closed facilities. In the longer range future, the Chief would also like to replace the East Holliston substation which is small, difficult to access, and obsolete. To achieve this, a new site in East Holliston will have to be identified.

Holliston Senior Center. The Senior Center, operated by the Council on Aging (COA), is a one story metal building located on Goulding Street at a remote corner of town near the Millis town line. The Senior Center is in good condition and offers a wide variety programs for Holliston's elders. A new garage and storage building were recently constructed on the Senior Center property to provide storage and house the COA van. According to the Director, the building is at present sufficiently large to accommodate current programs. However, as Holliston's elder population increases, and additional programming - such as a social day program - is considered, the building would then not be adequate to accommodate this expanded programming. Recognizing this future need, the Town's Proposed Capital Improvement Plan has budgeted monies in the future for an expansion of the building.

Highway Department/Public Works Garage Complex. The Highway/Public Works Department maintains the town's roads, its recreational fields and parks, and the three Town Cemeteries (through contract outsourcing). The Highway/Public Works Department garage complex, located on Arch Street, consists of several garage, office, and storage shed buildings, as well as the Town's fuel depot. According to the Highway Superintendent, the Storage Garage can only accommodate approximately 60% of the vehicle fleet indoors. The remaining vehicles are stored outdoors in the yard which often causes engine freezing start-up problems in the winter. To remedy this shortage, there is a request in the capital budget to expand the Storage Garage in the year 2000.

Waste Recycling Area. A waste recycling area, located on Marshal Street, is operated by the Town's Recycling committee.

Town Cemeteries. The Town owns three small cemeteries that are all approaching or at full capacity. These cemeteries include the Old Bragg Cemetery on Washington Street, the Indian Cemetery on Cedar Street, and the Lincoln Cemetery on Gorwin Drive.

School Facilities

Holliston now provides public education from Pre-Kindergarten through grade 12. The School system is comprised of the Senior High School, Middle School (Flagg-Adams), Miller Elementary School, Andrews Elementary School, and Wilder Elementary School. As of the end of 1998, the new Placentino Elementary School will have also opened. Within this system, Holliston offers a

diversity of programs, such as Montessori, French Immersion, and Traditional. In addition to Holliston's High School, Middle School, and elementary schools, a number of Holliston students attend the regional Keefe Technical School in Framingham as well.

Over the years, as population has grown and school enrollments increased, Holliston's schools have increasingly become overcrowded and many schools have fallen into various states of disrepair. Additionally, many schools are not fully compliant with state and federal accessibility standards for the disabled. In recent years, changes in state legislation and regulations for special needs children, almost all introduced after Holliston's school buildings were constructed, have resulted in a significant amount of space being converted or dedicated to highly specialized special needs programs. Additionally, the rapid expansion of technology, such as computers, have required specialized space devoted to these technologies. All of these factors have combined to cause overcrowding of the schools. To remedy these deficiencies and space shortages, and plan for its future, Holliston began in the mid 1990s, to plan for a reorganized and expanded school system.

Today, Holliston is in the midst of a major effort to reorganize its school curriculum and grade organization and expand and upgrade its physical facilities to meet its future needs and changing educational mission. Space and facilities requirements in the future will be shaped by increased enrollments, the need for increased special education and needs programs, new technologies required by rapid advancement into the information society, extended school days for the purpose of after-school care, full day kindergarten programs, and the need to accommodate physically and mentally handicapped students. And finally, increased enrollments will require additional classroom space.

Until the present, Holliston's elementary schools hosted grades K-3; the Middle School hosted grades 4-7; and the High School hosted grades 8-12. Based upon the needs identified above and corrective strategies recommended in the Long Range Organization and Facility Plan of February 1997 by Dr. John Drinkwater and the Holliston Public Schools Strategic Plan: 1997 - 2001 prepared in May of 1997, a facilities reorganization plan was outlined. That plan called for a redistribution of grades among school facilities so that the elementary schools hosted grades PreK-5; the Middle School hosted grades 6-8; and the High School hosted grades 9-12. As a major first step in implementing that recommended strategy, a new (Placentino) Elementary School was constructed, a significant expansion of the Miller Elementary School is planned, renovations to the Middle School and High School are approved and funded, and a reorganization of grades among facilities is underway. When the reorganization of schools is completed, the school system is projected to have a capacity of 3,525 students. As the schools are reorganized, certain old school facilities may be closed or reused for new purposes. These closed schools may provide Holliston with new opportunities to house programs and services that had not previously had adequate facilities to host them.

School Enrollments and Projections: Short to Intermediate Range

According to Dr. Drinkwater's 1996 Long Range Organization and Facility Plan, Holliston had experienced an enrollment increase of 123 students in grades K-3 during the five years from 1990-91 to 1995-96. In the next five year period from 1995-96 to the year 2000-01, there was a projected additional increase of 9 pupils in these grades. The Middle School population (grades 4-7) had increased by 125 students during the five year period from 1990-1991 to 1995-1996 and was projected to further increase by approximately 98 students by the year 2000-2001. The population of the High School had increased by 41 students from 1990-1991 to 1995-96, and was projected to increase by an additional 156 students by the year 2000-2001.

In summary, as seen in Table 6-1 below, by the school year 2000-01, there was expected to be a total enrollment in Holliston's school system of 2,997 students. Total system-wide facility capacity is expected to be 3,525 students if the Reorganization Plan is implemented. Consequently, if the School Reorganization Plan is fully implemented, sufficient facility capacity should be available beyond the projection year of 2000/1 well into the latter part of the next decade. (Using a rough measure of approximately a total increase of 50 to 60 students per year in the entire school system, as has been the case in recent years, the excess capacity of 528 students in the year 2000/1 should accommodate further increased enrollments until 2008/9 or 2009/10.)

Table 6-1
School Reorganization Enrollment Projection Summary

<u>Facility</u>	<u>Grade Grouping</u>	<u>2000/1 Projected Enrollment</u>	<u>Facility Capacity</u>	<u>Excess</u>
Miller Elem. School + New Elem. School	Pre K-5	1,488	1,700	+ 212
Middle School	6-8	712	850	+ 138
High School	9-12	797	975	+ 178
Totals		2,997	3,525	+ 528

Source: "Long Range Organization and Facility Plan", Drinkwater, 22 February 1996

School enrollments and projected enrollments prepared more recently during the 1997-1998 school year by the School Department are as follows:

Table 6-2
School Enrollments & Projections

	<u>Actual Resident* Student Enrollments 1995/6 through 1997/8</u>			<u>Total</u>
	<u>PreK-5</u>	<u>Grades 6-8</u>	<u>Grades 9-12</u>	
1995/6	1,443	605	710	2,758
1996/7	1,454	650	701	2,805
1997/8	1,462	658	752	2,872
	<u>Projected Resident* Student Enrollments 1998/9 through 2001/2</u>			
1998/9	1,444	704	776	2,924
1999/0	1,456	724	800	2,980
2000/1	1,515	698	824	3,037
2001/2	1,498	712	852	3,062

Source: School Department; * Does not include School Choice Students

When the Drinkwater projections in Table 6-1 and the current School Department projections in Table 6-2 are compared for the year 2000/1, it can be seen that currently projected total enrollment (3,037) in the year 2000/1 slightly exceeds the Drinkwater projections (2,997) by 1.3%. For all practical purposes, the Drinkwater projections appear to remain reliable.

Full Buildout Enrollment Projections: Long Range

Looking beyond School Department projections for the next five years, it is informative to compare potential school children projections under full build-out scenarios for a) build-out possible under existing zoning and for b) buildout possible under the recommended Guide Plan scenario. (It is important to remember that "buildout" may not be achieved for 30, 40, 50 years or longer.)

Under existing zoning, at full buildout, there could be an additional 2,396 school children beyond the current (1997/8) enrollment of 2,872 students for a total of 5,268 students in the school system. Since Holliston's school system capacity is now being designed for 3,525 students, facility capacity would have to increase another 49% beyond current facility expansion plans. Under the recommended Guide Plan scenario, at full buildout, there could be an additional 1,514 school children beyond the current enrollment of 2,872 students, for a total of 4,386 students in the school system. Facility capacity would thus have to increase another 24% beyond current expansion plans.

The implication, in either instance, is that Holliston will require further school expansions beyond those now planned, at a minimum; or, one to three entirely new schools in the future.

School Facility Inventory/Planned Changes

Holliston Senior High School. At present (1997/8), the High School, built in 1969, serves five grade levels - grades 8 through 12, and enrollment is 944 students. The facility's current capacity is estimated between 975 to 1,100 students. As is true for all of Holliston's schools, the building has suffered from insufficient maintenance and is in need of repair and renovation. Under the proposed Organization Plan, the High School would be reorganized to serve grades 9 through 12. With the eighth grade removed, the High School should have adequate space to serve the needs of students for the foreseeable future. By serving just four grades, the year 2000-01 enrollment is projected to be 797 students - well below the estimated capacity of 975.

Holliston (Flagg-Adams) Middle School. The Holliston Middle School, constructed in the 1950s, consists of the Adams Building and the Flagg Building which later were joined to form the present structure. Today, the building is a sprawling one and two story brick building serving grades 4 through 7 and School Department offices. According to the Long Range Organization and Facilities Plan, if the Middle School were reorganized to serve only three grades instead of four as it now does, the building's spaces would be adequately sized for its purposes. Therefore, in the proposed Long Range Organization Plan, Holliston Middle School is proposed to serve Grades 6 through 8 with a projected enrollment of 712 students in the 2000-01 school year. It would have an ultimate capacity of 850 students.

Miller Elementary School. The Miller School, constructed in 1963 and 1965, presently serves grades 1 through 3 and has a current (1997-8) enrollment of 711 students. Under the proposed system-wide Reorganization Plan, an expanded facility is expected to have a capacity of 850 students and a projected enrollment in the year 2000-01 of 754. In the School Department's

Reorganization Plan, the Miller School would serve grades 3 through 5. The expansion is expected to occur in 1999.

Andrews Elementary School. The Andrews School, constructed in 1939 and expanded in 1950, presently serves grades Pre-K, K and 1, with an enrollment of 309 students. There are three floors with classroom space on the first and second floor and "core" facilities in the basement level. The Andrews School, according to the Drinkwater report, has a pronounced lack of space, and is deficient in many ways. The entire building is in need of extensive renovations for aesthetic, educational, and ADA accessibility reasons. Restructuring the present classrooms, however, to bring them up to required standards is practically precluded by the present configuration of the building. According to the Drinkwater report, renovations to the building to proper standards would reduce the capacity of the facility to such an extent that it would not make sense to invest the resources to do so. Therefore, in the Reorganization Plan, when the new Placentino Elementary School is opened and operating, the Andrews School is designated for closure as an elementary school. Once closed, it may then become available for new educational uses. There is the possibility it could be converted for future extended day school and pre-school, or, possibly, the new location for the School Department's Central Offices, now located at the Middle School. The Andrews School may also be temporarily needed as relocation space for Town Hall employees while major interior renovations are underway at Town Hall.

Wilder Elementary School. The Wilder Elementary School is a two room school house without cafeteria, gym, or space for any support services. Over the years, the Wilder School has been used as "swing space" to accommodate brief surges in school population. When not needed to accommodate such surges, it has been rented out for uses such as a child care center. Under the Reorganization Plan, this building would no longer be used as an instructional center, but would be available instead for other educational purposes. What these specific purposes are, however, have not yet been clearly defined. There has also been some suggestion of surplus the property and returning it to private use and the tax rolls, however the Wilder School was originally donated to the Town of Holliston, and the deed appears to specify that the building must be used for educational purposes and remain within the jurisdiction of the School Department.

New Placentino Elementary School. A new Elementary School has been constructed immediately adjacent to the Miller Elementary School so that certain facilities and site amenities can be shared. The new Elementary School will accommodate PreK through grade 2 and Montessori Grade 3. Together with the expansion of the Miller School, the Placentino School will go far to remedy Holliston's current space shortages and will accommodate projected growth for the foreseeable future at the elementary grade levels. The new Elementary School will have a capacity of 850 students and a projected enrollment in the year 2000-01 of 734.

Active Recreational Facilities, Parks And Playfields

Many of Holliston's recreational playfields, playgrounds, and athletic fields are located at the schools, or in parks adjoining Lake Winthrop. Additionally, the Town owns the municipal Pine Crest Golf course; and swimming beaches are provided at Lake Winthrop. Holliston recently completed its 5 year update of its *Open Space and Recreation Plan*, which thoroughly documents its open space, passive and active recreational resources, and its open space and recreational expansion plans for the future.

Over recent years, there has been increasing demand for additional playfields and courts as the popularity of athletics grow and as Holliston's population has increased. To meet these increasing demands for active recreational opportunities, Holliston has crafted a number of strategies to expand its inventory of recreational venues, often with the assistance of the private sector or non-profit organizations. Several new play fields, courts, and other improvements have recently been added to Holliston's recreational inventory using these entrepreneurial strategies and still others are planned. For instance, the developer's of the Mission Springs housing development donated land to the Town and constructed several new fields and courts for public use. As another example, new lights were funded and installed by an athletic booster organization at the High School football field to allow night games.

If any side of town remains under-served by recreational athletic fields, it is the western portion of town. Efforts are being made there to develop new recreational fields at the Marshall Street Fields at the old land fill site. Potentially, these new fields will be developed in cooperation with a private organization that would lease the property from the Town and then develop several playfields.

As the town continues to grow, demand for active recreational opportunities will likely continue to increase. The development of a new large site for recreational venues, such as the Marshall Street Fields, will be an important addition to Holliston's recreational inventory. Demands for entirely new types of recreational opportunities will also arise. For instance, skateboarding parks are becoming increasingly popular. There has also been consideration of constructing new indoor swimming facilities (which the town does not now have) at the High School or Middle School to provide year-round swimming opportunities. To date, this proposal has not been approved. It will likely remain, however, as a desired addition to Holliston's recreational opportunities.

Within the past several years, there has been discussion of providing a youth center for teens and young adults. However, surveys of teens indicate they are not interested in such a center if it is a highly supervised program. Instead, they simply wish to have a meeting place where they can socialize. Therefore, it is not yet clear if the construction of a Youth Center in Holliston would be well used by its intended audience.

Inventory of Active Recreational Facilities

Detailed descriptions of Holliston's active recreational facilities are provided in Section 4 of the Technical Appendix.

Existing recreational facilities include a municipal golf course, parks, trails, beaches along the shores of Lake Winthrop and Weston Pond, and other parks and playfields. Summer camp programs are hosted at some of these sites. Recreational facilities and athletic fields are also located at several school sites.

Table 6-3 below, summarizes the town-owned and School Department-owned active recreational facilities.

Table 6-3
Existing Town-Owned and School-Owned Active Recreational Facilities and Fields

<u>Facility</u>	<u>Location</u>	<u>Owner/ Managing Agency</u>	<u>Description</u>
Stoddard Park	Lake Winthrop Norfolk St.	Parks Comm.	Baseball field, soccer field, new bath house, Improved parking, ramp
Patoma Park	Lake Winthrop	Parks Comm.	Baseball field, tennis Court, soccer field, Outdoors at Patoma Camp Building
Pleasure Point	Lake Winthrop	Parks Comm.	Beach access, boat ramp
Goodwill Park	Green Street	Parks Comm.	Playground, tennis Courts, baseball field, Soccer field, basketball Court, Outdoors at Goodwill Summer program and Rec. Dept. office
Pine Crest Golf Course	Prentice Street	Golf Course Comm.	Golf course, club house
Weston Pond	Washington Street	Parks Comm.	Soccer field(s), canoe Launch, skating access
Mission Spring	Summer Street	Comm. Builders/ Parks Comm.	baseball field, basketball court, tot lot, parking
High School	Hollis Street	School Dept.	Football field, softball Field, baseball field, Track, soccer fields, Field hockey field, new Lights
Flagg Field	Woodland Street	School Dept.	Baseball field
Adams School	Woodland Street	School Dept.	Baseball field, soccer Field

Source: 1998 Open Space and Recreation Plan by Beals and Thomas, Inc.

6.1.2 PUBLIC FACILITIES GOALS

During the preparation of Phase I of the Master Plan in 1997, a number of general goals were established for the improvement of Town facilities and services. These general goals, together with comments gathered at Public Forums conducted during the current Phase 2 effort of the Master Plan, serve as the basis for recommendations to the Town. Listed below is a summary of identified goals.

Municipal Facilities Goals

1. Provide high quality municipal services and facilities that contribute to maintaining the health, safety and welfare of the community.
2. Maintain existing town buildings, facilities and sites at a high standard of excellence.
3. Anticipate and plan for future municipal facilities and service requirements. Do continuous long-range planning to anticipate future needs.
4. Provide a broad range of activities and facilities for children, teens, adults, and senior citizens.
5. Maintain and enhance senior citizen services and facilities.
6. Preserve the historic character of key existing public buildings and their surroundings.
7. Comply with American with Disabilities Act (ADA) regulations to provide equal accessibility to Town public facilities.
8. Utilize surplus town-owned buildings and land for new facilities.
9. Coordinate the management, maintenance and allocation of public facility space.

School Facilities Goals

1. Provide well-maintained and attractive school facilities that inspire students to learn.
2. Continuously plan for future school facilities/needs since demographic projections for school aged population are constantly shifting to reflect economic growth cycles.
3. Implement the Town's School Reorganization Plan prepared by the School Department.
4. Implement the program to renovate and upgrade the Town's existing schools.
5. Plan for the reuse of surplus school buildings that will become available as a result of the School Reorganization Plan.

Active Recreational Facilities Goals

As Holliston grows, and as its citizens come to increasingly expect better active recreational opportunities, not only for children and youth but adults as well, recreational venues, parks, and playfields will need to be expanded, their facilities improved, and their ongoing maintenance budgeted for. During the preparation of Phase 1 of this Master Plan in 1997, Holliston's citizens identified a number of general goals to expand recreational opportunities.

1. Plan, maintain and expand, as necessary, active recreational facilities and programs to meet the diverse needs of all town citizens.
2. Maintain and improve existing recreation facilities.
3. Plan and utilize a portion of the town's open space for recreation purposes. (See Section 3: Open Space and Recreation.)
4. Make Holliston's parks and recreational fields accessible to the disabled.

6.1.3 PUBLIC FACILITIES RECOMMENDATIONS

Municipal Facilities Recommendations

A number of Holliston's municipal buildings have fallen into disrepair over the years, significant space shortages have developed, and the condition of public safety facilities to adequately serve the town are less than optimal. Additionally, many of Holliston's municipal facilities are not compliant with federal and state accessibility requirements for the disabled. Therefore, these buildings require renovations, expansions, or entirely new facilities. At present, fortunately, there is an aggressive plan to correct many of these deficiencies and space shortages. For example, there are plans to expand the Center Fire Station; and additional plans are being studied to renovate Town Hall. Other municipal facilities are in much need of improvement as well. Additionally, Holliston may have several surplus buildings soon available (i.e., Andrews School, Braggville Fire Station, Foundry Substation. etc.) that could be renovated and reused for new purposes. Therefore, based upon all these current initiatives and the general goals identified a series of specific public facilities recommendations are set forth as follows.

1. Renovate Town Hall/Make It Accessible to the Disabled

Town Hall is in poor repair; its upper floors are not accessible to the disabled; and many departments are short of work and storage space. The upper level public meeting room cannot now be used because it is inaccessible to the disabled. For all these reasons, Town Hall must be renovated, and, possibly expanded to the rear. Therefore, support should be provided to implement current plans to renovate Town Hall.

2. Expand and Renovate the Central Street Fire Department Headquarters

The Central Street Fire Station is in serious disrepair. As a result, heavy apparatus has been moved elsewhere. Plans are now being prepared to expand and renovate Fire Department Headquarters. These plans should be supported and advanced as quickly as possible.

3. Construct New Braggville/McCormick Fire Substation at Hopping Brook Industrial Park and a New East Holliston Substation

The current Braggville Station covers the western and southern portions of town. It is a small garage, inadequate to support current state-of-the-art apparatus, and would be inadequate if the Fire Department moved to a staffed operation in the future. The Fire Chief's plans to construct a new Braggville Substation on donated land at Hopping Brook Industrial Park should be supported. Consideration should also be given to replacing the currently inadequate East Holliston Station at a new site yet to be identified. (See discussion in following recommendation.)

4. In the Long Run, Plan Now for the Eventual Conversion of the Fire Department to a Staffed Operation

As Holliston grows, the Town may want to plan for the eventual conversion to a staffed Fire Department to insure adequate response times to emergency calls. Such a conversion has many financial, annual operating budget, and facilities implications. Converting to a staffed operation lowers fire insurance rates for the town. It requires the hiring of additional firefighters which clearly increase annual personnel and operating budgets. It also requires that as new substations are planned or expanded, facilities are either included to house on-duty staff, or, expansion room is adequate to later provide such facilities if and when the Town converts to a staffed operation. When and if the Town decides to move in this direction, the Fire Chief should prepare a staffing and operations plan which will serve as the basis for the facilities and equipment needs.

5. Expand/Renovate Police Headquarters

Police Headquarters has inadequate space for current staffing and programs. The Town's Capital Budget projects the need for a \$100,000 expansion in the year 2000. This expansion may include space for new conference, meeting and classroom space as well as expanded office space.

6. Reuse the Braggville Substation for New Municipal Uses

Identify potential reuse themes for the Braggville Substation when and if a new one is built at Hopping Brook Park.

7. Provide Additional Parking for the Library

The Library now has inadequate parking. Additional parking should be sought. This may be accomplished by means of: 1) by dedicating certain *on-street* public parking spaces for the exclusive use of Library patrons; 2) providing angled parking on Washington Street in front of the Library to increase the number of parking spaces. Perhaps this latter policy could be implemented on weekends only when Library patronage is high but when traffic is less congested; or 3) constructing a dedicated lot for commercial and library parking if a site can be identified that is sufficiently close by.

8. Expand Highway Department/Public Works Garage

Expand the Highway Garage to shelter that portion of the vehicle fleet that cannot now be sheltered indoors within the existing garage.

9. Define Need for a Youth Center

The need for a Youth Center remains ambiguous in Holliston. Though a perceived need exists, polls of Holliston's teens indicate they would not be interested in a highly supervised

atmosphere. A new group, Friends of Youth and Family Services has been established to help the Holliston Youth Council identify the need for youth and teen activities and a teen center to host such activities. This group's work and recommendations may lead to the identification of need for a Youth Center and the means to fund it.

10. Support an Ongoing Capital Improvement & Maintenance Budgeting Process

Support the work of the Town in preparing annual capital improvement budget projections for capital facilities needs and the work of the Facility Maintenance Study Committee's 1997 report to budget annual and ongoing facility maintenance funds so the Town does not again get itself into its present position of paying for long-term neglect of its facilities. As a corollary, the Town should consider establishing a Building Maintenance Department and full time crew to maintain all of Holliston's facilities (with the possible exception of the schools), as recommended by the Committee.

11. In the Long-Run, Retain Existing Town Facilities in the Center

In the long-run, as Town buildings (such as Town Hall and the Library) require additional space, keep these buildings in the Center by renovating and expanding them rather than scattering them to sites outside the center where more land may be available. The collection of these facilities in the town center creates a critical mass of activity and a civic district that a scattered site policy dissipates.

School Facilities Recommendations

A number of Holliston's schools have fallen into disrepair over the years, severe space shortages have developed, and overcrowding has plagued all grade levels throughout the school system, as school enrollments have continued to increase. Much has already been done to address these issues, but Holliston must continue to support these efforts and anticipate future needs.

1. Implement the School Reorganization Plan/Construction & Renovation Program

An aggressive plan has been developed to address the current deficiencies and space shortages, including reorganization of the grade structures, renovation and expansion of existing facilities, and construction of new facilities. If the Reorganization Plan is fully implemented, sufficient school facility capacity should be available for Holliston's students well into the next decade. Specifically, the Reorganization Plan calls for:

- Constructing the new Placentino Elementary School, now completed
- Renovating the Miller Elementary School
- Renovating the Middle School
- Renovating the High School
- Reusing the Andrews School for School Department offices or other uses.

2. Identify/Landbank Sites for Future School Facilities

Beyond the next ten years, if school enrollments continue to increase according to buildout projections, plan for those increases by identifying sites for acquisition that may be suitable for future schools. If demand for such facilities does not materialize, these sites can be added to the inventory of Holliston's open space and recreational areas instead.

3. Reuse the Soon-to-be-Surplused Andrews and Wilder Schools

When the new Placentino Elementary School is completed at the end of 1998, the School Department Reorganization Plan calls for the closure of both the Andrews School and Wilder School. Current thinking calls for the Andrews school's reuse for other School Department administrative or educational needs. It may have sufficient space to support these School Department uses as well as a Youth Center if one were thought to be desirable.

For interim use, a portion of the Andrews School should be used to temporarily house Town Hall offices and personnel while Town Hall itself is renovated and expanded in a phased effort. For permanent reuse purposes, the Andrews School could be reused for other educational programs, such as an extended day school and pre-school, or a new location for the School Department's Central Offices.

Alternatively, the building could also be transferred to other Town departments for conversion to either a Youth and Community Center, or an in-town Senior Center with offices for the Council On Aging (COA) on the first floor and senior housing on upper floors. Alternatively, the Andrews School could be surplused to private redevelopers for conversion to such uses as senior housing or professional office space which would return this property to the tax rolls.

4. Reuse the Soon-to-be-Surplused Wilder School

Under the Reorganization Plan, this building would no longer be used as an instructional center. It is anticipated that once the new elementary school opens, this building would be available for other educational purposes. What these specific purposes are, however, have not yet been clearly defined. There has been some suggestion of surplusing the property and returning it to private use and the tax rolls, perhaps as a house. However, the Wilder School was originally donated to the Town of Holliston and the deed appears to specify that the building must be used for educational purposes and remain within the jurisdiction of the School Department. Perhaps the school should be retained by the School Department for its historic role of providing "swing space" as school enrollments grow and fluctuate over the years. Alternatively, it may be suitable for a youth activity center or counseling center.

Active Recreational Facilities Recommendations

1. Construct New Club House and Course Improvements at Pine Crest Golf Course

Construct a new Club House and other course improvements at Pine Crest Golf Course in accordance with the \$1 M+ appropriation approved at the 1998 Town Meeting.

2. Continue to Identify Public/Private Partnerships to Fund New Active Recreational Playfields and Courts

Holliston has recently been quite successful in partnering with private and non-profit organizations (e.g. Mission Springs, Marshall Street Fields) to construct new playfields and parks. Such entrepreneurial efforts should continue.

3. Make Improvements to Goodwill Park

Repair tennis courts. Provide additional parking for access to the park and a safe vehicular turnaround on Green Street. Consider tearing down the existing garage structure to expand the park for additional green space (or alternatively, to allow additional parking).

4. Make all Parks and Playfields Accessible to Those with Disabilities

Many of Holliston's parks and older playfields have been made accessible to the disabled, at least in part. This accessibility improvement program should continue.

5. Construct Indoor Swimming Facilities

Continue to plan for the construction of indoor swimming facilities, probably at the Middle School or High School, to provide year-round swimming opportunities.

6. Provide Adequate Funding for the Maintenance of Parks and Recreational Fields

Ideally, parks and playground maintenance should be adequately funded by the Town. However, similar to the manner in which the Town has partnered with private and non-profit organizations to construct new recreational play fields, the Town may wish to encourage private organizations, companies and/or non-profit organizations to sponsor maintenance of various recreation venues - forming perhaps "Friends of ..." groups or groups and companies willing to "Adopt a Park".

6.2 WATER SUPPLY & SEWAGE DISPOSAL

The ability to obtain clean drinking water and dispose properly of wastewater is a prerequisite for virtually any type of development. Therefore, the availability of drinking water and sewage disposal facilities significantly influences Holliston's ability to grow, and shapes development patterns throughout the town. This section discusses the availability of public drinking water, limitations on the existing septic-based sewage disposal system in town, and plans for the proposed sewer system in Holliston. This report also identifies future utility needs in the Town and discusses possible ways to meet these needs.

6.2.1 MUNICIPAL WATER SYSTEM

The Holliston Water Department maintains seven municipal wells, which supply 96% of Holliston residents with their water. Table 6-4 provides information about these wells. Figure 6-2 in the Natural and Cultural Resources section of the Master Plan shows the location of Holliston's wells, aquifers, and Aquifer Protection District.

Table 6-4
Holliston's Public Water Supply Wells

Well #	Location	Capacity (GPM)*	Capacity (GPD)*	Comments
1	Eastern shore of Lake Winthrop	350	504,000	
2	Maple Street near Jar Brook	350	504,000	
3	E. of Weston Pond	N/A	N/A	Emergency use only, due to high iron content
4	E. of Weston Pond	550	792,000	Includes treatment plant to remove iron and manganese
5	Central Street near Bogastow Brook	420	604,800	
6	Brook St., just W. of Sherborn border	600	864,000	
7	South of well #6	600	864,000	Expected to go on-line in 1998 or 1999
Total		2,870	4,132,800	

*GPM = gallons per minute. GPD= gallons per day.

According to annual Water Department statistics, Holliston's water use in recent years has remained relatively constant as a result of the Town's low rate of population growth plus significant water conservation efforts. (See Table 6-5.) However, growth in the middle and late 1990s (including 300-400 new single-family homes) has required the Town to seek additional water sources. Industrial growth predicted for the first two decades of the 21st century, made possible by the sewerage of certain industrial areas, may be another source of significant new water use. Water use for each of the three land use scenarios presented in this Master Plan may be estimated based on the maximum amount of housing, commercial space, and industrial space that would be allowed under proposed zoning. These figures are as follows:

Table 6-5
Potential Future Water Use

Potential Use	Existing Zoning	Scenario 1 (Economic Plan)	Scenario 2 (Env'l Plan)	Scenario 3 (Composite Plan)
Housing ⁽¹⁾	2,742 units 884,500 gpd	2,916 units 925,000 gpd	1,737 units 559,500 units	2,121 units 668,500 gpd
Office & Retail ⁽²⁾	251,200 sf 19,000 gpd	367,000 sf 27,500 gpd	272,200 sf 20,500 gpd	401,800 sf 30,000 gpd
Industrial ⁽²⁾	16,875,100 sf 337,500 gpd	14,888,800 sf 298,000 gpd	6,832,400 sf 136,500 gpd	11,162,300 sf 223,000 gpd
Total	1,241,000 gpd	1,250,500 gpd	716,500 gpd	921,500 gpd

⁽¹⁾ Based on actual water use figure for Holliston from 1995 to 1997.

⁽²⁾ Based on sewage generation estimates in Title V of the MA Environmental Code.

As illustrated in Table 6-6, projected water use in the Economic Plan is about 75% higher than that in the Environmental Plan. Adopting a more development-intensive scenario will therefore result in new wells needing to be developed at a faster rate.

To meet the growing water demand, the Town is opening a seventh well in 1998 or 1999, subject to archaeological investigations on some of the buffer zone lands. In addition, the Water Department is involved in ongoing efforts to identify high-yield well sites in Holliston. Water Department Superintendent James Gatchell predicts that at least one more well (in addition to well #7) will be required within next 10 years. The Water Department is currently in the process of applying to the MA Department of Environmental Protection for a permit to withdraw additional groundwater and construct an additional public water supply well. For the foreseeable future, the town's aquifers appear to be able to meet this additional water demand.

Table 6-6
Holliston Water Use, 1980-1997

Year	Population	Average GPD*	Peak GPD*	Per Capita Use (GPD)*
1980	12,840	1,142,000	2,412,000	88.9
1985	13,145	984,000	2,026,000	74.9
1990	13,140	1,231,000	2,349,000	93.7
1995	13,854	1,167,000	2,583,000	84.2
1997	13,785	1,229,000	2,313,000	89.2
Average Annual Growth**	0.43%	0.45%	-0.24%	0.02%

* GPD= gallons per day. Figures for average and peak GPD and for per capita daily use are running averages of the last three calendar years (for example, the 1997 figures are an average of the years 1995 through 1997). Running averages help to correct for year-to-year fluctuations in water use based on weather and other incidental factors.

** From 1980 to 1997.

The Water Department also maintains three water tanks to pressurize the water system, enhance maximum flows for fire protection purposes, and provide a reserve to meet demand during peak periods. (See Table 6-7.) According to the 1993 Water System Study prepared by H₂O Consultants, some areas of Holliston still suffer from low water pressure, including areas above elevation 310' and some isolated areas with dead-end water pipes. The recent installation of a new

1.0 million gallon tank on Beatrice Lane will help to rectify this problem. In addition, the Water Department is hoping to install two more tanks, one on each side of the Town, to improve water pressure. These would be funded jointly by the Town and by new industrial and residential water users.

Table 6-7
Water Storage Facilities

Location	Type of Storage Facility	Capacity (gallons)
Mount Hollis	Steel water tower	2,200,000
Oak Street	Steel water tower	400,000
Beatrice Lane	Steel water tower	1,000,000
Total Capacity		3,600,000

Water Conservation

Because of the expense of establishing additional wells, it is cost-effective to reduce per-capita water use in order to postpone the need for new water sources. To this end, the Water Department runs an active water conservation program. Conservation measures adopted in recent years include:

- An “increasing block-rate” billing structure that discourages high water use: beyond a certain volume, the per-unit cost for additional water is higher.
- A Town bylaw prohibiting the use of automated in-ground sprinkler systems. Hand-operated systems are currently permitted, but may also be banned in the future.
- A water conservation education program, including appearances at local schools to promote water conservation at home.
- A water ban bylaw that prohibits wasteful water uses during dry periods.

Thus far, Holliston has avoided any major water crises. During the summer of 1997, the Water Department issued a voluntary ban on landscaping water uses during a hot, dry period of the summer, the first such water conservation measure necessary in recent history. Continued conservation efforts will help to avoid water supply problems and keep water rates at a reasonable level.

6.2.2 SEWAGE DISPOSAL FACILITIES

Currently, individual septic systems are the primary means of sewage disposal in Holliston. Septic systems consist of two main parts: a septic tank, typically a metal tank 1,000 gallons or larger, and a leaching system. Sewage wastes flow directly into the septic tank, where solids and floatable materials are detained. All remaining liquids flow out of the tank and into the leaching system. The leaching system distributes liquid sewage underground, over an area of several hundred square feet (the “leaching field”). If the tank is functional and properly situated, physical and biological processes in the soil purify the liquid sewage as it filters downward.

A 1995 survey of Holliston residents revealed that a large percentage of Holliston's septic systems are in poor condition. The average system age in Holliston is 24.1 years, with the average trouble-free life for a system ranging from 20 to 40 years. Of the systems inspected by the Board of Health from March 31, 1995 to November 15, 1995, 25% failed inspection. The average cost of septic system repairs in Holliston is \$16,000.

Holliston's soils account for some of the system failures. Impermeable soils, shallow to bedrock soils, hydric or saturated soils, poor filter sandy and gravelly soils, or areas of high groundwater characterize a large portion of the town. According to U.S.D.A., Soil Conservation Service, and Middlesex Conservation District soil maps, soils with severe septic limitation comprise 70% of Holliston's total land area. Because these soils provide inadequate area for the septic leachate to percolate through the ground and be purified by natural processes, septic systems placed in these areas often result in ground and surface water pollution. Major pollutants include fecal bacteria and nutrients such as nitrates and phosphates.

Title V of the Massachusetts Environmental Code regulates sewage disposal and sets standards for the installation, maintenance, and inspection of septic systems. In 1995, the state legislature strengthened Title V, requiring, among other things, a 1,500 gallon minimum tank capacity and mandatory system inspections at the time of real estate transfer. The Holliston Board of Health Agent confirmed that there are some areas of Holliston where most of the existing on-site systems would fail a Title V inspection. Thus, the new Title V regulations may spell costly septic system repairs for numerous Holliston residents.

6.2.3 PROPOSED SEWER SYSTEM

The high rate of septic system failures in Holliston, combined with threat of water pollution and Holliston's desire to make its commercial and industrial areas more attractive to business motivated the town to plan a sewer system for approximately 70% of the Town's residents and businesses.

In 1996 the town hired Weston and Sampson Engineers, Inc. to prepare a preliminary design report for a town-wide sewer system. The preliminary design report identified twelve criteria for establishing the priority of sewer needs in the town. Factors indicating a high need for sewers included: high failure rates of existing septic tanks, small lot size, proximity to municipal drinking water supplies, soils with severe septic limitations, areas with high groundwater, and areas with surface water quality problems. On the basis of these criteria, Weston and Sampson designated portions of the town as "greatest need," "next greatest need," "moderate need," and "areas to remain on septic systems."

System Specifications

In early 1997, the Board of Selectmen appointed a sewer design committee, who hired the consultant Earth Tech to design the new system and Mr. Sam Corda to coordinate the sewer program for the town. According to these sources, systems specifications will be as follows:

- Projected sewer flows for the completed system will be approximately 900,000 gallons per day, assuming 10% residential growth and 50% industrial growth from 1995 to 2010.

- Sewage will be piped to the Charles River Pollution Control District (CRPCD), an existing sewage treatment facility located in Medway and owned jointly by the towns of Franklin (80%) and Medway (20%). According to the Weston and Sampson report, the CRPCD facility has a current design capacity of 4.54 million gallons per day (mgd) and a maximum day flow of 8.6 mgd. There is no available reserve capacity in the CRPCD at this time, and the addition of sewage flows from Holliston will require the expansion of this facility.
- The \$45 million required for the sewer project was approved by town meeting in 1995, and will be financed through bonds, tax increases, and betterment charges. The Town of Holliston has also filed for low-interest loans from the state. The estimated cost per unit to be sewered is \$11,500. Each sewered property will pay a betterment charge of approximately \$8,000, payable over 20 years, while the remaining cost will be financed by increased property taxes over approximately 30 years.

As currently proposed, the sewer system would be constructed over a period of about ten years beginning in 1999. Downtown Holliston will be sewered first, especially the rectangle of land bounded by Washington Street, the railroad, Curve Street, and Pleasant Street. The Marked Tree Road area is also a high priority. In the later stages of construction, several of the industrial parks and some moderate-density residential areas will be sewered, as well. Proposed sewers and project phasing are shown in Figure 6-2, Proposed Sewer System.

Several factors have limited the proposed sewer coverage to 70% of the town's wastewater producers. First, the cost of sewer construction becomes increasingly high as the sewer is extended to less densely-settled outlying areas. The proposed sewer system will service primarily the denser areas where the need for sewers is more acute and the per-unit cost is less. Growth control was a second consideration in determining the extent of the system. Experience in other towns has shown that the availability of sewer connections in less-developed areas promotes uncontrolled development of the type that Holliston wishes to avoid. Finally, environmental considerations argued against more extensive sewer coverage, because the sewer as proposed will reduce groundwater infiltration in Holliston.

Environmental Issues

Piping sewage to the treatment facility in Medway will have the effect of removing water from Holliston's hydrological system. Environmental groups and regulatory agencies have expressed concern about the ecological effects of this water removal on groundwater levels in Holliston and particularly on flow rates in the upper Charles River and its tributaries. At present, this issue is being studied further, and mitigation may be necessary to prevent low water flows and consequent ecological impacts in Holliston's waterways.

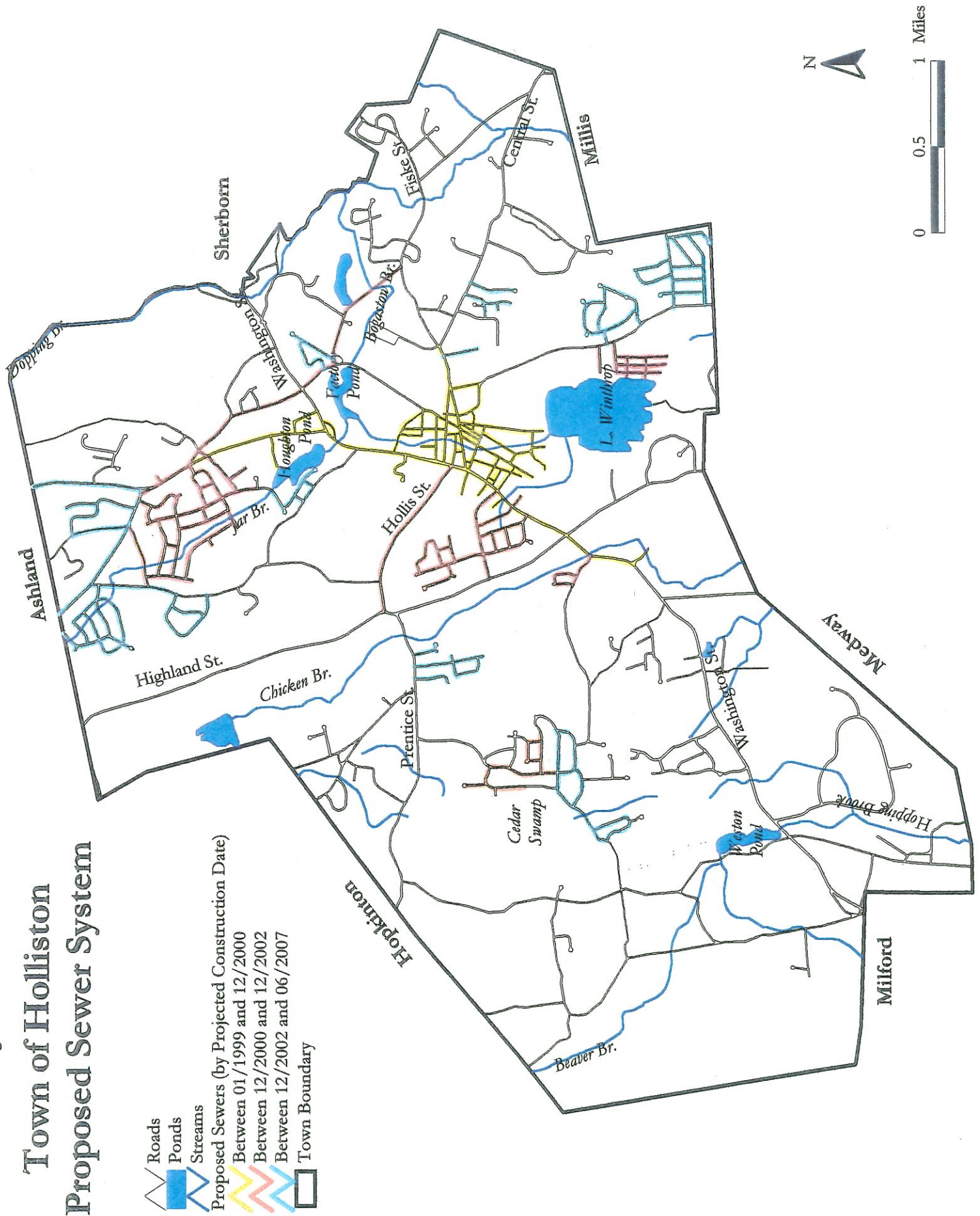
One possible mitigation measure would be to treat and discharge a portion of the sewage in a local wastewater treatment plant within Holliston, rather than send the Town's entire sewage flows to Medway.

Environmental Review Process

The town is currently seeking the necessary approvals the Executive Office of Environmental Affairs, pursuant to the Massachusetts Environmental Policy Act (MEPA). Under this review process, the Town filed an Environmental Notification Form in April 1998. The Secretary of the Executive Office of Environmental Affairs then issued a decision requiring the Town to prepare additional documents to assess the project's environmental impact. According to this decision, the

Figure 6-2

Town of Holliston Proposed Sewer System



Town must analyze their wastewater needs (including projected future needs), propose measures that could reduce future wastewater volumes, and evaluate a range of alternatives to resolve the Town's wastewater needs and problems, including sewers, shared and communal treatment systems, and other possibilities. The final design of Holliston's wastewater management plan will be based on these analyses, and may differ from the sewer system currently proposed.

Growth Issues

Mr. Corda has indicated that the sewer connection policy will encourage the switch from septic systems to sewer disposal in existing developed areas served by the new system without promoting new growth in outlying areas. He predicted that most landowners in the sewered district would want to switch from septic to sewer disposal. In addition, "infill" of undeveloped land in sewered areas could increase sewage flows by approximately 5%, according to Mr. Corda's estimates.

To prevent runaway growth, Mr. Corda indicated that the scope of the sewer construction will not be expanded beyond the initial design, unless significant environmental problems necessitate expansion. According to current plans, the sewer system will not be expanded to accommodate new growth adjacent to existing sewered areas, nor will developers be able to connect into the system. Mr. Corda has also suggested using an increasing block rate fee structure (where per-unit charges for sewage disposal increase as the amount of use increases), to promote water conservation, limit growth, and discourage high water-use development. The Town intends to pursue special legislation to allow the Town to create limitations on connecting to and utilizing the sewer system for new development, including limiting flow from individual lots and limiting the ability to extend the system.

One objective of the sewer program is to promote a greater diversity of industrial uses in the Town's industrial parks. The Lowland and New Englander industrial parks will be connected to the new system; however, Hopping Brook Park will not. Growth in sewered industrial areas will not be subject to the same restrictions as residential uses, and industrial sewage use is projected to increase by up to 50% by the year 2010.

6.2.4 WATER AND SEWER RECOMMENDATIONS

Holliston's water and sewer systems have been the subject of extensive study by other Town consultants. In 1993, H₂O Consultants analyzed the water system and prepared a report entitled *Water System Study for the Town of Holliston*. Preliminary study and design of the sewer system is discussed in the reports prepared by Weston & Sampson and by Earth Tech. The recommendations presented in this section include salient issues from these previous studies, as well as issues not addressed in other reports.

1. Water Supply Recommendations

- 1) The Water Department should continue to search for additional water sources to meet the projected growth in water use.
- 2) The Town should avoid future water pressure problems by requiring water system impact assessments and mitigation programs for large residential developments, industrial users, and other significant water users. The Planning Board should coordinate such review with

assistance from the Water Department. Such a policy would ensure, for example, that water mains are an adequate size and are looped, rather than dead-ended.

- 3) The Water Department should facilitate the construction of two more water storage tanks, one on each side of the Town. These tanks should be funded jointly by the Town and by new industrial and residential water users. A tank near the Hopping Brook Industrial Park should be a high priority so that the Town can provide adequate fire protection in this area.
- 4) The Water Department should continue its leak detection and infrastructure maintenance programs.
- 5) The Water Department should implement its plans to obtain a computerized control and monitoring system to improve service and facilitate maintenance of the water system.
- 6) The Town should strengthen its water ban bylaw to restrict further wasteful water uses during dry periods. By reducing water demand during peak use periods, the Town can defer by several years the need to develop new wells, which are costly both financially and environmentally.
- 7) The Water Department should continue and expand the Town's water conservation program.

2. Sewage Disposal Recommendations

- 1) The Board of Health and Planning Board should utilize site plan review, Board of Health regulations, and Title V regulations to ensure that new and existing septic systems perform in accordance with Title V.
- 2) The Board of Health should institute a septic system maintenance program, including a homeowner education program and optional town-administered septic tank clean-out service, to preserve existing septic systems in working order.
- 3) The Sewer Department, with assistance from the Planning Board, should draft a set of guidelines to control the growth that might otherwise be generated by the installation of the sewer system. These guidelines should be consistent with the current intentions of the Town and the sewer program that the new sewer system not be a major catalyst for growth. These guidelines should be legally incorporated into the Town By-law, and should specify and limit the future extent of the sewer system, and state the conditions under which an extension of the system would be permissible.
- 4) The Town should work with MEPA, the DEP, the Charles River Watershed Association, and other appropriate agencies to determine the effect of the proposed sewer system on Holliston's ground and surface water resources. The sewer program should be amended as necessary to avoid serious impacts to water resources and the ecological communities they support.
- 5) The sewer program should continue to coordinate its efforts with the Master Plan team to ensure that the Town's sewer plans are consistent with its land use and growth control objectives, and vice versa.

Section 7:
CIRCULATION

Section 7: CIRCULATION

Introduction

The Town of Holliston is a residential suburb of Boston located approximately 22 miles southwest of Boston, in Middlesex County. Ashland borders it to the north, Sherborn to the northeast, Millis to the southeast, Medway to the south, Milford to the southwest and Hopkinton to the northwest. The town has a population of approximately 14,523, in a land area of 19.04 square miles.

Holliston is not regionally accessed to Interstate 495; however, an indirect access is provided from the Town of Milford, via Routes 16, 85 and 109. The major roadways in the town are:

- Washington Street (Route 16),
- Summer Street and Concord Street (Route 126),
- Prentice Street,
- Hollis Street,
- Central Street,
- Norfolk Street,
- Woodland Street, and
- Highland Street.

All roadways in Holliston are town-owned with the exception of Route 16 (south of Pine and Pearl Streets) and Route 126 (north of Baker Street) which are owned and maintained by the State. Figure 7-1 shows the Jurisdictional Classification of Roadways in Holliston based on a map developed by the Massachusetts Highway Department (MHD) and its Bureau of Transportation Planning and Development (BTPD).

Major traffic generators in the town include businesses located in the downtown area, the growing number of residential neighborhoods and the eight industrial areas.

The purpose of this portion of the Master Plan, prepared by subconsultants Bruce Campbell & Associates (BC&A), is to identify existing and future roadway deficiencies in terms of access, circulation and capacity and to make specific recommendations for additional improvements and/or studies to accommodate anticipated growth and development.

7.1 EXISTING CONDITIONS

Transit Service

The most recent census information available (1990) indicates that:

- 87% of workers in Holliston drive alone to work,
- 9% car pool,
- 2 ½% take public transportation and
- 1 ½ % either walk or bike to work.

For the 2½% of the residents that rely on public transportation there are a number of alternatives for accessing the public transportation facilities. There is no in-town commuter rail station, but there are two regional Massachusetts Bay Transportation Authority (MBTA) train stations: one at the intersection of

Routes 126 and 135 in Framingham and another on Route 135 in Natick. There is also a local bus route #6 run by the Town of Framingham's - Local Inter Framingham Transportation (LIFT) bus service that travels to/from Milford through Holliston along Washington Street and Concord Street, through Ashland and into Framingham. There is an MBTA train station proposed in Ashland; this may alleviate some of the traffic in the town that currently travels along Route 16 and 126 to get to/from Framingham.

Discussions of a north-south bike path have been ongoing in the town for many years. The proposed bike path would be located on the abandoned 7 mile-long ConRail train tracks through Holliston, and would run from the Sherborn town line to the Milford town line.

Existing Access And Circulation

Holliston is a community that is hampered by its lack of direct access to the states' major transportation networks and must share its main street, Washington Street, with through traffic. As mentioned previously, access to Interstate 495 is provided from the Town of Milford with interchanges located at Route 85 and Route 109. However, there is also a lack of signage leading to and from Interstate 495. Heading into Milford from Holliston on Route 16, one would have to continue on Route 16 and turn onto Route 109 or Route 85 to access Interstate 495. However, at the Route 16/Beaver Street/Fortune Boulevard signalized intersection, there are two quicker routes to Interstate 495. One would turn left onto Beaver Street and continue for about one-half mile to Route 109 and access Interstate 495 in that area. The second option would be to turn right at the intersection onto Fortune Boulevard for approximately 1½ miles to Route 85 and access Interstate 495 from there. However, signing is not available on either end of these roadways to indicate the access to/from Interstate 495 and to/from Holliston. Also, along Interstate 495 currently there is limited signage indicating access to Holliston.

Route 126 is a north-south roadway consisting of Summer Street from the south in Medway, running into Washington Street (Route 16) through the town center and splitting at Concord Street to the north into Ashland. Route 16 (Washington Street) is an east-west roadway running the entire length of town from Milford to Sherborn. Routes 126 and 16 split Holliston into two geographic sections— the northwest and southeast sections.

In the northwest portion of town, the major east-west roadways are Prentice and Hollis Streets; the major north-south roadway is Highland Street. In the southeast section of the town, the major roadways are: Norfolk Street, which leads to Route 109 in Medway; Central and Fiske Streets which lead to Millis and Sherborn, respectively; and Woodland/Railroad Streets which connect Route 16 from the east to Central Street.

Traffic congestion occurs along Washington Street between Summer and Concord Streets (Route 126) during the morning and evening rush hours. Generally, in the morning, traffic heading towards Framingham to the north and east is heavy and the reverse occurs during the evening peak hour. However, based on observations, these are the only periods when excess traffic congestion occurs in Holliston.

Washington Street between Summer Street and Concord Street is substandard with respect to the volume of traffic it carries and level of comfort it affords motorists. As traffic continues to grow along Washington Street, the Town should continue to study improved and/or new east-west and north-south roadways to address this deficiency. The long-term goal is to make improvements to the Washington Street corridor to ensure safe, efficient mobility for Holliston motorists, emergency vehicles and the traveling public. One method to accomplish this would be via a master plan that incorporates collector/distributor roadways into new subdivisions. The developers would be made aware of the master plan and extend or connect the arterial roadways accordingly.

Classification Of Roadways

The two basic functions of any roadway are land access and traffic movement. Based on their primary function, roadways are classified into three groups: arterials, collectors, and local roadways. An arterial is a roadway that primarily serves through traffic and provides access as a secondary function. The highest level of arterial is an interstate freeway or expressway with a limited number of access points. Collector roadways primarily collect and distribute traffic between local streets and arterial systems and secondarily provide land access. Local roadways primarily provide land access to adjacent properties and have minor value in accommodating through traffic. The MHD, through the BTPD, has classified all roadways in Holliston according to functional characteristics. The Functional Classification of these roadways is shown in Figure 7-1.

National (American Association of State Highway and Transportation Officials [AASHTO], *A Policy for Geometric Design of Streets and Highways*) and State (MHD *Highway Design Manual*) recognized design standards define the required geometric design of local, collector, and arterial roadways with respect to right-of-way, traveled way, horizontal clearance, shoulders and sidewalks. These standards must be met if an arterial or collector roadway is planned for reconstruction with federal or state construction funding. Roadways that do not meet the minimum criteria (unless a design waiver is granted) are typically not eligible for construction funding through the MHD.

The minimum desirable design for each functional classification of study area roadways is defined as follows:

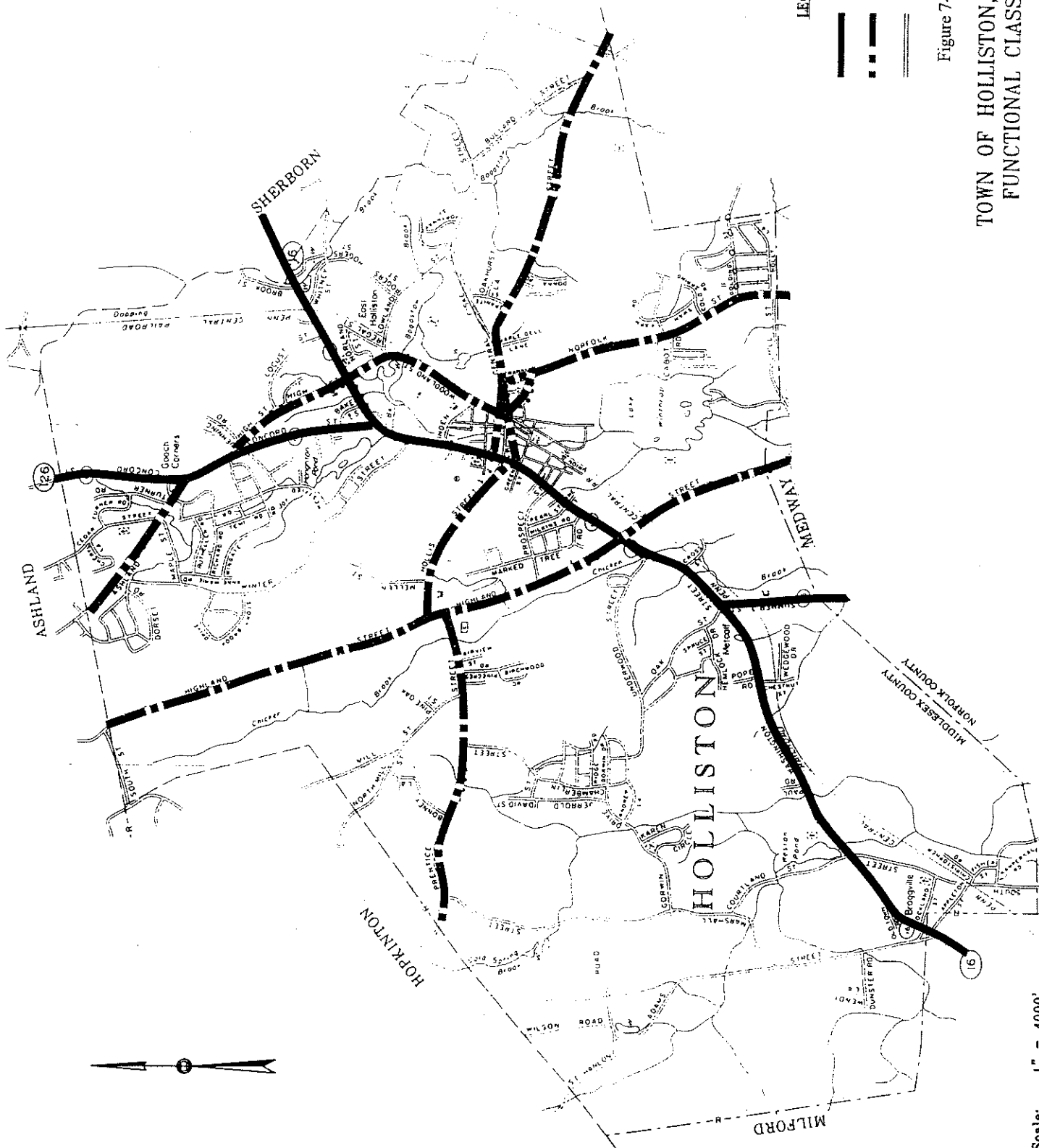
- Local: 10-foot travel lanes with 2.5-foot shoulders resulting in a 25-foot roadway;
- Collector: 11-foot travel lanes with 4-foot shoulders resulting in a 30-foot roadway;
- Arterial: 12-foot travel lanes with 8-foot shoulders resulting in a 40-foot roadway.

Traffic Growth

The rate at which traffic grows within a town is a direct reflection of the economy and the rate at which development occurs and of increase in through traffic. Holliston has been experiencing growth for a number of years which is clearly documented through the analysis of historical (past and present) traffic volumes. In order to develop a reasonable growth rate for traffic several sources were examined. These sources included regional traffic growth summaries for MHD published in the MHD traffic volume books, and examination of traffic volumes from previous studies completed in the area, including the Design Report for the Washington Street/Concord Street intersection. The past and present volume comparisons covered an 11-year period from 1984 to 1995.

The traffic growth in Holliston during the above period (both local and through traffic) fluctuated between - 3.8% and + 3.0%, averaging 1% based on the MHD traffic volumes. The Design Report for Washington Street/Concord Street and other traffic studies completed in Holliston indicate a 2% per year compounded growth rate. However, analysis of the intersection turning movement counts indicate that from 1984 to 1995, Washington Street at the intersections of Concord and Central Streets experienced a 0% to 1.4% growth rate per year. This historic traffic volume information indicates that there has been about 1% traffic volume growth in the Town of Holliston. However, to be conservative, the 2% per year growth rate was used and represents about a 22% increase in traffic over 10 years and accounts for increases in development such as residential housing, shopping centers, and expansion of industrial, commercial, or business parks.

Based on population information provided by the U.S. census information for the last 26 years (1970 to 1996) the Town of Holliston has experienced approximately 11% population growth, which amounts to



LEGEND

- ARTERIAL
- - - COLLECTOR
- == LOCAL

Figure 7-1

**TOWN OF HOLLISTON, MASSACHUSETTS
FUNCTIONAL CLASSIFICATION MAP**

Scale: 1" = 4000'

Bruce Campbell & Associates, Inc.

approximately ½ % growth per year.

Existing (1998) Traffic Volumes

Recent traffic volume data were obtained from the Design Report for the Washington Street/Concord Street intersection, the 1985 Route 16 Capacity and Safety Study, and traffic volumes from the 1996 MHD traffic volumes book. The traffic volume data collected over an 11-year period (1984 to 1995) in conjunction with the projected 2% annual growth rate for traffic volumes was used to calculate the 1998 base 24-hour traffic volumes shown in Figure 7-2. In addition, the following locations currently process a 24-hour traffic volume of over 10,000 vehicles per day:

- Washington Street (Route 16) - up to 24,600 vehicles per day
- Concord Street (Route 126) - 13,100 vehicles per day

Future (2008) Traffic Volumes

Using the 2% historical annual growth rate and the base year 1998 24-hour traffic volumes, the future year (2008) 24-hour traffic volumes were calculated and are shown in Figure 7-3. As can be seen in Figure 7-3, portions of Route 16 are expected to carry up to 30,000 vehicles per day. In addition, the following locations will reach a 24-hour traffic volume of over 10,000 vehicles per day:

- Washington Street (Route 16) - up to 30,000 vehicles per day
- Concord Street (Route 126) - 15,900 vehicles per day
- Summer Street (Route 126) - 11,000 vehicles per day
- Central Street - 11,300 vehicles per day
- Woodland Street - 10,200 vehicles per day

Analyzing Traffic Capacity

The level of mobility afforded by any vehicle on a roadway or at an intersection is a function of the roadway or intersection demand volumes and its vehicle-carrying or vehicle-processing capacity. Level of service (LOS) is a qualitative measure of mobility used as an indication of traffic operations. It ranges from LOS A (highest) to LOS F (lowest) for free-flowing roadways. Level of service D or better is considered acceptable for roadways in urban areas.

Based on the capacity analysis methodology presented in the *Highway Capacity Manual*¹ (HCM), the theoretical capacities of the major roadways were determined and compared to existing and future traffic demands. The methodology utilized is based on analysis of long free-flowing rural roadway links as presented in Chapter 8 of the HCM; these roadways are generally not subject to *Stop* control such as Stop-signs or traffic signals.

¹*Highway Capacity Manual, Special Report 209*; Transportation Research Board; Washington DC, 1994.

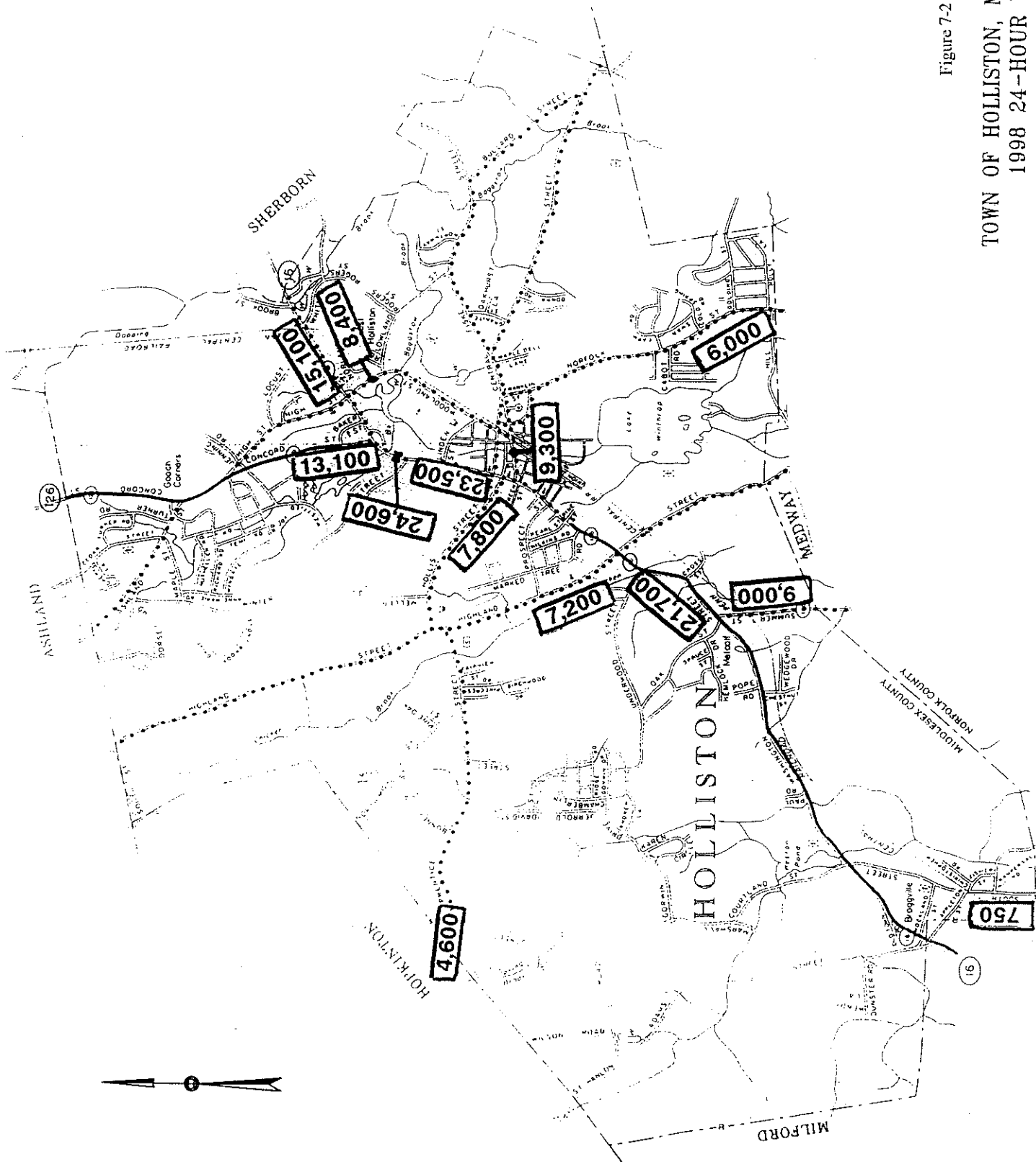


Figure 7-2

TOWN OF HOLLISTON, MASSACHUSETTS 1998 24-HOUR VOLUMES

Scale: 1" = 4000'

Bruce Campbell & Associates, Inc.

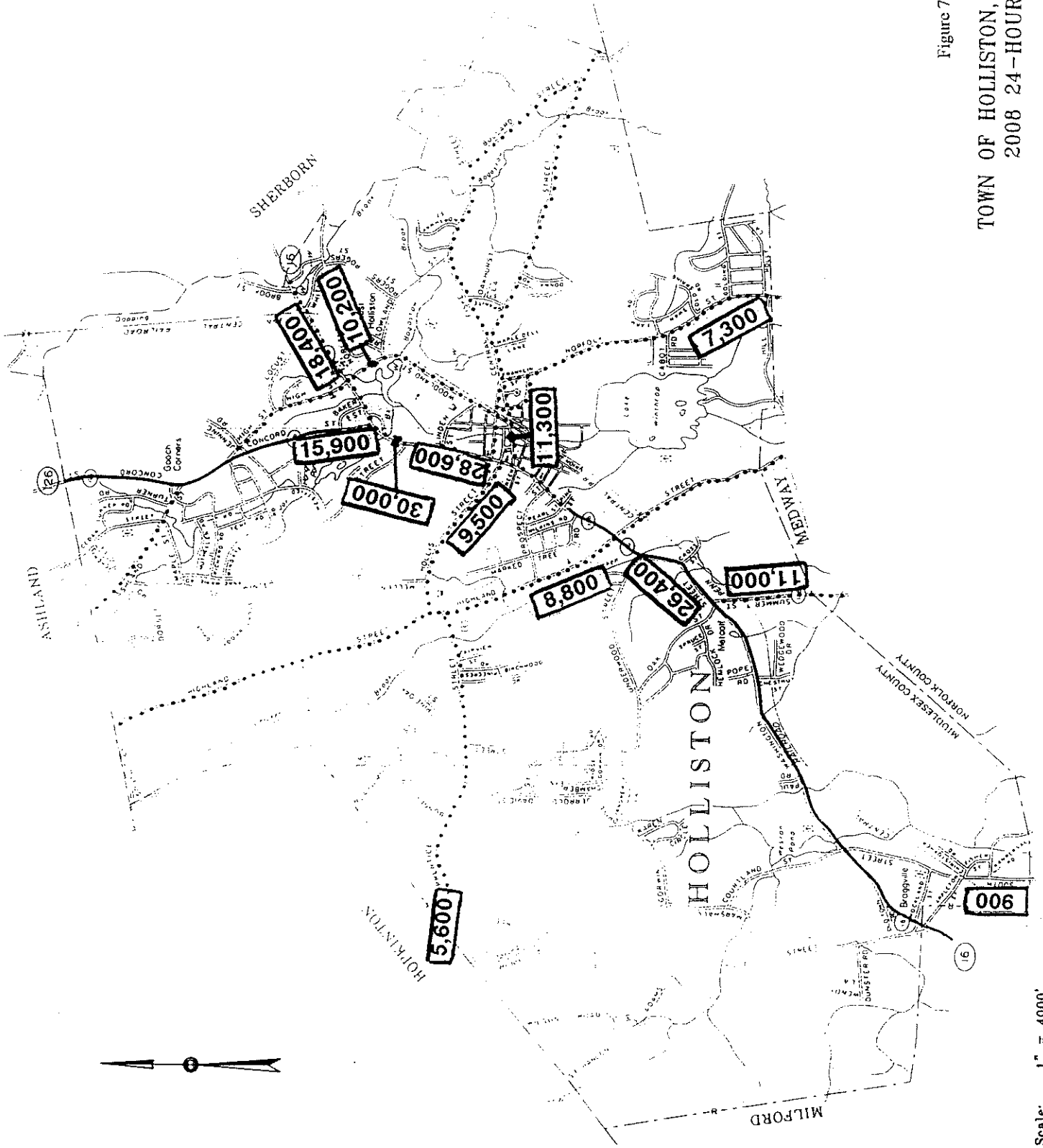


Figure 7-3

**TOWN OF HOLLISTON, MASSACHUSETTS
2008 24-HOUR VOLUMES**

Bruce Campbell & Associates, Inc.

Scale: 1" = 4000'

Roadway Links Levels Of Service

Theoretically, the total capacity of a two-lane roadway under ideal conditions, is 2,800 passenger cars per hour. Correction factors are provided to adjust this ideal capacity to account for vehicle mix, directional split, lane widths and peak hour factors; however, no correction factor is provided to adjust from rural to urban conditions. In order to provide a realistic approach to operating conditions, adjustments were made to the standard methodology to account for selected urban conditions such as those found in Holliston.

In order to get a sense of the operating conditions along the town's major free-flowing roadways, capacity analysis was performed to determine the existing (1998) and future (2008) level of service (LOS) based on existing conditions and if improvements were implemented to MHD standards. The criteria used to assess LOS based on 24-hour volumes are given in the Appendix. Table 7-1 presents the estimated LOS for the major free-flowing roadways in town.

Table 7-1
Roadway Link Estimated LOS Summary
(Free-flowing Roadways)

<u>Roadway Link</u>	<u>Existing Conditions</u>	
	<u>1998 LOS</u>	<u>2008 LOS</u>
Concord Street (Route 126) North of Washington Street	D	E
Norfolk Street @ Medway Town Line	C	C
Prentice Street @ Hopkinton Town Line	B	C
South Street @ Medway Town Line	A	A
Summer Street @ Medway Town Line	C	D
Washington Street (East of Woodland Street)	D	E
Washington Street (West of Concord Street)	E	F
Washington Street (East of Summer Street)	E	F
Washington Street (East of Central Street)	E	F
Central Street (East of Washington Street)	C	D
Hollis Street (West of Washington Street)	C	C
Highland Street (North of Washington Street)	C	D
Woodland Street (South of Washington Street)	D	E

However, these are theoretical capacities based on accepted computer analysis procedures. Many evenings, LOS F is experienced on Washington Street westbound.

Residents' Concerns

To determine the major concerns of Holliston residents and local business owners, various sources were consulted. The following items were researched to determine the Town of Holliston's concerns:

- Master Plan Study: Circulation Plan; Charles Downe; May 1962
- Route 16 Capacity and Safety Study; MAPC; March 1985

- Traffic Signal Warrants Analysis; VHB; November 1995
- Holliston Master Plan Update: Phase I; Beals and Thomas; June 1997
- Summary Report for the Planning Charette for Holliston, Massachusetts; John Mullin; December, 1997.
- Holliston Master Plan – Final Phase Public Forums

In the Master Plan Update, surveys were sent out to nearly 5,200 residents and business owners in Holliston on February 27, 1997. A response rate of 14% was obtained for the survey. Also, public forums were held in Phase I and the Final Phase of the Master Plan. Based on the survey and meetings, residents are mainly concerned with the following three transportation issues in Holliston:

- The major concern with residents is the heavy vehicular traffic along Washington Street from Highland Street to Concord Street during the morning and evening peak (rush) hours.
- Another concern is that there is a lack of parking in the downtown area. The downtown area consists of a network of streets including Washington, Central, Hollis, Charles, Church, Exchange and Green Streets. Currently, parking is provided along both sides of Washington Street which creates a conflict with vehicles traveling on Washington Street and vehicles utilizing the on-street parking. There are a number of business parking lots available in the downtown area; however, they are only open to customers of these businesses, and there is poor connection among the lots. There is also a municipal parking lot on Central Street, behind the Fire Station, which is a good alternative to street parking, but is too remote to the downtown shops.
- Another issue is the lack of safe pedestrian facilities along Washington Street in the downtown area. Sidewalks are available; however, due to the high volumes of vehicular traffic, pedestrians have a difficult time crossing Washington Street. The recent traffic signal warrant study that was conducted in the downtown area indicated that two intersections met requirements for signalization. The town should pursue the recommendations for signalization and request assistance from the State. A Functional Design Report would need to be conducted to determine the benefits of signalization, and/or a Parking Study would be required to address the parking problem.

The Town of Holliston has poor access to Interstate 495. However, truckers are aware that Holliston is an easy way in and out of Framingham, which results in a high percentage of trucks in the traffic stream.

The pavement conditions on most of the roadways are below standards, and roadways need to be reconstructed to current standards as dictated by the State, in order to provide better circulation, reduce maintenance costs and improve vehicular/pedestrian safety throughout the town. Most of these roadways will be repaved in conjunction with the Town Sewer Construction project. The town appropriated approximately \$45 million to pay for the sewer project and will apply for a Pollution Abatement Trust Fund loan from the State. The sewer project will commence in 1999 and last for approximately 8 years. The project will provide sewer connection for 70% of the current population and 25% of the geographic area of the town. The waste-water will be transported to the Charles River Pollution Control District Wastewater Treatment facility in Medway, MA.

Police Concerns

The Chief of Police for the Town of Holliston was contacted by BC&A in order to obtain the Police Department's view on the traffic conditions in Town. The Chief listed a number of locations of concern, as follows:

- Washington Street (Route 16)/Central Street
- Washington Street (Route 16)/Hollis Street
- Washington Street (Route 16)/Exchange Street
- Washington Street (Route 16)/Summer Street
- Washington Street (Route 16)/Woodland Street /High Street
- Norfolk Street/Central Street
- Concord Street/High Street

Accident information was obtained for the above locations from the Holliston Police Department for the years 1995 to 1997. The accident data is only a representative sample of the total accidents at these intersections. The data is for police investigated accidents, accidents that involved injury, or accidents with \$1000 or more in damage. Approximately 1,007 accidents occurred in the town of Holliston during this three-year period. The data indicates that the Washington Street/Woodland Street/High Street intersection is the highest accident location in town. From this data, the accidents occurring at each of the above locations were listed in Table 7-2, indicating the number of accidents per year for each location.

Table 7-2
Holliston Intersection Accident Data Summary

<u>Intersection</u>	<u>1995-1997</u>	<u>Accidents per year</u>
Washington Street (Route 16)/Central Street	18	6
Washington Street (Route 16)/Hollis Street	21	7
Washington Street (Route 16)/Summer Street	26	9
Washington Street (Route 16)/Woodland Street /High Street	29	10
Norfolk Street/Central Street	20	7
Concord Street/High Street	10	4

As can be seen from the table, approximately 10 accidents per year occurred at the Washington Street/Woodland Street/High Street intersection; this calculates to approximately 3% of all town accidents. The downtown, which includes three of the above major intersections, comprised approximately 8½% of all town accidents based on data provided from July 1994, to October 17, 1997. This is a dangerous area for vehicles and pedestrians since the area experienced more accidents than the highest accident location in the town.

The Chief of Police indicated that the intersections of Central Street, Hollis Street and Exchange Street with Washington Street create the busiest traffic and pedestrian activity area in town. He mentioned that coordinated signalization of the intersections would be a possible solution. The VHB signal warrant analysis indicates that the Washington Street with Central and Hollis Street/Charles Street intersections meet warrants for signalization.

Fire Department Concerns

The Town of Holliston Fire Chief was also contacted by BC&A in order to obtain the Fire Department's view on traffic circulation and access restrictions in the town. The Chief's major concern was Linden Street in the area of the Middle School. Linden Street is one-way southbound from Washington Street.

The road has a steep slope and is in very poor condition. His concern was that during the morning arrival and afternoon dismissal periods, the high volume of vehicles hampers the passage of emergency vehicles during these time periods. He also mentioned that remote areas in Holliston are in need of fire hydrants.

School Department Concerns

The Holliston School Department was contacted to obtain the department's concerns with the existing traffic patterns near the schools in Holliston. A letter from the Middle School principal indicates that "a major traffic problem occurs daily at the loop" along Linden Street during school dismissal periods. "The number of cars waiting to pick up children far exceeds the available space." Parents tend to park in the *No Parking* area while waiting to pick up children. "The problem is compounded by children leaving the school and walking between and around cars." This problem may be alleviated in two years once the new school program is completed and the fourth grade students are transferred from the Middle School.

The Middle School principal mentioned that the Police Chief has proposed to make all of Linden Street one-way southbound to reduce the traffic and pedestrian conflict and congestion. Resident concern with making Linden Street one-way is that traffic will be increased on the adjacent narrow local streets. The MHD District 3 Traffic Engineer, Miland Kann, indicated in a letter to the Town that the option of making all of Linden Street one-way, and implementing restrictions on local streets during certain hours, would be a safe alternative. To address this issue, a study should be performed to adequately deal with the Middle School traffic circulation problem. As of February 1998 school vacation, all of Linden Street was made one-way from Washington Street to Woodland Street.

Another concern from the School Department was an issue raised by the high school principal on traffic circulation at the high school. He states that there is a traffic congestion problem in the morning in front of the high school between 7:10 and 7:25 AM. He mentions that discussions with the Police Chief and the Public Works Department indicate that a possible solution would be the addition of a fourth driveway onto the school grounds. A study looking into different alternatives would benefit the high school in correcting this problem.

New Roads/Bypass Routes

Holliston Bypass. For many years there has been discussion about constructing a bypass route through Holliston to keep through traffic off the congested sections of Washington Street. While this is a remote possibility today, it is worth a brief examination to look at the many factors that would be involved including the planning, environmental studies, design and construction, and the costs associated with them.

Highway Planning Process. The Highway Planning Process would first require a preliminary, broad-brush study to define impacts and costs. If a full-planning effort is to be undertaken, the process would include at least the following:

<u>Section</u>	<u>Process Element</u>	<u>Time Required</u>
1.	Preparation of preliminary report for discussion with MHD officials to determine if funding support might be available for environmental studies, design and construction (say \$50,000±)	6 months
2.	Obtain funding for Environmental Impact Report/Environmental Impact Statement (EIR/S) (say \$500,000±. Regional and Federal approvals might be involved before MHD would authorize funding.)	6 months
3.	Select EIR/S consultant	6 months
4.	Perform EIR/S	2 years
5.	Obtain design funding	6 months
6.	Design and home/business relocations	2+ years
7.	Advertise, award construction	6 months
8.	Construction	2+ years

The above list is only a cursory outline of the steps involved. The State's "Action Plan" for construction of a new highway, as required by the Federal Highway Administration (FHWA) lists some 130 distinctive steps in the process, in addition to the above. As a practical matter, every new highway in Massachusetts of any significance and on new right-of-way, has been "on the books" and under study at least 20 years. Therefore, it is safe to say that, if all steps had positive results, it would be at least 10 years, and probably closer to 15 or 20 years before anyone would drive on the new road. In the interim, development would continue since property for the right-of-way could not be acquired at least until the EIR/S is approved and funding is available.

Possible Routes. The bypass route would obviously parallel Washington Street. A route to the south would be confronted by Lake Winthrop and the wetlands surrounding it. Also, it would not accommodate through traffic from Concord Street without a roadway from Concord Street bypassing the Washington/Concord Street intersection. The more logical route, at least theoretically, would begin at the Sherborn line and pass north of the Washington/Concord Street intersection. It would then pick up both Route 16 and Route 126 through traffic.

This northerly bypass would have to go around Mt. Hollis, cross Highland Street and Underwood Street, and return to Washington Street near Summer Street to accommodate Route 126 traffic and to avoid Cedar Swamp.

Both northerly and southerly routes parallel to Washington Street could encounter school properties and wetlands, as well as many homes and hills. Only a detailed study of several routes could determine the route with the least impacts.

Cost Estimate. A broad-brush cost estimate follows:

Length of Roadway:

Sherborn line to Route 126	1 mile
Route 126 to Hollis Street	1 mile
Hollis Street to Washington Street	1¼ miles
Bypass around Washington/Summer intersection	<u>1 mile</u>
TOTAL	4¾ miles

Highway Width:

MHD Arterial Requirement	39.4 feet
Sidewalks and Clearance	<u>30 feet</u> (minimum)
TOTAL	70± feet (minimum)

<i>Cost Per Foot:</i> \$450-\$500 (times 25,000 feet)	\$10-13 million
--	-----------------

*Engineering, Contingencies for Wetlands, Traffic
Signals, Drainage, etc. (20%±)*

\$2-3 million

Right-of-Way:

(1,750,000 s.f.)

TOTAL

\$5-7 million

\$17-23 million

These are very rough costs. Property values, wetlands crossings, hills/retaining walls, sound barriers, housing relocations, etc., are wide variables.

It would be a massive project, supported by some, but probably opposed by the merchants along Washington Street. It certainly would be opposed by the homeowners who would have to be relocated and the homeowners who thought they lived in a nice suburban setting but now found themselves looking at 10,000 or more cars daily.

Second Alternative. The second alternative would be a route south of Washington Street, north of Lake Winthrop. This route was proposed in the 1962 Master Plan Study by Charles E. Downe, the Planning Consultant. It began near the Sherborn line, passed well south of the railroad alignment near the Fiske/Central Street intersection, swung north of Lake Winthrop and rejoined Washington Street between Highland Street and Summer Street.

Route 126 traffic would travel south from Washington Street on a connector roadway to this southerly bypass.

Third Alternative. Another possible bypass route to parallel Washington Street would be the use of the abandoned Con Rail train tracks, perhaps sharing the route with the bikeway if the right-of-way width were adequate. This southerly bypass would also be rather costly and involve a massive undertaking. The railroad tracks run parallel to Route 16 from Milford through Holliston and continue north parallel to Concord Street.

One option for the bypass route would be to start at Summer Street (Route 126) and continue to Washington Street (Route 16) near the Sherborn town line. A second larger scaled alternative would

involve the route beginning in Milford off Route 109, and continuing into Ashland and/or Framingham. This alternative would involve a joint venture among the communities that may benefit from this route.

The more reasonable smaller scaled bypass route would alleviate the town center traffic problem by eliminating the Route 126 traffic to/from the south destined or originating to/from Route 16 to the east.

The acquisition of the abandoned ConRail property through Holliston would be beneficial to the town. The land can be used for either a bypass route or the bike path that is being considered.

Fourth Alternative. Another alternative would be to extend Woodland/Railroad/Union Streets to the west around the town center and access Washington Street further west past Central Street. This would have a great impact on the residents that live along these streets and would involve the relocation of homeowners. This would also create a problem at the point of entry back onto Washington Street.

Existing Bypass Routes

Currently, there are several "bypass" routes in Holliston which residents and commuters use to bypass the Washington Street (Routes 16 and 126) traffic through the town center. One such "bypass" is for Route 126 southbound traffic from Ashland. During the evening peak period, the southbound traffic can turn right at the traffic signal at Elliot Street in Ashland and continue to Chestnut Street which turns into Highland Street in Holliston and arrive at the intersection of Washington Street/Highland Street. Use of this bypass reduces the need for the "Northerly Bypass" previously described. As shown in past turning movement counts at the intersection of Washington/Highland Street, travelers familiar with the area presently use this as a bypass route.

Another existing bypass in the town is for Route 16 westbound traffic from the Sherborn area. The Route 16 westbound traffic turns left onto Woodland Street at the unsignalized intersection of Washington Street/Woodland Street/High Street and continues on Woodland and Railroad Streets to either rejoin Washington Street in the town center (via Central Street and other side streets) or continue on Norfolk Street to join Route 109 in Medway.

Improvements To Washington Street

Town Center. Washington Street is the major roadway in Holliston and carries up to 25,000 vehicles per day. Of major traffic concern along Washington Street is the town center area, which creates one of the most hazardous areas in town for pedestrians and vehicles. Pedestrians attempting to cross Washington Street must cross 55 to 75 feet of open pavement and the oncoming traffic. This creates an unsafe and rather unattractive town center.

There is also the concern with traffic accidents for vehicles exiting the side streets (such as: Central, Hollis, Charles Streets, etc.). The parking along Washington Street hampers the sight distance for exiting vehicles, and this causes them to edge out into the street about 10-15 feet to see around the parked cars. This causes vehicular accidents as well as pedestrian accidents at the downtown intersections.

A possible solution to reduce the number of pedestrian and traffic accidents as well as improve the aesthetics of the town center is to eliminate parking on the street corners and provide safer methods of crossing Washington Street. Parking along Washington Street should be restricted near the intersections of Central and Hollis Streets. Pedestrian safety can also be improved by the installation of raised grass medians as needed along Washington Street. Also, a possible neck-down on Washington Street at the eastern corner with Central Street would provide a wider sidewalk at the intersection and reduce the crossing distance across Washington Street.

There are many striped (painted) left turn bays with variable width striped medians along Washington Street, between Town Hall and Green Street. Since most of the pedestrian activity occurs between Central and Hollis Streets, a raised grass median instead of the painted medians would provide a safe haven for pedestrians crossing Washington Street. However, the storage space for the left turn bays and position of driveways on Washington Street will need to be addressed before medians can be installed.

Also, talks of signalization of the town center intersections has been ongoing for years. As mentioned previously, a full design study would need to be conducted in which the redesign of the entire Washington Street downtown corridor should be addressed.

The downtown traffic signal warrant study performed in 1995 indicated that the intersections of Washington Street/Central Street and Washington Street/Hollis Street meet warrants for signalization and traffic signals were recommended. However, the town has not followed up on the signalization of these intersections. A functional design report should be prepared for the signalization of the downtown area. Another needed study is a parking study of the downtown to determine the utilization of parking and the possible connection of local parking lots. Such a study is now underway by Bruce Campbell & Associates for the Board of Selectmen.

Washington/Woodland/High Streets. This unsignalized four way intersection is one of the highest accident intersections in Holliston. Woodland and High Streets intersect Washington Street at a slight skew. Both Woodland and High Streets are used as bypass routes to avoid the Washington/Concord Street intersection. Washington Street is 28 feet wide on the westerly leg and 30 feet wide on the easterly leg, with one 12-foot wide approach lane on each side. Woodland Street is 24 feet wide with one ten-foot lane in each direction and two-foot shoulders. High Street is 23 feet wide with one travel lane in each direction.

As stated in the 1985 MAPC Route 16 Capacity and Safety Study, this unsignalized intersection met warrants for signalization in 1985. It was mentioned that this intersection be reconstructed and reconfigured to properly align Woodland and High Streets. Also, the Woodland Street approach should have an exclusive right turn lane and the Washington Street westbound approach should have an exclusive left turn lane onto Woodland Street since these are the heaviest minor movements at the intersection. This intersection should be reconfigured regardless of signalization. The Highway Superintendent mentioned that the town was looking for Public Works Economic Development (PWED) funds for the redesign of the Washington Street corridor from Concord Street to Locust Street. Included in this would be the redesign and possible signalization (if warrants are met) for the Washington/High/Woodland Street intersection. This project would also include the intersection of Washington with Locust and Whitney Streets.

Washington Street (Route 16)/Concord Street (Route 126). This three-legged signalized intersection is where Routes 126 and 16 meet heading into Holliston, and processes the highest traffic volumes in the town. This intersection has been redesigned and the signals will be upgraded. Also involved would be the resurfacing of the roads, reducing the curb cuts to local businesses and improving the alignment. This project will greatly improve the capacity and the overall operation of the intersection. The approximate cost of this improvement is \$500,000 and is listed in the State's Transportation Improvement Program (TIP).

Washington/Highland Street. This four-legged signalized intersection has been recently upgraded. Exclusive left turn lanes are provided on Washington Street with one general purpose lane in each direction. On Highland Street two approach lanes are provided. This intersection is one of the causes of the traffic congestion on Washington Street in the westbound direction. Consideration should be given to the addition of another through lane on Washington Street in the westbound direction. By providing this

additional lane at the intersection, the capacity of that approach and the intersection will improve. This will also have a positive impact on the backup through town.

Washington Street (Route 16)/Summer Street (Route 126). This three-legged unsignalized intersection is where Routes 126 and 16 split leaving the town. This intersection also processes high volumes of traffic. The Summer Street approach has a raised island that has two-way traffic on either side of the island. This two-way traffic around the island creates many conflict points and needs to be improved. The Highway Superintendent recently requested a flashing beacon at this intersection from the State. This intersection was also studied in the 1985 MAPC Route 16 study and it was determined that signalization and redesign of this intersection was needed. The Washington Street westbound approach should be reconstructed with an exclusive left turn lane. As mentioned, traffic around the western edge of the island should be restricted to turning vehicles from Washington Street to Summer Street. The redesign of this intersection should also address the hump at the intersection; reducing this grade will provide better sight distance and safer operation along Washington Street. The Summer Street approach should also be widened, if possible, to provide two approach lanes.

Isolated Locations

There are many three way (T-shaped) intersections in town that have islands with two-way traffic on both sides of the island. These intersections create many conflict points and require the drivers to be more aggressive exiting the side streets. At the intersection of Washington/Summer Streets, the two-way traffic pattern around the island should be eliminated. Also, at the intersection of Woodland/Linden Street it is critical, with all of the school traffic, that this two-way traffic pattern should also be changed. The proper alignment of these two locations would be to restrict movement to one-way only around both sides of the island.

The intersection of Central/Norfolk Street was mentioned as a problem intersection by the Police Chief and experiences approximately 7 accident per year. This intersection is a four-way intersection with stop control for both Norfolk Street approaches. The major problem at this intersection is that vehicles traveling on Norfolk Street from the south approach Central Street at excessive speeds. Many accidents at this location in the past involved vehicles traveling into the yard of the house at the northwestern corner of the intersection. This accident occurrence led to the installation of a guard rail at this corner.

To reduce the speeds on Norfolk Street approaching the intersection, proper signing can be placed well in advance of the intersection to inform motorists to reduce their speeds. Also, the presence of Norfolk Street is not apparent as one approaches the intersection from the east on Central Street. Signs should also be placed on Central Street to inform the motorist of the intersection. Another possible alternative would be to place a flashing beacon at the intersection. A flashing beacon will inform motorists of the approaching intersection and encourage them to proceed with caution.

Special Problems

High School. As mentioned previously, the high school principal requested that a study looking into the possible addition of a fourth driveway to the school should be conducted. Currently, there are three driveways with the southern and northern driveways processing both entering and exiting vehicles (see Appendix 7-1). The central driveway is presently an exit only from the school. We have suggested two preliminary alternatives to alleviate the problem in the area; they both show suggestions to improve circulation around the school. Alternative 1 (see Appendix 7-1) shows the addition of an entrance only driveway between 100-150 feet north of the northern driveway. The existing northern driveway would become an exit only, the central (exit only) driveway would become an entrance only driveway, while the southern driveway would be an exit only driveway. This alternative would reduce the conflict points and

allow drop-off to occur both in front of and to the side of the high school. The second alternative (see Appendix 7-1) would be the addition of an exit for left turning vehicles back onto Hollis Street heading to the north, just before the central driveway.

Without actual turning movement counts, it is difficult to recommend any changes in traffic patterns. If the school would like to study various alternatives, BC&A will set up traffic count sheets and break down the data and present it to the school. However, the school would need to provide six volunteers to take the traffic counts at the school driveways during the morning and afternoon peak hours only.

Middle School. If the congestion problem with parent drop-off/pick-up at the school is not improved by making all of Linden Street one-way (setting up a left-side drop-off for students) or the removal of the fourth grade students in two years from the school, the School Department should consider other traffic patterns in the area. One possible solution could be to provide a standard rotary pattern with Linden Street one-way northbound in front of the school, using Grove and Hampshire Streets to exit the area. The traffic from the school would only affect the adjacent residential roadways for one hour during school arrival and one hour during dismissal periods. Other traffic patterns may need to be studied to provide right-side drop-off, pick-up of students. Again, it is critical to establish a one-way pattern around the traffic island on Linden Street at Woodland Street.

7.2 TRAFFIC IMPACTS OF FUTURE GROWTH

Introduction

Every type of development generates a certain number of trips. A trip is a one-way vehicle movement. For example, a motorist enters a grocery store parking lot, purchases food, then exits the parking lot. The store has generated two trips: one trip in, one trip out.

Using the "Trip Generation Handbook of the Institute of Transportation Engineers," the number of trips generated by different kinds of land use can be fairly accurately estimated. Of particular interest are the morning (AM) and evening (PM) peak hour trips, when the capacity of highways is most severely tested. For grocery stores and shopping centers, mid-day Saturday usually is the severest test. Of general interest are the total daily trips but the peak hours represent 8%-10% of the daily total and therefore are of greatest concern.

Trip generation studies must be accompanied by "trip distribution," the dispersal of traffic, in order to determine the impact on specific roadways and intersections.

Trip Generation

Listed below are the total number of new trips generated from the Guide Plan for Future Land Use projections:

New Trips With Full Buildout

	<u>AM Peak</u>	<u>PM Peak</u>	<u>Daily</u>
<i>Total Dwelling Units:</i>			
1. 2,051 single-family & 101 multi-family	1,500	1,700	17,500
<i>Office and Retail:</i>			
1. 229,387 s.f.	400	1,600	17,000
<i>Industrial/High Tech:</i>			
1. 8,361,342 s.f.	7,700	8,200	45,500

The "Guide Plan," is estimated to generate 80,000 new trips at full build-out. To this must be added the portion of background traffic that is through traffic, originating out-of-town and not stopping in Holliston. Historic traffic counts indicate a growth rate overall of background traffic, both originating in Holliston and from out-of-town, of 1% per year. While a comprehensive origin and destination survey is needed to determine the percentage of through traffic, the following information regarding workplace from the U.S. Census is helpful in understanding regional and local traffic patterns:

<i>Holliston Residents Workplace:</i>		<i>Workplace in Holliston:</i>	
Holliston	966	Holliston	966
Out-of-Town	<u>5,840</u>	Out-of-Town	<u>3,170</u>
TOTAL	6,806	TOTAL	4,136

Residential Trips (for a typical household):

AM Peak Hour 75% Out; 25% In (usually between 7:00-9:00 AM)

PM Peak Hour 36% Out; 64% In (usually between 4:00-6:00 PM)

With 4,753 dwelling units today (1997), each dwelling unit can be expected to generate 0.75 trips in the AM peak hour (or 75 trips per 100 homes) and 0.8 to one trip in the PM peak (and 8 to 10 trips per day, half in, half out). Trips per 1,000 square feet or per employee vary for commercial, industrial, office, retail, schools, etc., so estimating future volumes, especially by location, can become very complicated.

Based on rough estimates from previous traffic studies, it is estimated that the split of peak hour trips is 60/40 or even 2/1 through traffic versus local traffic. However, since so much of the traffic in Holliston is oriented to Washington Street and there is no direct connection to I-495, through traffic is unlikely to grow at the same rate as local traffic in future years and a 50/50 split will be used for future calculations. In short, for each peak hour trip generated in Holliston by new development, one additional through trip is expected. This means that the projected 80,000 new trips based on local development might have to be doubled to include potential through traffic. The 160,000 new trips indicate 13,000 to 16,000 new peak hour trips (8%-10% of average daily traffic). The current volume on Washington Street is about 2,000 in the peak hours, or 23-25,000 total daily traffic.

Obviously, these full build-out numbers are astronomical and can't happen. With no apparent possibilities of new bypass roadways, it is possible that highway capacity may be the limiting factor in future Holliston growth.

Trip Distribution

Again, this is a complex problem consisting of the travel patterns of both Holliston residents and through traffic. An examination of the census trip-to-work data reveals a strong orientation by Holliston residents to the north-northeast. The top ten destinations are:

	<u>Workplace by Town</u>	<u>Holliston Workers</u>	<u>Travel Direction</u>
1.	Framingham	1,062	N
2.	Holliston	966	local
3.	Boston	654	N, NE
4.	Natick	461	NE
5.	Wellesley	295	NE
6.	Newton	279	NE, N
7.	Milford	259	SW
8.	Ashland	230	N
9.	Needham	196	NE
10.	Westborough	178	NW
	TOTAL (all workers)	6,806	

Milford, a town that might be expected to send substantial traffic through Holliston, is more regionally-oriented, as the following work destinations show:

	<u>Workplace by Town</u>	<u>Milford Workers</u>
1.	Milford	4,007
2.	Framingham	1,199
3.	Boston	717
4.	Marlborough	493
5.	Natick	430
6.	Westborough	424
7.	Holliston	414
8.	Franklin	392
9.	Hopkinton	311
10.	Ashland	299
11.	Worcester	284

Hopedale shows some orientation toward Framingham and Natick, but the number of workers is relatively small (244 and 118). Therefore, lacking a regionwide origin and destination, it would appear that the through traffic in Holliston is originating in many towns throughout the region. One of these is neighboring Medway, with the following breakdown:

	<u>Workplace by Town</u>	<u>Medway Workers</u>
1.	Medway	920
2.	Framingham	363
3.	Boston	333
4.	Milford	303
5.	Natick	272
6.	Millis	189
7.	Medfield	175
8.	Wellesley	141
9.	Needham	137
10.	Newton	133
11.	Waltham	129

Calculating Future Traffic Impacts

It would be very difficult to correctly determine in which future year, and at which intersection, traffic might come to a halt because of new trip generation. For example, if early commercial expansion is mostly at Hopping Brook Park and traffic orients toward I-495, impacts in the center of Holliston would be reduced. A concentration of new homes in one section of town would primarily impact intersections toward the north/northeast, assuming existing workplace patterns continue.

To make a rough estimate of future impact, two intersections will be considered:

- I. Washington Street/Concord Street
- II. Washington Street/Central Street

The year 2010 will be used, and it will be assumed that 25% of the projected growth in the Guide Plan has taken place (see projections in Tables 1-5 and 1-6 of the Land Use Section):

2010 Development Projections (25% Growth)

	<u>Added</u>
Dwelling Units	535
Commercial/Industrial	2,050,000 s.f.

The additional number of trips in 2010 under the Guide Plan would be the following:

2010 New Trips – Guide Plan

	<u>AM Peak</u>	<u>PM Peak</u>	<u>Daily</u>
535 Dwelling Units	370	425	4,375
Commercial/Industrial	<u>2,030</u>	<u>2,450</u>	<u>15,625</u>
TOTAL	2,400	2,875	20,000
112%	2,690	3,220	22,400

If we assume a background traffic growth rate of 1% per year, we will add 12% to these totals to be conservative. These numbers are much more realistic than the full build-out numbers.

Major arterial routes entering Holliston from the north include Concord Street, Washington Street, High/Woodland Street, Highland Street and Prentice Street. Again, since we have entered into broad approximations, let us assume that one-third of this traffic attempts to enter our two test intersections (Washington/Concord and Washington/Central). Also, the directional split is 70/30 northbound in the AM peak hour and the reverse in the evening peak hour.

Conclusions

The result of these assumptions is that there will be approximately 1,000 additional trips on Washington Street, 700 in the peak direction (i.e., north/east bound in the AM) and 300 in the opposite direction. This will bring volumes in one direction to over 2,000 vehicles per hour, requiring two through lanes in each direction, especially at intersections. Even between intersections where there is only one lane in each direction, it is doubtful that 2010 volumes can be accommodated without improving Washington Street and these two key intersections, and any friction (parking, unparking, deliveries, left turns to driveways, etc.) will cause immediate backups.

7.3 CIRCULATION GOALS

The following circulation and transportation goals have evolved from the public participation processes in Phase one and the Final Phase of the Master Plan:

1. Ensure a safe and well-maintained network of streets, sidewalks, and trails for vehicles and pedestrians.
2. Manage speed and flow of vehicles on Town streets and roads.
3. Institute a plan to improve longevity of roads and to reduce maintenance costs.
4. Facilitate/encourage pedestrian and bicycle traffic throughout Town.
5. Encourage the use of various alternative commuting opportunities.
6. Encourage the expansion of public transportation for seniors and young people to reduce the dependence on the private automobile.
7. Prepare a logical and balanced transportation plan for the town incorporating public transportation, commuter rail, special needs facilities, private automobiles, parking facilities and bikepaths.
8. Improve safety for automobiles, pedestrians, and bicycles through roadway, intersection and walkway design, signage, speed limits and other appropriate means.

7.4 CIRCULATION RECOMMENDATIONS

As a philosophy for handling traffic growth in Holliston, we do not believe Holliston has to solve the regional traffic problem by making Washington Street, or any other street, two lanes wide in each direction. This will simply attract traffic from Route 9 and other regional highways and result in two

lanes of stalled traffic in peak hours rather than one.

On the other hand, Holliston does not want to stifle all growth. Commercial and industrial development provides local jobs and an improved tax base to support schools and other town services such as fire and police and public works departments, etc. This philosophy leads to the following conclusions and recommendations.

1. Major New Bypass Route

The possibility of planning, designing and constructing any new bypass route would be very time consuming, very costly and involve acquisition of residential properties. As mentioned previously, major new highways in Massachusetts usually involve a 20-year time frame. Bypass roads to alleviate the traffic along Washington Street have been discussed since the 1962 Master Plan Study. These roads have also been discussed in the neighboring towns. One ultimate possibility would be for all towns affected by the Route 16 traffic congestion to combine efforts and discuss one possible route to address the congestion problem. Talk of a bypass route would meet great opposition from business owners in the town center that would lose pass-by customers from the reduction in traffic through the town. Residents in the area of the land takings would also oppose any bypass route that would be adjacent to their homes. In today's environment, there are usually more reasons not to build a new roadway than to build one.

2. Future Roadways Planning

New Connecting Routes. We have looked at the possibility of improving town circulation by connecting existing roads. One possible connecting roadway would be to extend Concord Street to Woodland Street to allow vehicles heading to the south to bypass the town center. The problem with this connection is that there is a small cluster of shops at the southern portion of Washington Street at the intersection of Concord Street. These shops would have to be relocated, which would result in lost income for those shop owners. On the Woodland side of this possible connection, the new elementary school and the two existing schools on Woodland Street would hamper any roadway connecting to Woodland Street.

Another possibility is to extend Woodland and Railroad Streets past Central Street and connect back onto Washington Street past the town center. Also, if possible, the extension of Railroad Street could occur along the railroad right-of-way.

New Collectors or Arterials. We don't see any opportunities for new collector or arterial roadways in town. However, the construction of local roadways is possible. The following minimum desirable design for each classification of roadways is recommended:

- Local: 10 foot travel lanes with 2.5 foot shoulders resulting in a 25 foot roadway;
- Collector: 11 foot travel lanes with 4 foot shoulders resulting in a 30 foot roadway;
- Arterial: 12 foot travel lanes with 8 foot shoulders resulting in a 40 foot roadway.

In determining if new roadways are possible, we considered various sections of the town on the USGS maps. In the northeast corner of town we looked between Concord Street (Route 126) to the west, Washington Street (Route 16) to the south, the Ashland town line to the north, and the Sherborn town line to the east. In this area there are problems with hills as can be evidenced on the USGS map. Therefore, it is unlikely that any new collector roadways will be built. Next we looked at the section of land between Concord Street to the west, Highland Street to the east, Hollis Street and Washington Street to the south, and the Ashland town line to the north. In this area there is a north-south paper street which connects Winter Street to Mellen Street. However, since Bald Hill is in this area it is very

doubtful whether a new street could be constructed. A last example is the area to the west between Highland Street and the Milford town line. This area is also limited for construction of a new collector roadway, since the Cedar Swamp runs north-south.

The likelihood of new collector roadway construction in the town depends on at least the following five variables:

- Conservation land
- Wetlands
- Acceptable grade conditions
- Acceptable soil conditions
- Approval of residents who live on roadways which would become collector roadways – with significantly increased traffic volumes.

A Master Plan looks for opportunities for arterial and collector roadways. However, Holliston is well served by arterial roadways, although only one lane in each direction. While we recommend safety improvements at intersections, we believe any highway widenings would only invite more regional, through traffic.

Regarding new collector roadways, we have listed some of the factors which must be considered; most beyond the scope of a Master Plan. We recommend that the Town Planner and Planning Board work closely with developers to look for opportunities to extend local roads between arterials, thereby making them minor collector roads. This could be done on a sector basis, concentrating on areas now bounded by arterials and/or collector roadways. Finally, considering Holliston's many hills and wetlands, we believe Holliston is well served by its present roadway system.

3. Interstate 495 Signage

The Town of Holliston in cooperation with the Massachusetts Highway Department (MHD) must look into the possibility of placing Holliston trailblazer signs along Interstate 495 before the Routes 109 and 85 exits, and at the intersection of Route 16/Fortune Boulevard/Beaver Street, Route 109/Beaver Street and Route 85/Fortune Boulevard. This will enhance the Town of Holliston's access to Route 495.

4. Washington Street Corridor

It is not Holliston's responsibility to solve the region's transportation problems. Translated, that means that Washington Street should not be widened to four lanes just to help through traffic pass through Holliston in a shorter time.

However, the Town does have a responsibility to make Washington Street as safe as possible, both for through traffic and the Town's pedestrians. In addition, Washington Street needs landscaping and a median island where the width permits.

We picture an intermittent, grassed median island in Washington Street with openings for side streets and driveways; traffic signals and neckdowns (protruding curbs) at Central Street; a second through lane westbound at Highland Street (a few hundred feet each side of the intersection); and a complete redesign of the Washington Street/Summer Street intersection.

Because Washington Street is such an important arterial between I-495 and Framingham/Ashland and Sherborn, we believe the Massachusetts Highway Department (MHD) will look favorably on assisting the Town with these improvements if the Town will provide the design and any strip takings required. Often the strip takings are donated and, in some cases where there is no controversy, the MHD will make the takings. The MHD will redesign the Washington Street/Summer Street intersection in 1999.

The MHD process involves significant Town participation.

5. Parking Study

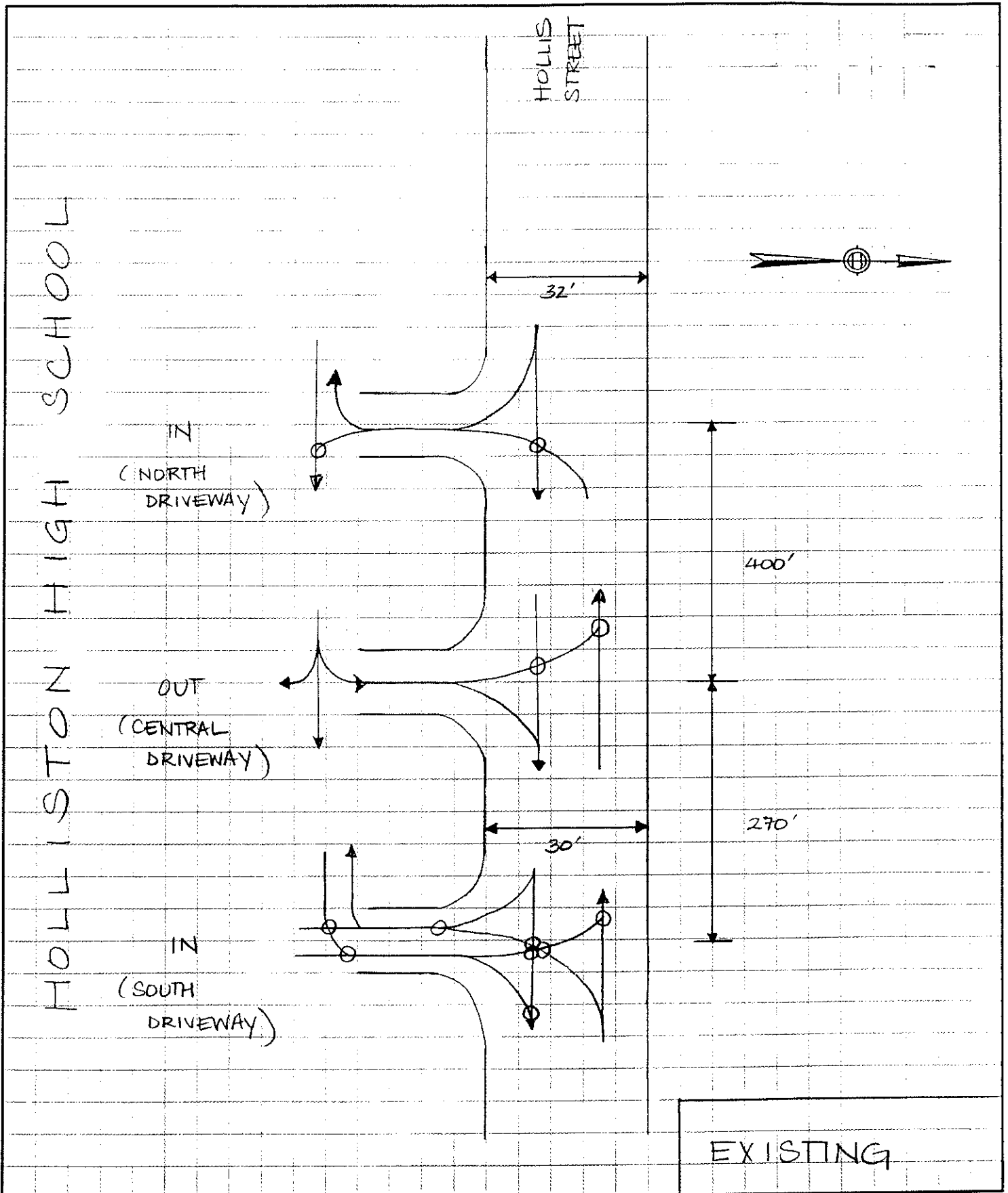
The parking study now underway should be implemented in conjunction with traffic studies in the Central Street business district area and the Washington Street Corridor Study. More efficient parking will benefit users in the town center, increase safety, and help to improve traffic circulation in and through the Town Center.

Implementation

The Board of Selectmen have authority over the Town's streets and roadways. In this capacity it is recommended that they take the following actions:

- 1) Act on the recommendation to signalize the intersections downtown, once the Washington Street Corridor Study is complete.
- 2) Reconfigure downtown Washington Street to make pedestrian access safer, in accordance with the above Corridor study.
- 3) Reconstruct the Washington/Woodland/High Street intersection.
- 4) Provide for adequate parking conveniently in the downtown area, in accordance with the parking study, now underway.
- 5) Reconfigure the Washington/Highland Street intersection to allow for a better flow of traffic.
- 6) Reconfigure the Washington/Summer Street intersection to allow a better flow of traffic.
- 7) Make the necessary signage improvements at the Central/Norfolk Street intersection to improve safety.
- 8) Reconstruct other hazardous intersections needing safety and functional improvements.

Appendix 7-1
Holliston High School Access



BRUCE CAMPBELL & ASSOCIATES, INC.

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(617) 542-1199 FAX (617) 451-9904

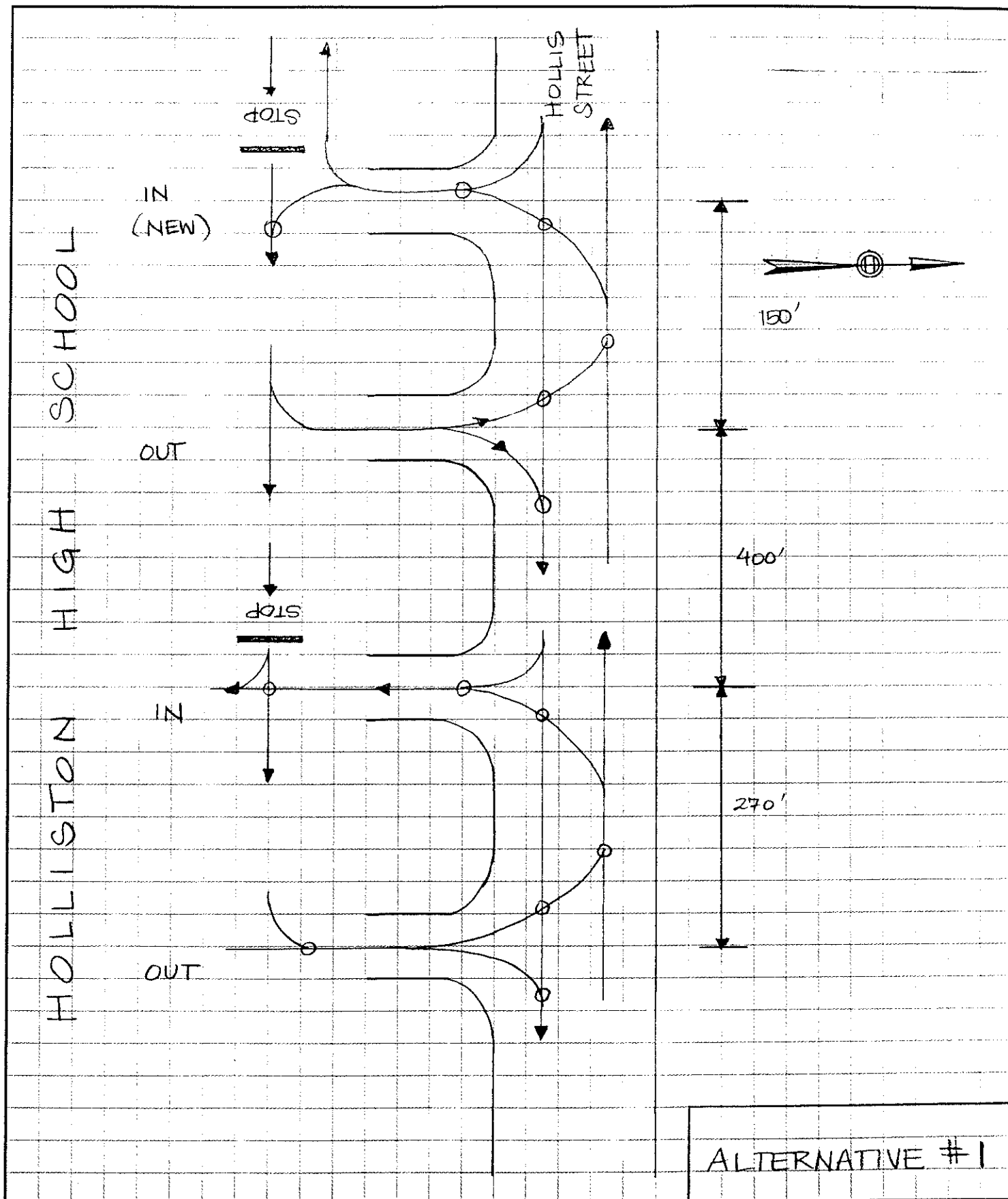
JOB _____

SHEET NO. 2 OF 3

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

TITLE HOLLISTON HIGH SCHOOL



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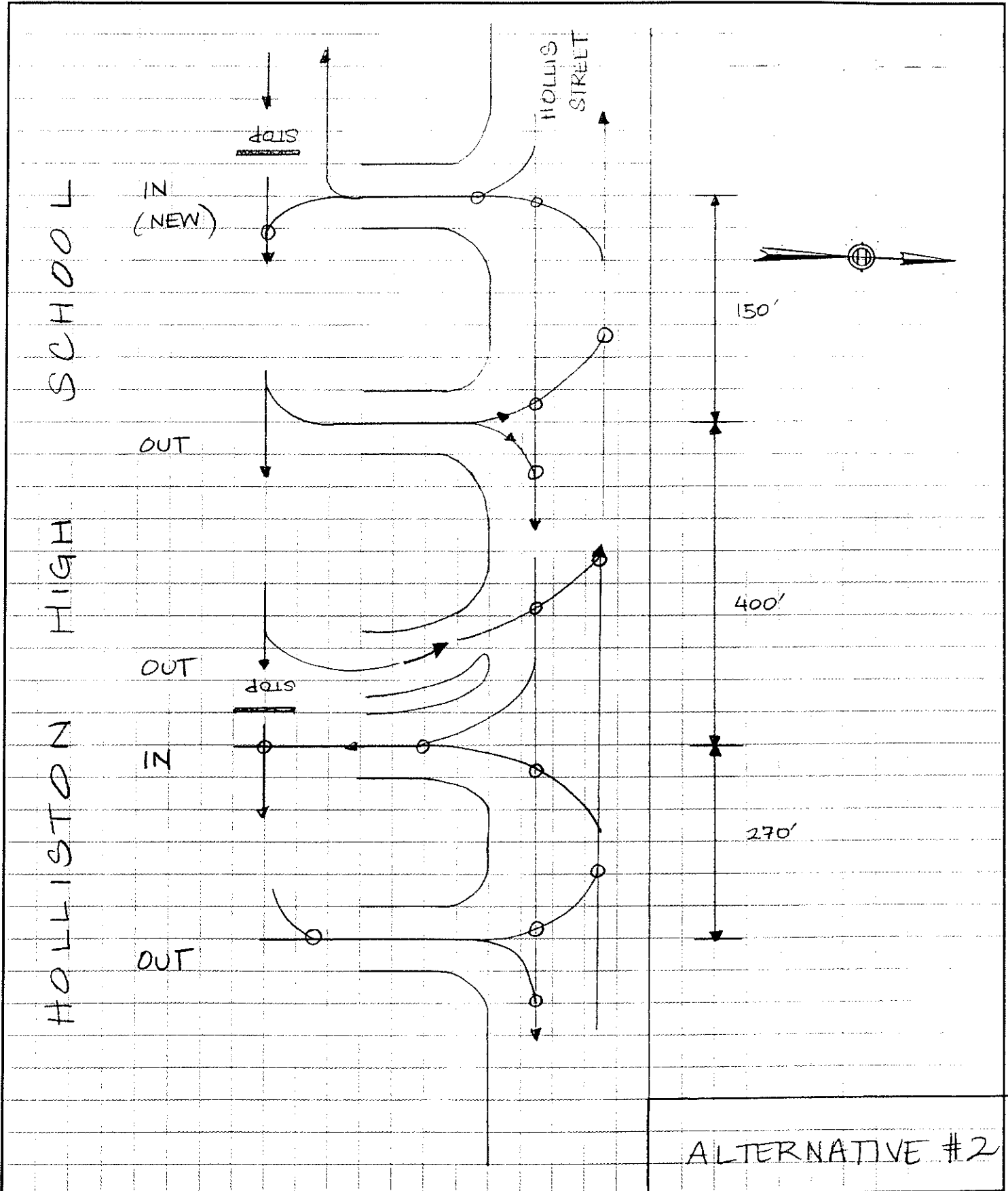
JOB _____

SHEET NO. 3 OF 3

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

TITLE HOLLISTON HIGH SCHOOL



Section 8:
IMPLEMENTATION
PROGRAM

Section 8: IMPLEMENTATION PROGRAM

The Implementation Program outlines short term and long term municipal actions needed to achieve the objectives of the Master Plan. Included are scheduled expansions or replacements of public facilities, traffic improvements and the anticipated costs associated with accomplishment of such activities. The Implementation Plan also specifies the process by which the community's regulatory structure should be amended so as to be consistent with the Master Plan.

The Implementation Program translates generalized goals and objectives of the Master Plan into specific actions within a suggested time frame. It is based on a strategy of priorities matched to the realities of Holliston's ability to move along this course. A program of this kind gives the Planning Board, Board of Selectmen, Conservation Commission, and other Town bodies and officials an overview of what needs to be done and a timeline for completion. It is not a rigid directive but a set of guidelines for the possible, under the best of circumstances. Thus, the time frame is only suggestive and should be reviewed and modified periodically on the basis of actual performance.

8.1 REGULATORY ANALYSIS

The principal regulatory controls related to land use and development are Holliston's Zoning By-Law, Zoning Map and Subdivision Rules and Regulations which were evaluated as part of the Master Plan review process. The Zoning By-Law is well organized, comprehensive and clear. Although we recommend some specific Zoning By-Law changes to improve certain aspects of master plan implementation, the basic structure of the By-Law is sound. In order to implement the Master Plan recommendations, a number of zoning map changes are also recommended.

Review of Holliston's Zoning By-Law

The Town's Zoning By-Law is authorized under Chapter 40A of the Massachusetts General Laws. Any changes to the Zoning By-Law or Zoning Map require a two-thirds affirmatory vote of Town Meeting after a public hearing by the Planning Board.

The By-Law is presented in seven major sections with a table of contents at the beginning. The seven major sections and important subsections are as follows:

I. Purpose, Basic Requirements, Nonconformity, Prohibited Uses, Definitions

- A. Purpose
- B. Basic Requirements
- C. Nonconforming Uses, Structures & Lots
- D. Prohibited Uses
- E. Definitions

II. Use Districts

- A. Classes of Districts
- B. Location of Districts

III. Use Regulations

- A. Schedule of Use Regulations

IV. Intensity Regulations

- A. General Requirements
- B. Schedule of Intensity Regulations
- C. Modification and Exceptions

V. Special Regulations

- A. Accessory Buildings
- B. Exterior Signs
- C. Off-Street Parking
- D. Minimal Residential Floor Area
- E. Removal of Earth Products
- F. Architectural Controls
- G. Apartment District Requirements
- G.(A). Accessory Family Dwelling Unit
- H. Special Permit For Cluster Development
- I. Wetlands and Flood Plain Protection Zone
- J. Flood Plain District Regulations
- K. Village Center Commercial District
- L. Aquifer Protection District
- M. Performance Standards

VI. Administration

- A. Enforcement
- B. Building or Use Permit
- C. Occupancy
- D. Board of Appeals
- E. Special Permit Granting Authority
- F. Repetitive Petitions
- G. Penalty
- H. Amendment
- I. Validity
- J. Design Advisory Committee

VII. Site Plan Review

Generally speaking, the Holliston Zoning By-Law is well-organized and technically sound.

The following improvements to the Zoning By-Law are recommended:

1. The By-Law would benefit from better use of graphic techniques to make it easier to read, including better typefaces, and use of bold headings, italics, fonts, underlining, etc. A smaller, clearer font would also reduce the number of pages in the By-Law.
2. The Definitions section (Section I-E) needs improvement. The words defined are not all in alphabetical order and many additional words and phrases should be defined, including such words as: "abandonment", "basement", "commercial vehicle", "day care center", "drive-in retail or service establishment", "fast order food establishment", "frontage", "gasoline service station", "height of building", "home occupations", "hotel", "lot width", and "street" (among others).

3. Consideration should be given to reducing the requirement for parking for “Other service establishments and retail businesses” in Section V. C. (Off-Street Parking). The current requirement is one space per 180 square feet of gross floor area. A more realistic requirement (which would still be adequate) would be one space per 250 or 300 square feet of gross floor area. Medical and dental office could require one space per 200 square feet and supermarkets could remain at one space per 180 square feet.
4. Section V. G. covers Apartment District Requirements even though no apartment districts are shown on the Zoning Map. It is recommended that these requirements be retained in the event future multifamily uses are considered and as guidelines in the event an application for a Comprehensive Permit under Chapter 774 of the General Laws is filed. The Schedule of Use Regulations (III-E) should also be revised to allow multifamily uses in the Apartment District (apartments are allowed).
5. The Town should consider the option for non-criminal enforcement of the Zoning By-Law under Chapter 40, Section 21 of the Massachusetts General Laws by the issuance of tickets for violation. This would then be stated as an option of the Town in Section VI. A. (Enforcement) of the By-Law.
6. The Town should consider adopting a new Public and Semi-Public district to include public and quasi-public uses and protect open space.

Other Zoning By-Law changes recommended by various elements of the Master Plan include:

1. Two new zoning districts are recommended, including a Transitional Business District and a Commercial Service District, as described in Section 1.6 of the Master Plan. Specific language to define these zoning changes are provided in Exhibit F of the Economic Development Strategy Phase II report.
2. The Town should consider allowing a higher density of development within the Apartment District. A density of 8-12 units per acre is recommended in the Guide Plan for Future Land Use. The Town might also consider locating appropriate sites for multifamily use on the zoning map.
3. Complete the Design Guidelines and Signage Guidelines currently under preparation by the Zoning By-Law Study Committee, and incorporate these guidelines into the Town By-laws. These guidelines should require that new buildings and alterations to existing buildings conform to the massing, scale, and palette of materials of existing 18th and 19th century buildings.
4. The Town should thoroughly review its Cluster Zoning By-law.
 - Cluster provisions should provide developers with adequate financial incentives to build cluster developments instead of ordinary developments, and ensure that development avoids a site’s most environmentally sensitive, scenic, or otherwise valuable natural resources.
 - Consider allowing a slightly higher number of lots to be developed in a cluster project if the designated open space is identified as important in the Town’s open space plan.

- Responsibility for determining the number of lots allowed under ordinary zoning (the “yield”) should rest with the proponent (not the Planning Board, as currently specified).
 - In deciding whether to grant a cluster development permit, the Planning Board should consider whether the open space areas are designed to have maximal value to wildlife and whether these areas link to open spaces on adjacent properties as much as possible. These considerations should be added to section V-H, 2.a. of the bylaw.
 - Consider changes to the cluster development provisions in the Zoning By-law to ensure quality site design, and to require that open space in cluster developments consists of one or more upland areas accessible from the street.
5. The Town should consider adopting a restriction on developing steep slopes.
 6. The Zoning By-law should require that applicants for subdivisions, multifamily developments, and cluster developments submit a plan of environmental “constraints and opportunities” on the site, early in the planning process (prior to the submission of a preliminary site layout plan).
 7. Review zoning regulations for accessory apartments in order to encourage reuse of large older homes.
 8. Promote the development of affordable housing through the use of inclusionary zoning. The town should consider requiring that 10% of all units in multifamily or mixed-use developments be set aside for affordable housing. These units can be placed under the management of the Housing Authority or if they are ownership units they may be given a deed restriction which requires that they be sold for less than market rate. As an alternative to providing units on-site, developers can be required to contribute to a special fund that will be used to develop affordable housing elsewhere in Holliston.
 9. Consider adopting zoning regulations to encourage senior housing development and discourage the demolition of historic homes to redevelop for residential or commercial use. Sample by-laws are provided in the Appendix to Section 5, Housing.
 10. Review and modify the use and dimensional requirements of the Village Center Zoning District to maintain the character and scale of the existing 18th and 19th century village style.

Recommended Zoning Map Changes:

A map is submitted herewith (Figure 8-1, Initial Zoning Map Changes) showing the zoning map changes which are recommended now to implement the Guide Plan for Future Land Use (some zoning map changes will require further study before implementation). Portions of the Rail Line and New Englander industrial areas and the West Holliston commercial area are recommended to be changed to the proposed Transitional Business district. The entire Water Street area is recommended to be placed in the proposed Commercial Service district. The “leftover” industrial zoning to the west of the Pope area is recommended to be placed in the AR-2 district. A site adjacent to the Pope industrial area (now in industrial use) is recommended to be included in the industrial district. Finally, the eastern portion of the Pope industrial area as well as an adjacent portion of the West Holliston Commercial district and an area on the edge of the Village Center district area recommended to be considered as sites for future multifamily development.

Subdivision Rules and Regulations

The Planning Board's Rules and Regulations Governing the Subdivision of Land regulate the manner in which land is subdivided in the town, within the limits authorized by Chapter 40, Section 81, of the Massachusetts General Laws. New or revised subdivision regulations may be adopted by the Planning Board after a public hearing. We have reviewed the Town's Subdivision Rules and Regulations and find them to be meeting reasonable standards for their purpose. The Town may wish to include more specific regulations related to tree cutting on lots, so as to preserve desirable trees of specific size and type, where possible, and to avoid wholesale cutting of trees.

8.2 OTHER GROWTH MANAGEMENT AND REGULATORY MECHANISMS

Implementation strategies focus on zoning by-law modifications, subdivision control revisions, and urban design recommendations. The following strategies outline mechanisms to allow Holliston to recapture costs associated with providing Town services, and to relate new development approvals to new facilities or infrastructure required to service the development. While we have summarized some of the legal issues associated with these mechanisms, a fuller and more detailed review is required by Holliston's Town Counsel before detailed solutions can be developed by the Town.

User Fees

Constrained by the limitations of Proposition 2½, voter resistance to increased taxes and reductions in Federal assistance, local governments in Massachusetts are exploring alternative funding sources and mechanisms to pay for the impacts of new development. User fees (fees assessed for goods and services that a governmental body provides such as recreation and refuse collection) have become extensively used by local governments.

User fees are not feasible for all municipal services. Water and sewer fees, however, are examples of user charges that can be established to cover not only direct costs of providing service, but new connections or hook-ups. In general, rates for new water and sewer services can be established on the basis of expected community growth levels and upon a projected costs basis for new capital improvements for water and sewer lines.

Holliston's Town Counsel should be consulted to ascertain that the Town has the authority to implement/increase user fees. Many fees have limits set by State law. However, State legislation in recent years has broadened municipal options by increasing fees limits or allowing local officials to set fees and charges (see The Review Fees Statute, Chapter 593 of the Acts of 1989).

User fees or connection charges are always subject to attack on the theory that they are, in fact, disguised taxes. In general, the Massachusetts courts have deferred to the municipality's characterization of such connection charges as a fee. However, the true nature of such a charge must be determined by its operational effect. Massachusetts Case Law has provided some direction on whether a local charge is a valid user fee or an illegal tax and this should be considered by Holliston's Town Counsel in reviewing any new or modified user fee being proposed.

Impact Fees

Impact fees are normally established in order to compensate a municipality for the cost of providing specific services, and not to raise general revenue. It is a regulatory mechanism for

deriving public benefits from either all as-of-right new development (this is without thresholds), or from development above a specific threshold in connection with the grant of a discretionary special permit where, in effect, some density or use incentive is offered in return for the provision by the developer of an appropriate amenity (a public benefit either "in kind" or payment of fee). The first approach of impact fees for all new development is almost certainly not now authorized under existing Massachusetts law.

The second approach in connection with the granting of a special permit appears to have some authority under Massachusetts General Laws, Chapter 40A, the Massachusetts Zoning Act, although there are no clear statutory or case law guidelines on which to base a legal defense. A number of Massachusetts municipalities (including Medford) have some form of "in kind" exactions (such as the provision of affordable housing units) in connection with a special permit use. The basis for these exactions were the provisions of Section 9 of Chapter 40A, the Massachusetts Zoning Act, which provides that special permits may authorize increases in density or intensity of use provided that the applicant, as a condition of the grant of the special permit, provides certain amenities, including "housing for persons of lower or moderate income, traffic or pedestrian improvements ... or other amenities." However, Massachusetts courts have not passed upon, or approved, local ordinances contemplating the payment of fees, rather than provision of actual "amenities" in the context of this language.

Massachusetts has not yet adopted direct statutory authority to create such an impact fee system, although other states such as Florida have widely used impact fees. From the Florida impact fee case standards, the methodology required to establish a legally defensible impact fee system includes the following:

- The municipality should establish a capital budget program to:
 - Justify the need for the specific improvement (i.e., school, road, park, water or sewer extension, etc.).
 - Determine the realistic cost for the improvement.
- Develop a fair and reasonable cost allocation method to share the costs equitably.
- Establish a separate or so-called "enterprise" fund to hold the fees until spent.
- Build the facility or improvement necessitated by the development within a reasonable time (say five years) or return the funds to the developer.

By outlining this approach, we are not necessarily suggesting that Holliston should immediately adopt an impact fee system based on the foregoing. Several pieces of proposed legislation are now pending before the General Court which would authorize impact fees of various types. The Town of Groton recently filed legislation to allow impact fees. At such time as one of these proposals becomes law, the Town would have at its disposal a form of authority to adopt an impact fee system which would be legally defensible.

8.3 SCHEDULING OF MASTER PLAN ACTIONS

Appendix 8-1 contains a recommended scheduling of actions for each Master Plan element, including recommendation, action/strategy, time frame, and estimated cost. Inclusion of projects in the Town's Capital Improvement Program is discussed below.

8.4 CAPITAL BUDGETING

The Town of Holliston has a well organized capital budgeting program administered by the Finance Committee, in cooperation with all of the various Town departments and agencies and the Town Administrator. Each year a Capital Improvement Program is prepared in the context of a judgment of need by the Departments and an annual budget target which is determined within the Town's Capital Improvement Program.

Many of the recommendations of the Master Plan, especially community facilities such as schools, parks, open space and other facilities either are now or will eventually be incorporated into the long range Capital Improvement Program as they gain acceptance of the Departments and the citizens of Holliston. A review of the Town's bonded indebtedness indicates that the Town will have the capacity to bond the projects recommended by the Master Plan as the existing debt is reduced, although some projects may have lower priority than others.

Some towns choose to separate larger projects with substantial fiscal impacts to the Town from smaller projects which may be grouped as "budget items" rather than "capital improvements." Capital improvements have, for example, been defined in some communities as "projects with a cost in excess of (say \$100,000) and a life in excess of (say 10 years)." These could also be termed "long term capital improvements."

8.5 OPEN SPACE ACQUISITION

A number of methods of possible open space preservation are outlined in the Master Plan Technical Appendix, including direct purchase, easements, conservation trusts, and agricultural preservation. The preservation of open space is a key aspect of the Master Plan and has important future implications to the Town's future fiscal health as well as the obvious environmental benefits.

The Town may wish to consider a number of means of financing open space "landbanking" though the imposition of a transfer tax on real estate for the purpose of open space acquisition. Further details on this program are contained in the technical appendix. Another more modest method of accumulating funds for open space acquisition is through the establishment of an annual appropriation to an "open space acquisition account" by the Annual Town Meeting. The purpose of this approach is to insure that the Town has available funds to act if specific parcels of open space become available, if state or federal funds become available and require matching funds, or if options or appraisals on specific parcels are needed.

8.6 LOCAL PLANNING CAPACITY

Holliston is a well-run community, with dedicated elected officials, town committee members, department employees, and the Town Administrator providing overall management. The Town Meeting recently approved a position or department responsible for day-to-day planning and community development activities.

This position will provide valuable assistance in reviewing development proposals and in implementing Master Plan proposals and recommendations. Such a position usually pays for itself by helping the Town avoid costly mistakes and through the obtaining of state and federal grants for infrastructure and other purposes. Planning is a function of management and Holliston is at a state in its development where careful management of all community resources is essential.

8.7 OTHER IMPLEMENTATION RECOMMENDATIONS

A number of other recommendations for implementation of various Master Plan elements are contained within each of the previous sections discussing each element. These and additional recommendations, where appropriate, are also included in a Master Plan Technical Appendix, submitted separately. Included in the Technical Appendix are a summary of implementation measures, by element, environmental resource protection tools, housing and other community assistance programs, examples of by-laws from other towns, and implementation tools.

Appendix 8-1
Scheduling of Master Plan Actions

1. Land Use

Recommendation	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Cost (1999 dollars)
Zoning By-law revisions related to land use	Better graphic format (p. 8-2)	Planning Board/ Town Meeting	2000	-
Zoning Map revisions	To implement Guide Plan for Future Land use (p. 1-10, 8-4)	Planning Board/ Town Meeting	Varies	-
Subdivision Rules & Regulations	To regulate the subdivision of land (p. 8-5)	Planning Board	Ongoing	-
User Fees	To pass on direct costs of development to developers and users (p. 8-5)	Planning Board/ Selectmen	Ongoing	-
Impact Fees	To pass on indirect costs of development to developers and users (p. 8-6)	Planning Board/ Selectmen	Await State enabling legislation	-
Open Space Acquisition	To implement the Guide Plan for Future Land Use (p. 3-9, Fig. 3-3)	Conservation Commission/ Selectmen	Ongoing	To be determined

(Appendix 8-1 continued)

(Natural & Cultural Resources continued)				
The Town should establish a Design Review Board to administer and enforce these design guidelines.	Establish a Design Review Board. (p. 2-21)	BOS	2000	--
Design Washington Street corridor improvements to enhance the historic character of downtown Holliston and East Holliston.	Conduct study and carry out improvements. (p. 2-21)	Many	2000-2003	To be determined
Examine the possibility of burying overhead utility lines in Holliston Center and East Holliston.	Negotiate with Boston Edison. (p. 2-21)	BOS	2000	--

(continued)

(Appendix 8-1 continued)

3. Open Space & Recreation

Abbreviations: BOS = Board of Selectmen; CC = Conservation Commission; CRWA = Charles River Watershed Association; DGC = Design Guideline Committee; GC = Greenways Committee (to be created); HIST = Historical Commission; OSAC = Open Space Acquisition Committee (to be created); PB = Planning Board; SAC = Sewer Action Committee; SCH = Schools; TC = Town Counsel; UCC = Upper Charles Conservation, Inc.; VOL = Volunteers; WD = Water Department.

Recommendation	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Cost (1999 dollars)
<i>Open Space Acquisition Recommendations</i>	**See also the implementation strategy in the 1998 Open Space & Recreation Plan			
Acquire Chapter 61 and 61A properties. (p. 3-3)	<ul style="list-style-type: none"> - Prioritize Holliston's Chapter lands in terms of their value to the Town. (p. 3-10) - Contact the owners of especially important Chapter lands to negotiate purchase or easement (p. 3-10) 	OSAC	2000	--
Enlist the help of regional land trusts in exploring open space protection alternatives other than outright purchase, especially for farmland.	Work with Upper Charles Conservation, Inc. and regional land trusts. (p. 3-10)	OSAC	Ongoing	--
Establish an emergency land acquisition fund.	Establish and maintain the fund through a set annual contribution from the Town budget. (p. 3-10)	OSAC, CC, BOS	Town Mtg. 1999 & ongoing	\$200k - 500k per yr.
<i>Greenways Recommendations</i>	**See also the implementation strategy in the 1998 Open Space & Recreation Plan			
Establish a volunteer "greenways committee" (GC)	Establish committee to pursue linkages between OS parcels and linear trails throughout the town. (p. 3-11)	BOS	2000	--
Work to create recreation trails through linear and connected open spaces.	Greenways committee should pursue open space linkages. (p. 3-11)	GC	Ongoing	

(continued)

(Appendix 8-1 continued)

<p>(Open Space & Recreation continued)</p> <p>Create riparian greenways along watershed areas, including Beaver Brook, Hopping Brook, Chicken Brook, Dopping Brook, & other streams.</p>	<ul style="list-style-type: none"> - Enforce the provisions of the MA Rivers Protection Act (p. 3-11) - Purchase selected upland parcels adjacent to rivers in fee or easement. (p. 3-11) 	CC GC, OSAC	Ongoing Ongoing	-- 10-25% of OS budget
Connect open space parcels.	<ul style="list-style-type: none"> - Seek the donation of linear easements from developers and others to permit public access through private property. (p. 3-10) - Within cluster developments, encourage developers to set aside land that connects to adjacent open spaces. (p. 3-10) 	PB PB	Ongoing Ongoing	-- --
Implement the Upper Charles Trail.	Work with Upper Charles Conservation Inc. to implement the trail. (p. 3-11)	UCC, GC	1999-2003	
<p><i>Recommended Changes to the Zoning By-law (Open Space & Recreation)</i></p>				
Consider offering a density bonus for cluster developments to encourage more efficient use of land.	Planning Board or its consultant revise the by-law as appropriate; present at Town Meeting. (p. 3-11)	PB	2000	--
Open space in cluster developments should consist of one or more upland areas accessible from the street.	Planning Board or its consultant revise the by-law as appropriate; present at Town Meeting. (p. 3-12)	PB	2000	--

(continued)

(Appendix 8-1 continued)

(Open Space & Recreation continued) Consider an abatement of local taxes for landowners with productive farms & forests.	AO should first determine fiscal impacts, both negative (lost taxes) and positive (less residential development). (p. 2-16)	BOS, AO, TC	1999-2000	To be determined
Collaborate with adjacent towns for open space and natural resource planning.	Contact Towns of Sherborn, Ashland, Milford, and Hopkinton regarding shared natural resource areas. (p. 2-16)	CC, OSAC	Ongoing	None

(continued)

(Appendix 8-1 continued)

4. Economic Development

Recommendation	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Cost (1999 dollars)
<i>Overall Recommendations</i>				
Adopt a Transitional Business zoning district for portions of the current Industrial District which are no longer considered suitable for industrial use.	Propose change to Zoning Bylaw and Zoning Map. (p. 4-9)	Planning Board/ Town Meeting	2000	-
Adopt a Commercial Service zoning district specifically oriented toward the desired uses for the Water Street industrial area.	Propose change to Zoning Bylaw and Zoning Map. (p. 4-9)	Planning Board/ Town Meeting	2000	-
Maintain high standards of design and maintenance in existing and new commercial developments.	Use site plan review and performance standards. (p. 4-9)	Planning Board/ Design Review Committee	Ongoing	-
Seek State assistance to support economic development goals.	Investigate State programs to provide funding or technical assistance. (p. 4-9)	P & D Coordinator	Ongoing	-
<i>Town & Village Center Recommendations</i>				
Encourage commercial development of Holliston Center as a unique specialty retail and family entertainment district.	Work with private sector establish theme for Center; adjust zoning, if necessary. (p. 4-10)	Board of Selectmen, Planning Bd	Ongoing	-
Retain Center's existing 18 th & 19 th Century architectural character and scale.	- Prepare design and signage guidelines. - Establish design review board. (p. 4-10)	Board of Selectmen	2000	--
Prevent the assembly of residential properties and development into larger commercial structures.	Review dimensional requirements and types of uses permitted in the Center. Modify the Zoning By-law. (p. 4-10)	Planning Board/ Town Meeting	2000	-

(continued)

(Appendix 8-1 continued)

(Economic Development continued)					
Accommodate additional smaller residential units.	Allow conversion of large single-family homes in Holliston Center to two-family or multifamily use. (p. 4-10)	Planning Board/Town Meeting	2000	-	
Retain civic and institutional functions in Holliston Center.	Approach the U.S. Postal Service to reopen a branch Post Office in Holliston Center. (p. 4-11)	Board of Selectmen	1999	-	
Increase useable parking supply in Holliston Center.	<ul style="list-style-type: none"> - Examine feasibility of angled on-street parking on the wide part of Washington Street. - Identify new sites for off-street parking lots for businesses and municipal facilities. (p. 4-12) 	Board of Selectmen	1999	To be determined	
Bury overhead utilities (if financially feasible).	Approach utility companies; coordinate with sewer installation. (p. 4-13)	Board of Selectmen	1999(study)	To be determined	
Improve visual appeal of East Holliston.	<ul style="list-style-type: none"> - Require landscaping and street trees. - Prepare guidelines for future development. (p. 4-13) 	DPW, Design Review Board	2000		
Discourage "strip development" and automotive uses in West Holliston.	Modify the Zoning By-law. (p. 4-10)	Planning Board/Town Meeting	2000	-	
<u>Industrial Recommendations</u>					
Attract industrial/high tech companies to Hopping Brook Park and other industrial parks. Encourage the development on the model of eco-industrial parks, which seek to attract and efficient, compatible, and environmentally sound mix of industrial and high tech uses. (See Technical Appendix)	<ul style="list-style-type: none"> - Use tax increment financing to assist companies - Develop promotional program to attract companies - Improve infrastructure needed to attract firms (p. 4-13) 	Board of Selectmen/Planning Board	Ongoing	To be determined	
Improve infrastructure capacity of prime industrial areas.	Provide sewers or arrange alternatives through neighboring towns or private developers. (p. 4-13)	Board of Selectmen	2000	Currently under study	

(continued)

(Appendix 8-1 continued)

5. Housing

Recommendation	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Cost (1999 dollars)
Designate areas of the town for future multifamily, townhouse, or mixed use development.	Consider changes to zoning map. (p. 5-6)	Planning Board/Town Meeting	2000	--
Encourage mixed use and viable reuse of older homes in town center.	Review details of Village Commercial Zoning District. (p. 5-6)	Planning Board/Town Meeting	Ongoing	--
Seek State/Federal or private assistance for senior or low income development.	Establish a non-profit housing corporation or local housing partnership. (p. 5-7)	Housing Partnership/ Housing Corporation or Housing Authority	Ongoing	--
Determine the level of assisted senior housing that is appropriate for the town and find means of accomplishing these goals.	Conduct a senior housing needs study. (p. 5-7)	Local Housing Partnership or Housing Corporation.	1999	--
Discourage the replacement of traditionally-sized homes with overly large ones.	- Establish a Demolition Delay Ordinance.	Planning Board/Planning Board	2000	--
	- Regulate residential gross floor area. (p. 5-7)		2000	--
Improve the Zoning regulations for cluster development.	Propose changes to Zoning Bylaw. (p. 5-7)	Planning Board	2000	--
Consider adoption of Inclusionary Housing bylaw.	Draft bylaw. (p. 5-7)	Planning Board	2000	--

(continued)

(Appendix 8-1 continued)

6. Public Facilities & Services

Recommendations	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Costs (1999 dollars)
Major Capital Facility Improvements – Immediate to Intermediate Range				
Expand Center Fire Station	- Construct planned addition. - Finish second floor unfinished shell. (p. 6-12)	Fire Dept.	1999	\$1,500k \$300k
Construct New Braggville Station	- Acquire selected land at Hopping Brook Park. - Construct new station. (p. 6-13)	Fire Dept.	2002	\$750k
Replace Gates Fire Station	- Identify & acquire new site. - Construct new station.	Fire Dept.	2000	To be determined
Renovate Town Hall	- Devise phasing plan. - Construct renovations; temporarily house Town Hall employees during renovations at Andrews School. (p. 6-12)	Selectmen	1999/2000 1999/2000	\$2,000k
Expand Miller Elementary School	Renovate and expand (p. 6-14)	School Dept.	1999/2000	\$5,700k*
Renovate Middle School	Renovate (p. 6-14)	School Dept.	1999/2000	\$4,100k*
Renovate Senior High School	Renovate (p. 6-14)	School Dept.	2000/2001	\$4,500k*
Renovate Andrews School	Convert to School Dept. offices and pre-school; use to temporarily house Town Hall employees. (p. 6-14)	School Dept.	1999/2000	To be determined
Expand Police Dept.	Renovate/expand (p. 6-13)	Police Dept.	2000	\$100k
Expand Senior Center	Expand (p. 6-4)	COA	1999/2000	\$102k

(continued)

(Appendix 8-1 continued)

(Public Facilities & Services cont'd)				
Implement plans to obtain computerized control and monitoring system.	Implement current Water Department proposal. (p. 6-23)	Water Dept.	1999-2000	--
Strengthen water ban bylaw.	Restrict high-consumption water uses during droughts. (p. 6-23)	Water Dept.	1999-2000	--
Continue and expand Town's water conservation program.	Reduce per-capita water use through public education, distribution of low-flow fixtures, and regulation of irrigation water uses. (p. 6-23)	Water Dept.	Ongoing	--
Sewage Disposal Recommendations				
Ensure that new and existing septic systems perform in accordance with Title V.	Utilize site plan review, Board of Health Regulations, and Title V Regulations. (p. 6-23)	Planning Board/ Board of Health	Ongoing	--
Institute septic system maintenance program.	Devise homeowner education program and provide optional town-administered septic tank clean-out service. (p. 6-23)	Board of Health	Ongoing	To be deter'd; grant funding is available
Institute guidelines to control growth that would be generated by installation of sewer system.	Draft and incorporate guidelines into Town By-law limiting the future extent of the sewer system and specifying conditions under which expansion would be permissible. (p. 6-23)	Sewer Department/ Planning Board	1999-2001	--
Determine the effect of proposed sewer system on ground and surface water resources.	Work with MEPA, DEP, Charles River Watershed Association, and other appropriate agencies. Amend sewer program if necessary to protect resources. (p. 6-23)	Sewer Department	1999-2000	To be determined

* 68% of school facility expansion program costs are reimbursable to Holliston by the SBAB.

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7. Circulation

Recommendations	Action/Strategy	Department	Time Frame (Fiscal Year)	Est. Cost (1999 dollars)
Improve Downtown Parking and Circulation.	Complete Parking and Circulation study of the Downtown area, resulting in recommendations for improvements. (p. 7-20)	Board of Selectmen/ Planning Board	1999-2000	\$11 - 12,000 - Study. Chapter 90 funds can be used
Improve Washington Street from Sherborn Town Line to Highland Street, to better accommodate vehicle, pedestrian and bicycle traffic.	Conduct a Corridor Study/Feasibility Study for Washington Street. Improvements may consist of medians and neckdowns along Washington Street, traffic signals at Central and Hollis Streets and lane addition at Highland Street. (p. 7-19)	Holliston Highway Department/Board of Selectmen	1999-2001	Study - no cost to town. Design - 12% of construction costs. Construction - \$3-4 million
Washington Street/Summer Street improvements.	The State will design and fund construction. (p. 7-20)	Massachusetts Highway Department (MHD)	2000-2001	No cost to town
Woodland Street intersection improvements and roadway widening.	Request assistance from the MHD. (p. 7-19)		2000-2001	State funded
Reorganization of High School Access. (see Appendix 7-1)	Study the circulation at the High School Driveways. (p. 7-13)	School Department	1999	No cost to town other than providing volunteers for data collection
Improve Interstate 495 Signage for Holliston.	Work with MHD to provide trailblazer signs on I-495 and at I-495 interchanges to enhance Holliston's access. (p. 7-19)	MHD/Holliston Highway Department/ Board of Selectmen	1999	-

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