



TOWN OF SCITUATE MASTER PLAN



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Prepared for the Scituate Planning Board by:

McGregor & Associates, P.C.
Community Investment Associates, Inc.
Judith Nitsch Engineering, Inc.
TPMC/Perot Systems, Inc.

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Planning Consultants:

McGregor & Associates, P.C.

Ralph Willmer, AICP – Project Manager
Ezra Glenn, AICP
Mary McCrann

Community Investment Associates, Inc.

Carolyn Britt, AICP

Judith Nitsch Engineering, Inc.

John Schmid, P.E.

TPMC/Perot Systems, Inc.

Karen Fox



View of Second Cliff

LAND USE AND GROWTH MANAGEMENT

INTRODUCTION

Like citizens of many towns in southeastern Massachusetts, Scituate residents consider their town the ideal location to live, work and play. Scituate has the distinction of being able to suit their needs and still retain the flavor of a small New England town. But Scituate, like other New England towns, is actively feeling the pressure of suburbanization. Its convenient location near employment and services, traditional character, active waterfront, recreational activities, open space and expected future proximity to commuter rail make Scituate a very desirable place to live. While new growth in the community cannot be stopped, steps can be taken to control and direct new development while preserving and highlighting the town's local cultural and natural significance.

The Land Use and Growth Management element begins with an examination of current land use patterns in the Town of Scituate. These were used to project development trends and determine the nature and locations of future land uses based on current zoning. If the projections for future development do not meet the desires of the community, then the Town must intervene. By changing its

land use regulations Scituate can influence the type of growth that will occur and direct development to more suitable locations. This Master Plan element includes recommendations for how the Town can best utilize opportunities as the community grows, and address potentially problematic situations that may develop over time.

The expected extension of commuter rail and expansion of town sewer were considered very likely to be accompanied by a variety of land use changes in Scituate. These new infrastructure developments give urgency to the Town's need to plan land use in a thoughtful manner, to ensure the town's future physical development is consistent with the vision of its residents.

The synopsis of the history of Scituate's growth and development below describes the evolution of the Town's physical character and provides context for today's land use. An overview of present land use patterns includes an analysis of prominent characteristics and interrelationships between different land use areas. This is followed by a calculation of the potential maximum level of development of the Town, termed its "buildout." The Buildout Analysis shows the town's total future potential residential and commercial development based on present zoning.

The final part of this element contains recommendations for a variety of techniques to guide and control future development. The analysis of past development, present land use patterns, and forecasts of future trends indicate the most prudent choices for the Town today.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Land Use and Growth Management:

To guide residential and commercial growth in order to preserve the town's inherent character, protect sensitive environmental and cultural resources, avoid overburdening town infrastructure and services, and provide balance between multiple land uses.

To achieve this Goal, the Town has drafted the following objectives:

- 1) To promote regulatory procedures (i.e. either subdivision review or special permit decisions) that conform with the Master Plan.
- 2) To manage growth so that it does not outpace the Town's ability to provide infrastructure and services to a growing population.
- 3) To maintain town character by ensuring appropriateness of scale and density, consistency in neighborhood housing, preservation of historic structures, preservation of the character of the village centers, protection of environmentally sensitive areas, and adequate passive and active recreational opportunities.
- 4) To explore increasing commercial development consistent with the character of the Town.
- 5) To adopt zoning and land use practices which support a range of housing needs.

- 6) To plan for the expected changes to Residential, Business and Commercial¹ zoned areas associated with the construction of sewer, the implementation of the Greenbush commuter rail and other major infrastructure development projects.
- 7) To update zoning and land use practices to account for protection of Scituate's highly vulnerable water supply.
- 8) To periodically update the Zoning Map to be consistent with the Master Plan.

EXISTING CONDITIONS

Land Use Characteristics

The town of Scituate can be characterized as a coastal suburban community located along Massachusetts's South Shore. Scituate is twenty miles southwest of Boston, twenty miles north of Plymouth, and forty miles northeast of Providence, R.I. The Town's land area is approximately 17.5 square miles. Scituate is bounded by the town of Norwell to the west, Cohasset and Hingham to the north, and Marshfield to the south.

Access to and from Scituate is primarily via Routes 123 and 3A. Route 123 eventually joins Route 53 near the entrance to Interstate 93, leading to Boston. Route 3A bisects the community from north to south, separating the "West End" from the rest of town. The Greenbush railroad right-of-way also spans the Town north to south. The MBTA is currently engaged in the final stage of design and permitting to restore commuter rail service from the South Shore to Boston via this line.

Scituate still has some significant tracts of open and forested land, which are greatly valued by the citizenry for their natural beauty and scenic views. Approximately 60% of the town's land area includes agriculture, forestry, recreational open space, and protected wetlands, with some of this land currently protected as open space. However, much of this land is unprotected, with no guarantee it will remain permanently undeveloped. Nearly half of this total (3,000 acres, or 27% of the town) should be viewed as "potentially developable" under current zoning, and is likely to be built on, due to regional development pressures.

A conservative estimate of the rate of future development can be based on the average of 44 building permits per year issued from 1990 to 2000. Using this number, it is projected that each year an additional 44 new homes can be expected to be built in Scituate. The addition population which will come with these homes is estimated at 102 persons per year, of which 21 will be school children. Average water use will increase by approximately 7,650 gpd per year, and another 52 tons of solid waste will be produced.²

¹ Residential, Business and Commercial, when capitalized in this element, refer to Scituate's Zoning Districts of the same name. It should be noted that in Scituate, the Commercial Zoning District allows uses such as lumber yards; fuel and heating oil distributors; auto body, truck and boat repair; contractor's yards and warehouses. In many towns, these uses are found in a Light Industrial District. When these terms appear here uncapitalized, they refer to the ordinary meaning of the word.

² A more detailed explanation appears in the Buildout Analysis in the Appendix.

The Town has 2,039 acres of remaining developable land, which can be developed as 2,890 additional homes, based on densities allowed at current zoning. If the current growth rate continues, buildout will be reached in the year 2066. There will be 7,484 more residents and approximately 320,000 additional sq. ft. of space in the Business and Commercial Zoning Districts. Together, the new residential and commercial uses will consume an estimated 585,000 gpd of water. Information on how these projections were determined is found in the Buildout Analysis in the Appendix.

It should be noted that the state's "Chapter 40B" law makes the rate of development, and the ultimate density under buildout, much more difficult to predict, given that these developments do not need to comply with density restrictions in local zoning. Therefore, the rate at which buildout is reached, and the final population at buildout, may differ substantially from the MAPC projections.

History of Land Development

The growth and development of the Town of Scituate has a well documented history. It begins with pre-European settlement, followed by the agrarian society of Colonial times, the birth of industry, and the present suburban pattern characterized by completion of a rail link to Boston (mid to late 1800's) and since suspension of rail service in 1959, dependence on the automobile.

The European and early American settlement of Scituate occurred in a pattern that is typical of coastal New England towns. Economic activity centered around the harbor and water resources, with characteristic economic dependence first on ship building and fishing, later on changing to agriculture. After the second World War, Scituate's waterfront attracted summer visitors, and, increasingly, year-round residents. Eventually, seasonal homes would experience conversion to year round homes.

Greater economic opportunity and an increase in residential growth arose with the construction of Routes 3 and 3A. This new access would lay the countryside open for residential and commercial development. While still a rural and seaside town, Scituate had now also become a suburb of Boston, particularly with the advent of rail service in the 1800's. In this, the Town followed a growth pattern roughly similar to that of many towns within Boston's orbit.

The Town is still home to some agriculture and marine activities, but residential growth pressures have raised property values, and the town today is largely a bedroom community. Presently, both older homes and new housing are in great demand, as seen in the increasing median home prices and low vacancy rates. As pressure for development continues, care must be taken to preserve Town's historic landscapes and traditional character for future generations to enjoy.

Recent Land Use Changes

Overview

It is important to assess the status of land use in Scituate at different points in time in order to project the direction of land use change as accurately as possible. The development of any single tract of land rarely changes the overall character of a community, but over time, the development of many individual tracts will have a cumulative effect and changes in community character will slowly but surely evolve.

Table LU-1 shows the changes in land use over the approximately thirty year span between 1971 and 1999. The gains and losses in various land use categories shows how Scituate has changed, and gives some

indication as to how change is likely to continue. The percentage change between the 1971 and 1999 is also helpful as an indicator of what land uses are subject to the most pressure for conversion to other uses.

Table LU-1

LAND USE CHANGE FROM 1971 TO 1999 (ACRES)					
	1971	1985	1991	1999	% CHANGE, 1971-1999
Residential	3,759.2	3,890.7	4,089.5	4,231.4	12.6%
Forest	4,450.7	4,313.5	4,173.2	4,037.9	-9.3%
Recreation/Undeveloped/Open Space	2,175.4	2,203.8	2,180.0	2,172.3	0.1%
Agriculture	279.3	245.9	205.3	196.9	-29.5%
Water	171.6	172.7	172.7	174.8	1.9%
Retail/Business	89.0	90.8	86.2	89.5	0.5%
Light Industrial/Industrial	46.7	53.2	68.4	79.4	32.7%
Mining	66.3	6.9	6.9	0.0	-100.0%
Waste disposal	12.4	61.5	61.5	61.5	396.0%
Transportation	0.0	11.6	6.9	6.9	n/a
TOTAL	11,050.6	11,050.6	11,050.6	11,050.6	0.0%

Source: MassGIS (2001); McGregor & Associates (2001)

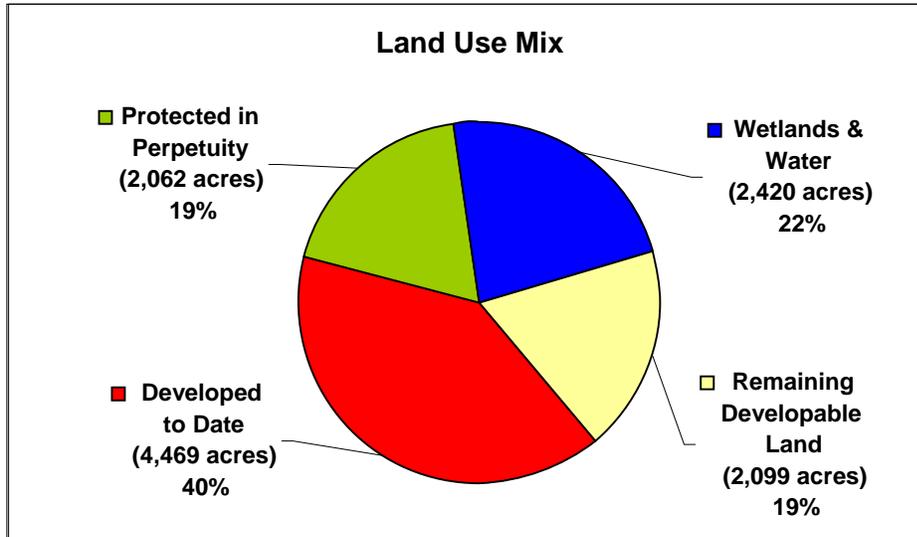
From 1971 to 1999, developed residential lands—already fairly dominant in 1971 in relation to other uses—increased by 12.6%, or a total of nearly 500 acres. Total acreage converted to other uses from farmland and forest equaled about 500 acres, or roughly 4.5% percent of the total land area in town. This loss correlates with the increase in residential uses and reflects the accelerating pace of development in town. In order to retain a rural/open space character, it will be important to preserve some of Scituate’s significant remaining tracts of agricultural and forest land.

Over the past 30 years, business uses in Town have not increased their proportion of land area. Industrial uses, representing only 46.7 acres of the land in 1971, have grown nearly 33% (approximately 33 new acres). This increase is somewhat offset by the loss of 7 acres devoted to mining operations, presumably representing the redevelopment of Boston Sand and Gravel. After the proposed MBTA land takings occur, commercial land uses will be significantly reduced. The Town should seek to replace this land by rezoning other property.

Land Use Mix

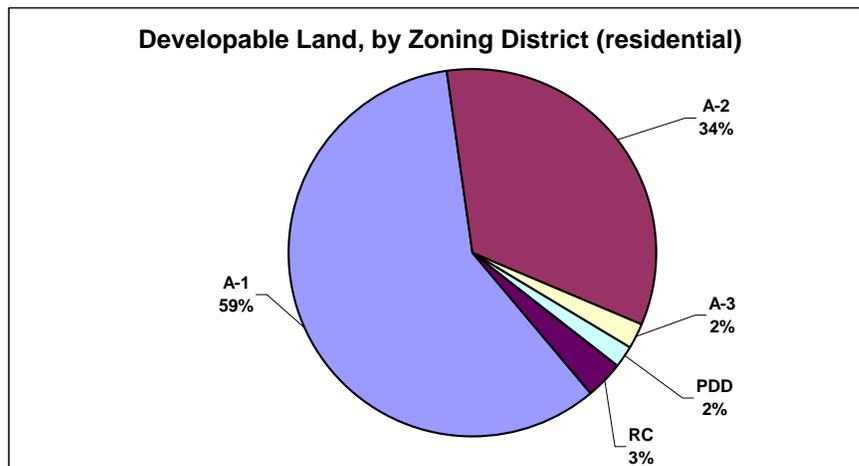
The proportional relationships between the major land use categories of developed land, protected open space, wetlands, and unprotected and undeveloped land in 1999 are shown in Figure LU-1.

Figure LU-1



The category of developed lands includes residential, retail/business, light industrial/industrial and built infrastructure, and in total, covers less than 40% of Scituate’s total land area. Protected developable land, undevelopable wetlands and vacant, unprotected developable land together comprise the remaining 60% of the total land area of Scituate, or approximately 6,500 acres. About 4,500 acres will probably never be developed because it is owned by the Town as park or conservation land, is subject to private deed restrictions, or is protected under the State’s Wetland Protection Law. The remaining 2,039 acres should be regarded as “potentially developable,” and includes forests, farms, and other property with no legal or deed restrictions on development.

Figure LU-2



Utilizing MassGIS land use data from 1999, it is possible to tally and compare the proportion of developed land uses in town, as presented in Figure LU-2. These findings provide strong evidence of the predominant developed land uses in the community. This figure shows the proportion of developed land uses in Scituate, excluding those for infrastructure and services and low-intensity development (agriculture

and recreation.) Residential uses, at nearly 96%, consume the vast majority of the developed land in town. Developed Business and Commercially zoned land currently occupies a very modest area in Scituate.

This finding demonstrates that demand for residential development has clearly dominated land use in the community. The consistent nature of this trend in the past supports the expectation that this pattern will continue in the future.

Residential Land Uses

Scituate has three Residential zoning categories, Residential A-1, A-2 and A-3, with minimum lot sizes of 40,000, 20,000 and 10,000 sq. ft., respectively. Single family homes and duplexes are permitted, but multi-family development of more than two attached units is not allowed in the Residential Zoning Districts. Multi-family development is allowed in the Business Districts with a minimum lot size of 10,000 sq. ft. per unit.

The majority of the Town's vacant developable land lies within the Residential A-1 and A-2 Zoning Districts. In the Buildout Analysis contained in this element, these zones account for over 78% of expected future residential growth. In the Residential A-3 District, only limited infill development can be expected. The extension of commuter rail can be expected to be a strong stimulus to residential growth in all parts of Scituate, as the proximity to the train makes the town even more desirable as a place to live. The varied patterns of development in the three Residential Zoning Districts reflect the historic pattern of development in Town, with neighborhoods of different densities and character. Each of these districts has particular land use characteristics which are distinct from those of other sections of Scituate.

The Residential A-1 Zoning District is located in the West End section of Scituate, its acreage graced by winding roads flanked by woods and stone walls. This district still has large tracts of open space. The land in this area has some of its original rural character and also contains much of the watershed for the Scituate Reservoir. Environmental issues, particularly with regard to protection of water quality, are an important concern. Infrastructure in some areas needs to be upgraded to serve new construction. For example, water pressure is inadequate for large developments in some areas, and development generally requires new roads.

In the Residential A-2 Zoning District, the 20,000 sq. ft. minimum lot size allows smaller tracts of land to be developed as multi-lot subdivisions. Much of this land, like the West End, has high groundwater, poor drainage and soils inadequate for septic systems. Specialized drainage facilities and mounded septic systems are often necessary, but these are sometimes difficult to integrate with the surrounding landscape. A large area lies within the Water Resource Protection District. The Lawson Tower, Dreamwold, Town Common, Cudworth House and other well-known historic sites are in this District. New development at relatively high densities has potential for significant impacts on the environment and the historic character of surrounding neighborhoods.

The Residential A-3 Zoning District, located along the water's edge, covers much of Scituate's coastline. Flood protection is critical in this District, but views of the shoreline are threatened by densely developed, elevated homes fronting on the water. Mansionization is a concern because of the small lots typically found here (10,000 sq. ft. and less.) There is a real need for some open space and recreational facilities here, although little vacant land remains in this District.

Single family residential development is responsible for the pattern known as suburban sprawl, where many square miles of a community are consumed by regularly spaced housing that often reflects little of

the traditional local character. The strong market for new residential development, combined with substantial acreage zoned for large lots, mean that the town's pattern of new building will consume large amounts of land. These new growth patterns have the potential to put many of Scituate's assets at risk. This form of development has had statewide impact, resulting in land consumption far outpacing population growth³.

For typical single-family development, it is unlikely that this form of Residential zoning will change radically in the near future. However, alternative scenarios that promote the protection of rural character and open space preservation can be encouraged through directing development to a small area of developable land in a given parcel, while preserving sensitive areas as open space. The protected open land can result in homes that still have the desired spacious feel of the more traditional pattern. These techniques can be used to preserve large contiguous tracts of open space in the A-1 District, and provide suitable buffers between new developments and older homes or scenic areas in both the A-1 and A-2 Districts.

The following principles should be reflected in zoning for open space conservation subdivisions:

- determine which natural features are to be preserved on the site;
- allow same number of new units as permitted under conventional zoning, but add bonuses for provision of affordable units, open space that connects to public resources, and where appropriate, protection of sensitive environmental areas.
- configure lots to "cluster" homes on least-sensitive areas;
- preserve open spaces and natural resources, usually through Conservation Restrictions or dedication of land;
- layout roads and trails to preserve and enhance natural features and views;
- use in conjunction with historic preservation efforts.
- preserve wildlife corridors by linking contiguous open spaces and reducing fragmentation of wildlife habitat.

It is important to note that there is no set formula for a successful conservation subdivision—each project must be custom-made to reflect the natural features of the site and the character of the surrounding community. Good development practice for these subdivisions is distinguished by accurately assessing, and preserving, the natural values of a property.

The Scituate Zoning Bylaw includes several of these alternative development scenarios in its Residential Cluster, Residential Compound, Open Space Preservation Development, and Flexible Open Space provisions. These development scenarios can also accommodate multi-family housing (see paragraphs below at the end of this section.) However, incentives may be needed to encourage the use of these techniques. Some incentives that have been effective in other towns include allowing approval of open space subdivisions by right, with Site Plan Review rather than a Special Permit.

The town may want to allow a higher density for open space subdivisions where the development includes some units that will be deed-restricted as affordable housing, when open space of particular value to the community is obtained or some other public benefit is provided. This should be done through a Special Permit process to give the Town the ability to secure benefits of meaningful value.

³ This is born out by comparison of the population density in Massachusetts in 1950 (11.19 persons per acre) and today (4.97 persons per acre.) (Statistics from Mass. Audubon Society)

Both the by-right and Special Permit processes should include strong incentives for developers and their engineers to work with the town early on, so the Planning Board and other town officials have a real ability to influence the end result. Technical assistance from groups like The Alliance for Green Neighborhoods can be used to encourage collaboration between neighbors, developers and boards, and promote cooperation between boards, and thereby create a very effective review process.

The technique known as Transfer of Development Rights (TDR) can provide the dedicated public open space needed to achieve high environmental quality, preservation of agricultural land, and connected open spaces in residential areas. TDR enables the owner of an undeveloped tract of land in a designated “sending district” to sell development rights of that parcel to the owner of a parcel in a designated “receiving district,” where higher densities are acceptable. This technique allows land that contains valuable open space or historic buildings to be preserved, while other parts of town can be developed where new or additional development is more suitable. More information on TDR is provided in Recommendation OS-8 in the Open Space element.

Scituate’s recent adoption of the Community Preservation Act (CPA) with a 3% levy provides a dedicated funding source for the three purposes of open space preservation, affordable housing, and historic preservation. Money collected at the local level is matched by state CPA grants, raised through surcharges on filings at the Registry of Deeds. The Town should continue to use the funds provided to purchase open space where residential development pressure is strong so it can be permanently preserved.

The nationwide trend of construction of very large new homes with a nonspecific style is beginning to change the character of many Scituate neighborhoods. The Town may want to adopt zoning to limit floor area ratios or lot coverage, or control the dimensions of gabled dormers and other architectural elements, to encourage building more compatible with traditional New England styles.

The Zoning Bylaw currently allows substantial increases in height for nonconforming homes located close to side-line setbacks. This has resulted in expansion of small seasonal cottages which have become much larger homes, in the coastal neighborhoods of Cedar Point, Sand Hills, Minot and Humarock. The town may want to review this policy to be sure that the effects on these areas are fully considered.

Multi family dwellings offer a type of housing that is less expensive to construct than single family homes and can offer affordability for young families and single people. Multi-family housing is allowed in all the Business Zoning Districts, but very few parcels can accommodate the present minimum lot size of 10,000 sq. ft. per unit. As explained in more detail in the section on Business/Commercial Land Uses below, greater residential density in the village centers brings activity to the streets and is desirable from an economic standpoint. Because Greenbush and North Scituate are small villages with an understandable scale, and because of the great benefit of proximity to transit, they would be excellent locations for multi-family residential development. Because Greenbush abuts the Old Oaken Bucket drinking water reservoir, any development here must be protective of water quality.

The Zoning Bylaw must be amended to establish a more realistic density for multi-family development in the Business Districts. A higher density should be used as the base, with some affordable units required in each development. This density can be increased under circumstances where there is a clear public benefit, such as provision of rental housing or a higher number of affordable units than required, or preservation of a historic structure. This type of residential development should have a design and scale consistent with the surrounding buildings, with materials and style compatible with the historic character of the villages.

Some types of multi-family development may also be appropriate in the Residential Zoning Districts. The Zoning Bylaw contains a description of an E Zoning District which permits multi-family housing, which was never implemented because no locations where it would apply were ever identified on the Zoning Map. The development allowed in this District as described in the Bylaw would consist of structures of up to twelve units, with each building required to have changes in the front plane of the façade for a better appearance. This concern for the appearance of the structures, together with provisions for landscaping, parking, ample setbacks from lot lines and between buildings, and land for recreation, would result in attractive multi-family housing that was well-designed.

A minimum lot size should be required for multi-family housing in the Residential Zoning Districts to make sure there is adequate space for parking, landscaping, and buffers. A density bonus should be provided if some permanently affordable units are included with the development.

Business and Commercial Land Uses

Scituate's Business and Commercial Zoning Districts are located in four centers: Greenbush/ Driftway, North Scituate, Scituate Harbor and Humarock. There is a Harbor Business and General Business Zone which have the same uses and dimensional requirements. A Commercial Zone allows what are usually considered Industrial or Light Industrial uses. Site plan review is required for all new or altered non-residential uses or structures, and site plan special permit review is required when those uses generate a demand for more than five parking spaces.

The Greenbush line is slated to have two stops in Scituate, in North Scituate and Greenbush. These train stops will attract residential land uses which support and enhance the existing "village centers," with some spin-off of retail and services to meet the needs of the new residents. North Scituate and Greenbush centers will be organized around these transit nodes. By concentrating development around these nodal centers, Scituate will be able to protect open space and other natural resources elsewhere in the town. This pattern of development and its organizing principles, generally referred to as Smart Growth, will encourage the preservation of many of the characteristics of Scituate that are desirable, while accommodating the residential growth that is projected to occur. The town will likely need to adopt some new zoning tools, such as Transfer of Development Rights, in order to steer development to the desired locations.

The Town should adopt zoning for Greenbush, North Scituate and Scituate Harbor that encourages mixed use, with the parking located behind the buildings or in a common, landscaped lot. The buildings are brought closer to the street on smaller lots with reduced off-street parking requirements. Reducing the scale of the buildings will also help improve the aesthetics of the area. The aesthetic character can be further enhanced with design guidelines and landscaping requirements.

There will be large paved parking areas associated with the new transit stops. The Town is seeking to obtain landscaping for these lots from the MBTA, and a berm is proposed as a buffer to conceal them from the Driftway. The proposed parking and road reconfigurations have stimulated the Town to consider the need for streetscape improvements, both to create a functional network of pedestrian connections and maintain the charm of the villages to the greatest extent possible. Their appeal can be increased by the addition of street amenities and public spaces.

Zoning for these villages should encourage pedestrian connections, attractive landscaping and similar amenities which will attract shoppers and promote these areas as thriving economic centers. Pedestrian amenities make village centers more pleasant places to linger and shop. They include attractive sidewalks,

paved walkways to access businesses and safe street crossings. A mix of uses in the villages, including residential, would attract more pedestrian traffic.

Adequate parking is always a major concern for businesses. Business owners want to ensure that their customers have ample room to park, while providing unnecessary spaces can waste valuable land and is viewed as an eyesore. There may be numerous opportunities for shared parking if buildings are built close to each other or if the parking needs occur at different times of the day, and agreements between the owners can often be easily obtained. Parking for occasional high traffic volumes can be provided by using grass for overflow parking, rather than paving large areas which will only be occasionally used.

Parking lots, roads, and driveways are a major source of polluted stormwater runoff. Because Greenbush Village abuts a water supply reservoir and two tributaries (Clapp and Tan Brooks), special care must be taken there to reduce the water quality impacts of increased development. State-of-the-art techniques should be used to minimize and mitigate the impacts from parking lots, roadways and other impervious surfaces in Greenbush Village, particularly in the "Zone A" areas around Old Oaken Bucket Pond and Clapp and Tan Brooks.

From a visual perspective, landscaping softens the impacts from new development and thereby helps to maintain the character of a community. Existing vegetation should be maintained, and indigenous plants used, whenever possible. Landscaping requirements should include plantings to enhance the aesthetics of a project site, and green space between the parking and the building to break up the uniformity of asphalt and concrete.

Vegetation along the edge of parcels occupied by Business and Commercial uses would soften the edge and present a more visually aesthetic perimeter to the village centers. Landscaped buffers help protect residential uses from the noise and fumes of traffic, and the high level of activity associated with many businesses.

Scituate has an active Design Review Committee which makes recommendations on the architecture and site design of many proposals in the Business and Commercial Zoning Districts. Although the input of the committee is advisory, it has proven very helpful on certain projects. Language should be incorporated in the Zoning Bylaw to formally establish this committee as a required step in site approval. This would make it clear to applicants that good design is important to the Town.

The sign code currently allows very large signs in the Business District. The maximum size should be reduced to prevent signs which dominate the streetscape. Limited height restrictions will help protect the Town's water views and enhance the development of Scituate Harbor and the surrounding area. Height controls on residential and commercial development in this area should be adopted as part of a Coastal Preservation Overlay District which could also include limits on lot coverage or floor area ratio to prevent overbuilding. This District could also be used to encourage access to the water in Scituate Harbor with some emphasis on water-dependent uses along the waterfront.

In Scituate, uses like contractor's yards, landscaping businesses, and wholesale storage are allowed in the Commercial Zoning District. In many towns, these uses are found in an Industrial or Light Industrial Zoning District. These Commercial uses have potential to diversify the tax base, support local employment, and enhance the overall fiscal vitality of a community. They are typically noisy, produce heavy vehicle traffic, and may have other impacts not welcome in residential neighborhoods.

It is noted that there is a shortage of available commercially zoned land in Scituate, which was exacerbated by the land takings for the Greenbush commuter rail parking and layover. According to the

MAPC Buildout Analysis conducted in 1999 as updated in this Plan, there is little room for expansion for these types of uses, and there will be even less after additional land is taken by the MBTA to complete its commuter rail expansion plans. Additional land should be zoned Commercial to allow sufficient area for the uses that occur in this Zoning District. Rezoning proposals must incorporate protection of the town's vulnerable water supplies.

Zoning for the Business and Commercial Districts reflects out-of-date land use classifications. These should be updated to include current retail, office and service uses after careful study of similar districts in other towns. It may be desirable to use the Harbor Business District to encourage access to the Harbor where it can be provided by businesses not subject to Chapter 91, to promote water-dependent uses, develop special parking requirements based on the availability of space in Cole Parkway, and in other ways capitalize on the waterfront location.

There are a number of businesses located in the Residential Zoning Districts as nonconforming uses. Many of these began before zoning was enacted and therefore do not conform to current regulations. Often there are conflicts with adjacent residential uses. Customer traffic and deliveries may be seen as unduly noisy, and odors may call for control. If existing commercial and industrial buildings must be replaced due to fire or other catastrophe, zoning provisions should limit the time in which rebuilding can occur. These should also dictate that the same footprint of the original structure must be used, and other provisions of the current bylaw must be met wherever possible. Buffers between businesses and residential uses should be required for new businesses, including those that change or expand within Residential Zoning Districts.

Protected Lands and Natural Resources

Within Scituate's boundaries lie tracts of open land that remain from an agrarian and coastal past. These resources are significant for conservation and recreational interests but many are subject to intense pressure for residential development. Many lots are clearcut prior to development, removing stands of trees that screen the property from the road, contribute to air quality and provide wildlife habitat. Scituate may want to consider adopting a bylaw to limit clearcutting, similar to those of other communities. In addition, the town should rework existing open space conservation subdivision rules so that they are easier for developers to use and are more effective at identifying and protecting environmentally sensitive lands. Information on specific recommendations for preserving open space are offered in the Open Space element of this Master Plan.

Since the Water Resource Protection District was first delineated, Scituate's Zone II's and Surface Water Recharge Area have been redefined using modern scientific tools. This watershed protection Zoning District needs to be redefined to insure the right area will be sufficiently protected. DEP has standard language for restrictions on uses and activities in this area. The Town should be sure to include Scituate land within the Aaron River Reservoir, and coordinate protection of Scituate watershed within the Town of Norwell with that town.

The DEP Water Withdrawal Permit limits withdrawals by the Town of Scituate to 1.73 million gallons per day. As of October, withdrawals for 2003 averaged 1.71 mgpd. The town should determine the safe physical yield of its water supply, and must continue and strengthen efforts to conserve water, while planning for expansion of the supply in order to have water to meet the needs of new businesses and residential development. The town may need to consider growth control measures to ensure that the pace of development does not outstrip the town's ability to provide water or other basic needs.

The town's ability to expand the water supply is constrained by physical and environmental realities. In order to obtain a permit to expand the water supply, the town must be able to prove to state regulatory agencies that the additional withdrawals will not deplete groundwater or surface water and will not damage the natural ecosystem.

Scituate's Flood Plain and Watershed Protection District has been in place since 1972. The Zoning Bylaw also includes a separate Flood Insurance District, adopted to implement FEMA (Federal Emergency Management Agency) requirements for zoning. These two districts should be combined into one for the sake of clarity, with regulations that reflect current FEMA requirements.

LAND USE CONCEPT PLAN

The Land Use Concept Plan was generated from discussions with the citizens of Scituate through Public Forums on Land Use held on April 26, 2001 and June 18, 2001 during the development of this element, and input from members of Town boards and commissions. A synopsis of these forums is contained in the Appendix to the Master Plan. It consists of a series of "key principles" that the Town should bear in mind as it makes specific decisions about allocation of its resources and development of its priorities. These principles represent a framework for the Town's efforts to plan for its future.

The guiding principles for Scituate's Land Use Concept Plan are as follows:

- **Limit development in sensitive areas.** Wetlands and streams within the drinking water supply watershed are some of the most environmentally sensitive areas in Scituate. Barrier beaches, subject to continual erosion and overwash, and vernal pools and other areas that support threatened and endangered species are also in need of protection. In order to protect these critical resources, opportunities to preserve existing open space in these areas should be secured.
- **Preserve Scituate's coastline and water views.** The natural quality and intrinsic character of coastal areas should be protected to the maximum extent possible. Such areas are extremely attractive to potential homeowners, yet over-development presents numerous risks to a fragile ecosystem. Valued activities as shellfishing have been largely curtailed due to pollution problems. Development of coastal areas should be carefully controlled to minimize the risk of flooding, protect natural resources and preserve the traditional character of the area. Acquisition of available open space should be prioritized with special consideration given to protection of views and purchase of flood-prone land. Access to the coast for all residents should be enhanced so that Scituate residents and visitors alike can take advantage of this scenic resource.
- **Make strategic infrastructure investments.** Adequate infrastructure will be key to the successful development of Scituate. One of the key investments that the town can make to ensure that the appropriate areas can be designated for higher densities is construction of public sewers. Additionally, road and sidewalk improvements, and the stormwater management infrastructure that will be necessary to deal with the increased amount of impervious surface created will be needed to support the changes that may be expected as a result of the MBTA Greenbush and North Scituate stations.

- **Reinvigorate the Harbor.** Scituate Harbor is one of the key focal points of the town, and an obvious destination for visitors from land and sea. Its character should be enhanced and the village scale protected through the use of design guidelines and the creation of a Coastal Overlay District. This overlay district, which can include land beyond the village which surrounds Scituate Harbor, can encourage water-dependent uses in Scituate Harbor and protect views by limiting the height of buildings closest to the water.

- **Increase density and encourage mixed use in village centers.** The Town needs to concentrate new construction in already developed areas where infrastructure is readily available and new homes can be built without the necessity of creating additional vehicle trips. Any increase in residential density must correlate with sewerage priorities and respect the character and scale of the village center. Increased density should be a high priority in the village centers, including commercial infill in Greenbush and increased residential development in all the villages. Increased development in Greenbush village must be protective of the town's water supply.

On the first floor of most buildings in the business centers, retail can benefit from foot traffic and easy access, and is an appropriate use that should be encouraged. On the second and third floors of these buildings, residential use should be encouraged. It is essential to obtain deed-restricted affordable housing in multi-family developments of more than a small number of units. The town should also strive to obtain rental housing in the village centers.

- **Make Greenbush and North Scituate attractive, enjoyable places.** Higher density development can be pleasing if care is taken with the details of architecture, building size and scale, landscaping and streetscape improvements that accompany new construction. Design standards and guidelines for signage, awnings, sidewalks, street amenities, parking and landscaping are a key ingredient to ensuring that the villages grow in a way that is gratifying to the inhabitants of the town.

- **Encourage diversity of housing types.** Scituate has historically had a diverse community with respect to age, income and ethnicity. To preserve this character, it is important to offer a variety of housing types suitable for different ages and incomes. Increased multi-family housing within the village centers can bring residents who support local businesses, make the streets lively, and transform them into vibrant communities. In other locations, it can provide housing that may be more affordably priced than single family homes.

- **Keep development in scale.** It is crucial that as densities rise, new building is compatible with the scale of the village centers and other traditional development patterns. Two characteristics which make Scituate a desirable place to live are the combination of natural beauty and human-scaled buildings. Maintaining the intimacy of the place will be an important component of successfully keeping Scituate an attractive town, with strong property values.

- **Create attractive “Gateways”.** Greenbush, Route 123 and the Route 3A “Greenway” are natural gateways to the Town. The Route 3A Greenway carries a significant volume of traffic through town, and makes a lasting first impression on residents and visitors. Currently, there are large tracts of open space, water resources, and some residential development along the corridor.

In the past five years, two tracts in key locations have been rezoned to allow Business uses. The Town should strive to maintain this attractive corridor, which is unique in largely lacking commercial development. The one hundred foot setback in place for future development should be maintained to the greatest extent possible.

- **Link assets of the Town.** Recreational, historical, and cultural trail networks should be established and linked for biking and walking. There are numerous existing networks, yet many of them end abruptly and cannot be easily accessed in continuous manner. For more detail regarding this concept, see plan elements relating to open space and historic resources.

Scituate still retains some of its historic New England character, but the community is experiencing suburbanization. Because of its assets, the pressures for new residential development are mounting. While new growth in the community, along with its associated changes, cannot be stopped, steps can be taken to control and direct new development that will preserve and even highlight the town's local cultural and natural significance.

Careful consideration of alternatives, willingness to consider new concepts, and readiness to adapt to new conditions will help the town realize its land use objectives. The following recommendations are set forth below to implement the Land Use Concept Plan described above s section and provide guidance to help the town achieve its vision for its future.

RECOMMENDATIONS

LU-1 Increase Opportunities for Local, Small-Scale Commercial Development in Mixed-Use Village Centers

- 1) Update zoning and other regulations controlling land use for all of the town's village centers. Allow mixed use with Site Plan Review rather than a Special Permit where retail or services are on the first floor, residential or office on the second and third floors, as long as adequate parking is provided.
 - Develop a Table of Uses to reflect actual uses in the Business District. The retail business uses intended for this area could include bookstores, flower shops, tailors, shoe repair, hairstylists, restaurants, copy and printing shops, dry cleaners, computer repair, and similar small scale uses. Professional offices could include real estate, medical/dental, insurance, travel agencies, and computer consulting services.

Uses proposed to be prohibited include those occupying areas greater than 25,000 square feet (as was done in certain villages in Plymouth, for example). Specific land uses to prohibit include fast food restaurants (defined as a restaurant that has multiple cash registers for take-out or a certain volume of take out business), any use with a drive-thru window, warehouses, storage facilities, manufacturing and any other uses which are typically noisy, not conducive to pedestrian traffic, or generate large volumes of traffic. In addition, local and state regulations will prohibit certain high-risk land uses within the water supply areas near Greenbush Village.

- Amend dimensional regulations for the Business Districts. Minimum lot sizes should be designated for the Business District, for example, 3,000 sq. ft. to accommodate small businesses and residential as long as adequate parking can be provided. A reasonable minimum lot size should be established for multi-family development. Frontage requirements could be as little as twenty feet.

These new dimensional requirements should include reduced setbacks. The front yard setback can be based on a zero lot line concept (where buildings are constructed on the lot line with no setback) on the first floor and further back for higher stories (ten to twenty feet for the second floor where practical). Since buildings in a village setting are often built adjacent to one another, a zero lot line concept should be employed for the side yard setback.

- The method for measurement should be revised so the Town can better control the height of new residential and commercial construction.
- 2) Give high priority to sewerage the village centers. Sewerage North Scituate and the Town's other village centers will help maintain existing businesses which provide valuable services and contribute significantly to the tax base. The town should strive to sewer North Scituate, where several important businesses have failing systems, within the next five years.

LU-2 Identify Land Appropriate for Rezoning to Commercial.

Some new land area must be zoned Commercial to give the types of businesses that typically locate in this District a place to go in Scituate. It will be difficult to project the impact of the layover and large parking lots on Greenbush before they are built, but most likely, some of the land near the layover will be suitable for this rezoning. Water supply impacts should be considered prior to rezoning efforts.

LU-3 Protect Community Character in Village Centers By Adopting Landscaping, Pedestrian Amenities and Design Review Regulations in the Zoning Bylaw.

- 1) Landscaping. The Town should adopt landscaping requirements for all new businesses which should include foundation plantings, areas of green space between the street and buildings or parking, vegetated buffers, and plantings within parking and, wherever possible, surface drainage areas. Landscaping should strive to provide water quality, as well as aesthetic, benefits. Landscaping requirements should stipulate a minimum vegetated area, including the number of trees and other plants for a given number of parking spaces, and describe the type, density, and placement of tree and shrub plantings. Maintenance of all landscaping and replacement of plants which die should be included as a standard condition for site plans for new businesses and changes of use.

Vegetated buffers should be required between private homes and Business or Commercial land uses. Landscaping bylaws can establish how wide the buffer zone should be and the degree to which natural vegetation should be maintained for such a buffer. The Town should landscape its own public spaces and parking areas.

- 2) Pedestrian Amenities. Crosswalks and traffic calming measures such as speed tables, chicanes (curb extensions that narrow the travel width of a roadway), and chokers (curb modifications or landscaping placed mid-block to narrow the roadway) should be incorporated into the design of the village centers. Bicycle racks should be provided to encourage bicycle use as an alternative to automobiles.

The Town should implement the recommendations of the Greenbush and North Scituate design studies now in progress for streetscape improvements for Greenbush and North Scituate. The Town should continue to work with the MBTA to coordinate installation of these improvements with construction of the Greenbush commuter rail.

- 3) Design Regulations. The Town should formalize the current Design Review process by making it applicable to all site plans where Planning Board review is required. The Town should develop illustrated design guidelines separate from the Zoning Bylaw to show property owners what is expected for new commercial development. The Zoning Bylaw should be amended to reflect more desirable dimensions for commercial signs.

The Town should adopt a Coastal Preservation Overlay District for Scituate Harbor and the surrounding area from Cedar Point to First Cliff, and other coastal areas. This District would include height controls on residential and commercial development, and limits on building setbacks, lot coverage and/or floor area ratio to prevent overbuilding. A reasonable height restriction in this district would be that buildings could be no higher than 30 feet.

The recommendations of the Economic Development element provide additional detailed strategies to enhance the village centers and Business Zoning Districts.

LU-4 Update Parking Standards in the Village Centers.

Parking should be constructed behind the buildings in the village centers so it is less obvious from the street. This allows the stores and offices to front on the street, making them more inviting for pedestrian traffic. Landscaping for parking lots should strive to provide water quality, as well as aesthetic, benefits. State-of-the-art techniques should be used to minimize and mitigate the impacts from parking lots in the sensitive water supply areas around Greenbush Village.

To ensure that there is not an excess of parking, the Town should estimate the total gross floor area of the commercial establishments in each village and compare it to the number of available parking spaces. Current parking standards should be revised to reflect newer parking projections for different land uses. Parking requirements should be made more flexible and should encourage shared parking, so that new off-street parking is not necessary for every new business that seeks to open in Scituate.

LU- 5 Preserve Community Character in Growing Residential Areas.

The Town should investigate the use of Transfer of Development Rights to preserve open space in key locations. The Town should adopt zoning to allow open space or cluster development by right. This can be accomplished through requiring a Definitive Plan with Site Plan Review. The Open Space Preservation Development bylaw can be used as the basis for this type of zoning. For a development that will alter the minimum lot sizes or include density bonuses, a Special Permit is recommended.

The Town should adopt lot coverage requirements or provisions to control expansion of nonconforming structures to prevent overbuilding in areas of small lots, e.g. the coastal zone, and to control the trend towards “mansionization” that is beginning to affect the character of some neighborhoods.

LU-6 Use the Community Preservation Act to Preserve Open Space, Create Affordable Housing and Protect Historic Resources.

The CPA Committee should carefully prioritize requests for funds, and proposals which satisfy several interests of the Act should be ranked highly. Public Hearings and committee meetings on recommendations to Town Meeting should be well publicized, so citizens feel welcome to participate. The CPA Committee should also utilize input of Town departments who may have information about the Town's needs in particular areas.

LU-7 Protect the Town's Sensitive Environmental Areas.

The Water Resource Protection District should be revised to reflect the most current information on Zone IIs and the watershed to First Herring Brook and the Scituate Reservoir. The revised Water Resource Protection District map can aid in determining the "donating" and "receiving" areas for TDRs (see LU-4 above).

The Water Resource Protection District Bylaw should be reviewed periodically and updated as necessary to ensure that it meets state regulations and current knowledge about water supply protection. Zoning for water quality protection should be reviewed to make sure the town is obtaining sufficient information on quantities of toxic and hazardous materials used in the Water Resource Protection District, and that nonconforming businesses that could potentially impact the water supply are phased out, and not permitted to expand. Regulations pertaining to erosion and sedimentation control, stormwater management, lot coverage, and water conservation should be reviewed and updated as needed to protect the town's sensitive environmental resources.

The Town should adopt bylaws to prohibit clearcutting, and insist that developers maintain trees which were required to be retained on the site. Developers should be required to promptly clean up construction debris, stockpiles of loam and other materials before a subdivision can be deemed complete to prevent unnecessary erosion, and enforce earth removal bylaws which prohibit long-term stockpiling of soil, rock, and other excavated materials.

The Town should revise its zoning for flood protection by consolidating the two Zoning Districts that currently exist, into one district which would include FEMA requirements and continue to discourage new construction in the flood plain.

LU-8 Encourage Diversity of Housing Types.

The Town should adopt zoning for the Business Districts which calls for a density of below 10,00 sq. ft., at possibly 2,500 to 5,000 sq. ft. per unit for multi-family housing. This area would allow sufficient space for the unit itself, with its parking, some landscaping, and circulation in the parking lot. From 10 to 15% affordable units should be required in all multi-family developments in this Zoning District. Under Special Permit, it could be possible to increase this density by a substantial portion if rental units were provided or other desired criteria were met. In the Greenbush Village area, required limits on impervious surfaces will place a constraint on the density of development near Old Oaken Bucket Pond and Clapp and Tan Brooks.

The E Zoning District should be adopted as an overlay for the Residential Zoning Districts. The provisions of this district may need some modification to make sure appropriate landscaping, buffers, and architectural controls are included. Three to twelve units per structure should be permitted. All developments should be required to include affordable units.

A density bonus should be provided for single family or multi-family developments. Affordable units should be required on a graduated scale, for example, ten to fifteen per cent of housing units. If 15% affordable units are provided, an increase of up to 15% of the units would be permitted, depending on the availability of adequate septic waste facilities. The Town should continue to pursue development of affordable housing using funds obtained through the CPA.

LU-9 Ensure compliance with the Zoning Bylaw and conditions of subdivisions and Special Permits.

It may be necessary to add staff to make sure enforcement can keep up with the pace of new development. In addition, the town should adopt non-criminal disposition as a way to encourage compliance with zoning.

APPENDIX
Buildout Analysis

The buildout analysis is a land planning technique that predicts the greatest possible amount of development that can occur within a given area, utilizing the minimum lot sizes and other parameters of the current zoning bylaw. This tool provides insight on potential future burdens on community infrastructure. During the process of determining buildout, a projected rate of future growth is calculated based on past growth trends. This can be used to estimate the length of time needed to reach buildout, and can also provide some insight into the time that it will likely take for the study area to reach certain growth thresholds, such as when an additional school will be needed. With the likely pace of future growth ascertained, the community can plan accordingly.

To calculate buildout, it is necessary to determine the maximum amount of buildable land that is available for development. Areas deemed unbuildable land, include water surface, wetlands, floodplains, and protected open space, are subtracted out of the total land area. Standards for land development described in the local zoning bylaw are then applied to the remaining land area, and the figure that results equals the potential buildout.

MAPC’s Buildout Analysis

In 1999, MAPC completed a Buildout Analysis for Scituate under EOEAs Community Preservation Program guidelines. This analysis evaluated the remaining undeveloped land in the Town, subtracted out land that was absolutely constrained (e.g., wetlands, floodplains), and applied the existing zoning to the remainder. The final results predicted the buildout figures presented in the table below.

MAPC BUILDOUT	
New Residential Lots	2,538
New Dwelling Units	2,890
New Future Residents	7,484
New Students	1,314
Increased Residential Water Use (Gal/day)	561,296
New Comm./Industrial Buildable Floor Area (sq ft)	320,850
Increased Comm./Industrial Water Use (gpd)	24,064
Increased Municipal Solid Waste (tons)	3,839
Increased Non-Recycled Solid Waste (tons)	2,730
New Roads (miles)	41

These figures are all based on a remaining “developable land” area of 2,039 acres (88,829,792 sq. ft.), current zoning, and the various multipliers used by MAPC and EOEAs (e.g., number of new residents per dwelling, number of new students per dwelling, average water use per resident, etc.)

Update to the MAPC Buildout

Although it is based on a standard methodology implemented by EOEA across the State, MAPC's Buildout Analysis can be modified to reflect more recent information.⁴ As one step in the development of the Master Plan, this Buildout Analysis was modified to reflect more current data and assumptions about the Town.

Their Buildout Analysis was updated to make use of more current Census 2000 data to revise the default multipliers used by MAPC. The MAPC Buildout was completed before the recent Census 2000 data was released. As a result, the multipliers used to generate figures for new residents and new students reflect slightly antiquated assumptions, as indicated in the following table.

BUILDOUT MULTIPLIERS		
	Multiplier Used in MAPC Analysis	Multiplier based on 2000 Census Data
Future Residents/Dwelling	2.59	2.32
New Students/Dwelling	.4548	.4828

This shows the average number of people living together in a dwelling unit has dropped slightly, but the percentage of school-age children has risen slightly. (Though this may at first seem contradictory, it can in fact result from a demographic shift, which increases the number of school-age children at the same time that there is a decrease in some other component(s) of the population.) Since MAPC's other buildout figures (water use, solid waste) are derived directly from the figures for future dwelling units, these numbers will change slightly as well. Applying these changes, revised buildout figures can be derived as shown in the table below.

REVISED BUILDOUT		
	MAPC ANALYSIS	REVISED FIGURES
New Residential Lots	2,538	2,538
New Dwelling Units	2,890	2,890
New Future Residents	7,484	6,705
New Students	1,314	1,395
Increased Residential Water Use (gpd)	561,296	502,875
Increased Municipal Solid Waste (tons)	3,839	3,440
Increased Non-Recycled Solid Waste (tons)	2,730	2,446

Projected Rate of New Development

⁴ This sort of tinkering is encouraged by EOEA—this is precisely why they have provided each town with a spreadsheet form of the analysis, which can easily be modified to reflect different assumptions or (albeit less easily) different methodologies.

The MAPC Buildout Analysis projects total figures at buildout, but does not make any estimates as to when or how quickly these numbers would be achieved. Projections of this sort are subject to the whims of the economy, housing markets, regional trends, local anomalies, permitting processes, landholder speculation, and the ups and downs of the real estate and construction trades. Nonetheless, it may be useful to include some consideration of the anticipated rate of new development, based on past trends, as indicated in the following table.

According to Building Department data, Scituate averaged 44 new units per year between 1990 and 2000. We can assume this as the buildout rate in future production of units per year. Assuming such a rate, the following table forecasts the number of units and associated impacts between now and eventual buildout, here predicted for 2060. (Note that unlike the figures above, these are totals for the whole Town, not simply new development.)

PROJECTED BUILDOUT OVER TIME							
	2000	2010	2020	2030	2040	2050	2060
Total Units	7,685	8,125	8,565	9,005	9,445	9,885	10,325
Total Population	17,829	18,850	19,871	20,892	21,912	22,933	23,954
Total Students	3,710	3,923	4,135	4,348	4,560	4,772	4,985
Residential Water Use (gpd)	1,337,190	1,413,375	1,490,325	1,566,900	1,643,400	1,719,975	1,796,550
Municipal Solid Waste (tons)	9,146	9,670	10,194	10,718	11,241	11,765	12,288
Non-Recycled Solid Waste (tons)	6,504	6,877	7,249	7,622	7,993	8,366	8,738

If residential buildout in Scituate will consist of an additional 2,890 housing units, and the housing stock is being increased at an average rate of 44 homes per year, then full residential buildout will be reached in 66 years. At that time, there will be a total of 6,705 new residents added to the current 2000 population of 17,863 for a total population of 24,568 persons at full buildout.

With a constant rate of growth established, it is also possible to predict growth milestones nearer, and thus more meaningful, to the present day. Conditions 25 years in the future, or year 2026, can be ascertained through the use of the factors utilized to predict buildout. At a growth rate of 102 persons per-year (i.e., 44 units x 2.32 people/unit), there will be a total of 2,500 new residents in the community.

These findings can be used to guide related growth decisions. It is possible to apply the same projections to the growth of specific population segments (e.g., students, roads, water use, etc.), and thus, they can be assessed to anticipate potential future need.

The buildout analysis, while somewhat theoretical, is an important tool that assesses the potential impact of current zoning and tests the limits of community land-area resources. Shorter term predictions, such as the 25-year scenario employed earlier in this section, provides some tangible insight into growth potentials that lie in the near future. These insights allow communities to better anticipate future infrastructure needs and modify zoning techniques to bring better results.

Public Forums on Land Use

As part of the development of the Land Use element of this Master Plan, public forums were held April 26 and June 18, 2001 to obtain input from Scituate residents for the Conceptual Land Use Plan that is included in this element. The results of these forums are presented below.

The character of present-day residential development was discussed at both land use forums. Extremely large homes, or *McMansions*, now being built in Scituate and were seen as often out of scale for the community. It was noted that the coastal areas were being threatened by McMansions and the group proposed setting aside a strip along the coast as 'green space' and down-zoning this area, or changing height limits to better protect coastal views and vistas. Other concerns expressed were the large area of land that was disturbed for new homes, and the unsightly appearance of modern infrastructure such as detention basins, mounded septic systems, and retaining walls.

There was also a concern for how environmental assets were being affected by residential development. Specifically mentioned were the need to preserve wetlands and marsh areas near the Harbor, and protection of water resource areas including the South Swamp. Residents agreed the town should know exactly where the water resource areas are located and should protect the watershed. One acre zoning should remain but there should be stronger requirements for setbacks from wetlands and water bodies important to the drinking water supply.

The need for more affordable housing was discussed. In addition to Inclusionary Zoning, it was suggested that the E Zoning District be reinstated as an overlay zone for apartments in the Business zones. Sewering the village centers would encourage affordable housing in and near the villages.

The discussion of commercial land use focused on the village centers. There was some interest in encouraging low impact businesses along Route 3A such as a professional office building. Others felt the Route 3A Greenbelt area should be preserved. Those attending saw the need for some expansion of area available for business in order to broaden the commercial tax base. Some suggested the town should do more to encourage new business in order to provide more jobs and increase tax revenues.

There was near unanimous consensus that the variety of businesses and building styles in Scituate Harbor were appealing to shoppers. A number of needs were identified, including development of good pedestrian access; maintaining landscaping; using good quality, attractive architecture and signs; and eventually, relocating electric and telephone lines underground. One problem that was seen was a need for additional parking in Scituate Harbor. It was pointed out that in many cases, businesses have different peak activity periods and can share parking areas.

In considering North Scituate, discussion centered on the need for sewer, and the potential need to increase the area of the Business Zone. It was noted that many of the businesses in Greenbush were located in residential buildings. It was understood that this area would be significantly affected by the construction of the MBTA layover and parking areas. A need was identified for pedestrian connections between the parking lots and the village. Many residents pointed out the beauty of Old Oaken Bucket Pond and other natural areas accessible from the village.

For all of the villages, mixed use with businesses below, and apartments above on the upper stories, was strongly recommended as a way to bring more activity into the centers and strengthen the economic

base. A need for creative connections between residential areas and the businesses, and linkages between the villages, was also identified. These forums facilitated the development of the following Land Use Concept Plan to enumerate and highlight the key points of importance about Scituate's future.



HOUSING

INTRODUCTION

Scituate's charming rural character and location on the ocean, coupled with its close proximity to Boston, have created a strong demand for housing in the town. This demand has caused the town's housing prices to escalate to a level that would make it difficult for many residents to buy their homes today. Increasing housing costs were well documented in the 1988 Master Plan. Although the real estate market experienced a slowdown in the early 1990's, housing prices bounced back and remain very high today.

Currently, the housing market is extremely active. The median¹ price of a home in Scituate for the first eight months of 2001 was \$345,000, more than triple the median price of \$94,599 in 1986. An intense demand for housing has made it difficult for buyers to locate sales in the smaller, lower-priced end of the housing market. This situation presents a real problem for young families who are attempting to purchase their first home or for town employees seeking to live in Scituate close to work. The recent trend towards large homes also makes it difficult for empty nesters who are looking to downsize to smaller homes with less maintenance.

The anticipated extension of the Greenbush MBTA commuter rail line into Scituate is expected to further intensify housing demand. This will make it even more important that the town take control of its

¹ 50% of all units sold at a higher price, and 50% at a lower price.

fate by ensuring there is a sufficient supply of affordable housing. The character of Scituate may begin to change if the town lacks diverse and/or suitable housing types.

The following sections provide an analysis of housing supply, demand, and affordability in Scituate. The intent of this effort is to identify Scituate's current housing issues and what groups may be most affected. Recommendations are made to help rectify some of these problems. The findings provide direction for action by the town in the future.

GOAL AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Housing :

Goal: Provide housing that meets the needs of residents of all ages and income levels, while preserving the town's historic homes and traditional neighborhoods.

To achieve this Goal, the Town has adopted the following Objectives:

- 1) To provide an adequate supply of land appropriately zoned and encourage a variety of housing options to better serve the wide range of ages and income levels found in Scituate. Housing options may include cluster development, accessory units, mixed-use, and multi-family where appropriate.
- 2) To develop guidelines and by-laws to assure that all new residential development is consistent with the town's environment, historic context, and diversity of design. These guidelines may address density, diversity of housing types, architectural styles, and landscaping.
- 3) To include housing demand in all future planning for zoning and land use. This should include exploring zoning and land use changes which provide an adequate supply of land for diverse types of housing.
- 4) To encourage variety of housing sizes that meet the needs on Scituate residents, and to discourage destruction of existing homes, alteration of neighborhood environments, and excessive consumption of resources.
- 5) To develop a plan for creation of housing that serves the needs of residents of Scituate and the region and helps meet the state's target percentage of affordable homes. This plan should include re-use of existing structures, use of town owned land and innovative ways of providing affordable housing throughout the town.
- 6) The town should work cooperatively with developers and the state to obtain some level of local preference in new affordable housing developments for persons living or working in Scituate.

EXISTING CONDITIONS

Housing Demand in Scituate

This section discusses different factors affecting housing demand in Scituate. These include population variables such as age distribution, household characteristics, and household income.

Age Distribution – Scituate Population

According to the U.S. Bureau of the Census, Scituate’s population in 1990 was 16,736. By 2000, its population had risen to 17,863, a 6.7% increase. Table H-1 illustrates changes in age distribution over this decade and includes information for key age cohorts for a number of South Shore towns².

Table H-1: Age Distribution in Scituate and Selected South Shore Towns, 1990 and 2000

Age Group	1990	2000	% Change, Scituate	% Change, South Shore Towns
0-5	1,139	1,235	8.4%	.5%
5-14	2,114	2,675	26.5%	N/A
15-19	1,061	1,036	-2.4%	-.5%
20-24	1,005	458	-54.4%	-21.4%
25-34	2,494	1,666	-33.2%	-13.2%
35-44	2,803	3,275	16.8%	14.2%
45-54	2,096	2,862	36.5%	39.0%
55-64	1,790	1,930	7.8%	N/A
65-74	1,284	1,508	17.4%	-4.5%
75-84	667	907	36.0%	14.1%
85+	283	311	9.9%	24.2%
TOTAL	16,736	17,863	6.7%	

Source: U.S. Bureau of the Census, 1990 and 2000 Data

In general people in their twenties to mid-thirties are looking to establish themselves in a home, either as first time homebuyers or renters. Table H-1 demonstrates a significant decrease in Scituate’s 20-24 (-54%) and 25-34 (-33%) age cohorts between 1990 and 2000. Statewide the decreases in these groups during this period were 21.3% and 15.9%, respectively. The decline in Scituate’s younger adult cohorts was more than double that of the state. These statistics may reflect that members of these age groups could not afford to rent or to buy a home in Scituate.

Table H-1 also shows increases in Scituate's older age groups. The middle cohorts aged 35-44 and 45-54 increased by 17% and 37%, respectively, in this decade. These increases in the middle groups could increase demand for certain types of housing. Many people in the 45-64 age group have children who are leaving home, leaving their parents with a house that is seen as too large. These “empty nester” households and residents of older age groups often want to downsize their homes and yards to reduce maintenance and housing costs. There are not many housing opportunities in Scituate to meet their needs.

² Includes Cohasset, Duxbury, Hanover, Hingham, Hull, Marshfield, Norwell, Pembroke, Rockland, Scituate and Weymouth.

The number of Scituate residents over 65 years of age increased by 22% during the 1990's, with the greatest increase, 36%, in the 75-84 age group. This supports a likely increase in demand for elderly housing in Scituate in the future.

Household³ Characteristics

Throughout the twentieth century, the average size of the American household has decreased, and the size of Scituate households has followed this trend. In 1980, the average household in Scituate contained 3.12 people. According to the Census, by 1990 this figure had declined to 2.75, then to 2.64 in 2000. Higher divorce rates, families with fewer children, and an increase in single person households have most likely all contributed to this trend. In 1980, 37.5% of Scituate residents belonged to some other type of household than that of a married couple, such as a non-family or single-parent household.

Non-family households are defined by the federal Census as consisting only of single or non-related persons, excluding single parents or grandparents with children. The decrease in household size is consistent with Scituate's gradual increase in non-family households from the 1980's to the present. In 1980, non-family households made up 20% of total Scituate households. By 1990, this figure had increased to 24%, then to 26% by 2000.

The tendency towards smaller families may affect the type of housing units that are in demand. As family sizes decrease there is typically a greater need for smaller homes, and increased demand for apartments or condominiums. When other options are not available, unrelated individuals may be forced to live with relatives or double up in single family homes.

Household Income⁴

One of the most significant factors affecting a town's housing demand is the distribution of incomes in the community. Table H-2 below illustrates the income distribution in Scituate in 1989 and 1999.

³ The use of the term "household" in this plan is as defined by the U.S. Bureau of the Census, that is, all the people who occupy a housing unit. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household.

⁴ The following information taken directly from the U.S. Bureau of the Census website (www.census.gov) describes how Census income information is generated.

Data on consumer income collected in the CPS by the Census Bureau cover money income received (exclusive of certain money receipts such as capital gains) before payments for personal income taxes, social security, union dues, medicare deductions, etc. Therefore, money income does not reflect the fact that some families receive part of their income in the form of noncash benefits, such as food stamps, health benefits, rent-free housing, and goods produced and consumed on the farm. In addition, money income does not reflect the fact that noncash benefits are also received by some nonfarm residents which often take the form of the use of business transportation and facilities, full or partial payments by business for retirement programs, medical and educational expenses, etc. Data users should consider these elements when comparing income levels. Moreover, readers should be aware that for many different reasons there is a tendency in household surveys for respondents to underreport their income. Based on an analysis of independently derived income estimates, the Census Bureau determined that respondents report income earned from wages or salaries much better than other sources of income and that the reported wage and salary income is nearly equal to independent estimates of aggregate income.

Table H-2: Income Distribution of Households in Scituate, 1989 and 1999

Income Range	1989	% of Total	1999	% of Total	Percent Change
Less than \$25,000	1,215	20.5	947	14.2	-22%
\$25,000-34,999	626	10.5	516	7.7	-18%
\$35,000-49,999	939	15.8	643	9.6	-32%
\$50,000-74,999	1,591	26.8	1,474	22.1	-7%
\$75,000-99,999	882	14.9	1,050	15.7	19%
\$100,000-149,999	440	7.4	1,167	17.5	165%
\$150,000-199,999	245	4.1	417	6.3	70%
\$200,000 or more			456	6.8	N/A
TOTAL	5,938	100.0	6,670	100.0	

Source: U.S. Bureau of the Census, 1990, 2000 Data

During this decade, there was a significant increase in the overall income level of the town. Scituate's median household income, which was \$52,172 in 1989, increased to \$70,868 in 1999, a 36% increase. This 1999 income figure compares favorably to the state median of \$50,502. While Scituate experienced a reduction in households in the lowest income brackets during this decade, about a fifth of all households still earned less than \$35,000 per year in reported wages in 1999.

The middle income households, earning between \$50,000 and \$100,000, showed little change. There was a substantial increase in households at the higher income levels, with those earning over \$100,000 in 1989 (685,) expanding nearly threefold to 2,040 in 1999. Table H-3 below provides a comparison of 1999 median incomes for selected South Shore communities. The median incomes for Scituate and its surrounding communities compare favorably to the 1999 median income for Plymouth County of \$55,615.



Table H-3: Comparison of Median Incomes in South Shore Towns, 1999

Town	Median Income
Cohasset	\$84,156
Duxbury	\$97,124
Hanover	\$73,838
Hingham	\$83,018
Marshfield	\$66,508
Scituate	\$70,868
Plymouth County	\$55,615

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

The Federal Department of Health and Human Services issues the federal poverty guidelines yearly for administrative purposes. Financial eligibility for many federal housing programs is based on these guidelines. Many of the people who fall within this category are disabled, elderly, minorities, or unemployed.

The U.S. Bureau of the Census defined poverty status for 1999 as income falling below the exceedingly low annual income level of \$12,700 for a family of four. In 1999, there were 451 individuals, and 69 families, at this income level in Scituate. 52 of these were headed by women, and three quarters of these 52 included one or more children under eighteen years of age. 27% of the individuals below the poverty level were 65 years of age or older. The presence of residents at this income level demonstrates the need for some housing for those of very low incomes.

Important Aspects of Scituate's Housing Supply

This section will describe the different types of housing available in Scituate. It includes a discussion of trends in the growth of the housing stock, the amount and cost of housing currently for sale and for rent and factors affecting cost and availability of housing. This information is used in the recommendations for the town's housing policies in this report.

Existing Housing Supply and Projected Growth

There has been moderate expansion in Scituate's overall housing supply since the 1990's, with a steady pace of growth which has recently tapered somewhat. The 2000 federal Census showed Scituate having a total of 7,685 housing units. This represents an increase of 702 homes from the 6,983 housing units reported for 1990. According to the Census, a total of 435 new units were constructed during the ten years from 1990 to 2000 for an average of 44 units per year over the decade.

Table H-4 contains information from the Scituate Building Department on the number, type, and construction cost⁵ of new homes constructed from 1996 through 2001. The number of new units built in any one year never exceeded 1% of the existing housing stock. Less detailed data for building permits issued in the early 1990's showed only about 20 units constructed in 1990 and 1991, with 72 units in 1995 as the highest number of permits in a single year for the decade. Most recently, construction has been in the range of 30 to 45 units per year.

⁵ As reported for calculation of building permit fees.

Table H-4: Units Constructed in Scituate, 1996-2000

Year	Single Family		Two Family			Three /Four Family			Five /More Family		
	Units	Const. Cost	Bldgs	Units	Const. Cost	Bldgs	Units	Const. Cost	Bldgs	Units	Const. Cost
1996	48	\$6,905,960	3	5	N/A	0	0		1	10	\$600,000
1997	46	\$7,040,900	1	2	\$196,040	0	0		0		
1998	39	\$6,763,610	0	0		0	0		0		
1999	18	\$4,149,500	0	0		0	0		0		
2000	18	\$5,319,684	0	0		3	12	\$1,053,500	0		
2001	31	\$7,296,301	1	2	\$500,000	0	0		1	9	\$1,284,400
2002 ⁶	27	\$8,368,500	5	10	\$1,500,000	0	0		0	0	
TOTAL	227	\$45,844,455	10	19	\$2,196,040	3	12	\$1,053,500	2	19	\$1,884,400

Source: Town of Scituate Building Department

At 1,057 persons per square mile, Scituate has a relatively high population density compared to surrounding towns. Although the town has significant area zoned for small sized residential lots of a half and a quarter acre, this is offset by a very limited total acreage of remaining developable land. In addition, the town's poor soils add significant development costs for construction of septic systems and drainage infrastructure. All of these factors have probably contributed to the low annual numbers of new homes being constructed in recent years, and pose obstacles for development of large amounts of affordably priced housing in Scituate.

A buildout analysis prepared by MAPC⁷ (1998) projects that Scituate can accommodate approximately 2,890 additional dwelling units. Prior trends suggest that these will be primarily single family homes. Given previous rates of growth, it is projected that buildout would occur around 2060, at a total of 10,575 units, assuming the construction of 50 units per year.

Single Family and Multifamily Housing

As of 2000, 86% of the town's housing stock was made up of detached single family homes. From 1996 through 2002, 227 single family homes were constructed, compared to 50 units of multi-family housing. The predominance of single family homes in the town's housing stock has continued for several decades. A slightly larger proportion of multi-family projects received permits during the late 1990's and early 2000's than in previous years. These included nine luxury waterfront condominiums, a twelve-unit condominium with four affordable units, and one development of sixteen duplexes expected to be priced at over \$400,000 per unit.

Construction costs/unit over the past seven years (shown in Table H-4) ran about \$200,000/unit for single family homes and \$100,000/unit for multi-family units on average. These statistics show that generally, multi-family housing is less expensive to construct than single family homes. Because of its lower construction costs, multi-family housing is likely to be useful in providing housing affordable to low and moderate income families. Based on prior trends, most new construction in Scituate can be expected to be single family homes, with high construction costs, unless the town takes decisive action to encourage other housing types.

The distribution of housing between single and multi-family homes in Scituate does not differ greatly from that of surrounding communities, as shown in Table H-5. Compared to Plymouth County as a whole, Scituate has a lower percentage of multi-family dwellings. The higher proportion in Plymouth

⁶ For period 1/1/02 through 8/31/02.

⁷ Metropolitan Area Planning Council, the regional planning agency for towns in the greater metropolitan Boston area.

County most likely reflects housing in the city of Brockton, an urban community with a high proportion of multi-family development.

Table H-5: Single Family vs. Multi-Family Housing in Scituate, Surrounding Towns and Plymouth County, 2000

Town	Single Family	Multi-Family	Total	% Multi-Family
Cohasset	2,328	477	2,805	17%
Duxbury	4,537	808	5,345	15%
Hanover	3,925	520	4,445	12%
Hingham	7,368	1,252	7,368	17%
Marshfield	8,489	1,465	9,954	15%
Scituate	6,621	1,064	7,685	14%
Plymouth County	130,157	51,367	181,524	28%

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

Owner and Renter Occupied Housing

In 2000, approximately 83% of the town's housing units were owner-occupied and 17% were rented. As seen in Table H-6, Scituate's housing occupancy by owners and renters was similar to that of surrounding communities. The percentage of owner-occupied homes in Scituate was higher than for Plymouth County as a whole.

Table H-6: Owner and Rental Occupancy in Scituate, Surrounding Towns and Plymouth County, 2000⁸

	Owner Occupied	Renter Occupied	Total	% Owner Occupied
Cohasset	2,284	389	2,673	85%
Duxbury	4,394	552	4,946	89%
Hanover	3,179	511	3,690	86%
Hingham	5,752	1,081	6,833	84%
Marshfield	7,233	1,672	8,905	81%
Scituate	5,559	1,135	6,694	83%
Plymouth County	127,266	41,095	168,361	76%

Source: U.S. Bureau of the Census

Access to Sewer

Scituate has large areas where soils are unsuitable for typical septic systems. This increases the cost of construction, unless properties can be connected to town sewer. 2,040 or 30% of all housing units in Scituate are sewer⁹. It is anticipated that the newly expanded wastewater treatment plant will be able to accommodate between 1,400 and 2,900 new connections at capacity. The Sewer Expansion Study currently underway is proposing that the neighborhoods with the greatest needs based on difficulty meeting Title V

⁸ Figures do not reflect vacant housing units.

⁹ Town of Scituate DPW.

regulations will have first priority for extension of sewer¹⁰. The following areas are shown in order of priority for sewerage :

- Greenbush/Reservoir Area
- The Cliffs
- Musquashcut Pond
- Front Street (extended from present sewerage area)
- North Scituate
- Minot

Age/Condition of Housing

Information from the 2000 U.S. Bureau of the Census indicates that Scituate's housing stock is generally of very high quality. Only 14 housing units lacked plumbing. 63 units had, on average, more than one person per room, an indicator of overcrowding. The latter statistic shows an increase over the 29 such homes reported for 1990, and suggests the presence of a small number of crowded homes which may warrant further investigation. Although in 2000, 29% of the housing stock was over 60 years old, in general, the town has little housing that is overcrowded or in very poor condition.

Scituate's Housing Needs

This section will include a discussion of the different types of housing needed in Scituate. These include housing affordable to first time homebuyers; rentals, particularly for low to moderate income households; and other housing needs.

Indicators of Need for Homes for First Time Homebuyers

Length of Time on the Market for Homes for Sale

In 2000, according to the U.S. Bureau of the Census, there were 991 vacant housing units in Scituate (12.9% of total housing units.) Of this number, the majority (816) were considered seasonal dwellings. The vacancy rates for year-round homes and rentals were .7%, and 2.2%, respectively. These very low vacancy rates are evidence of a tight housing market, where homes sell quickly and rentals are hard to find.

Market Prices of Housing for Sale

Housing prices in Scituate have risen steadily since the 1980's. According to the 1988 Master Plan, the median price for a house in 1984 was \$94,599. In 1986, the median price had jumped to \$171,500, an 81% increase in two years. The 1990 median was \$173,000, indicating a slowdown in the rapid increase in housing values of the mid-1980's. This brief stabilization of housing costs was experienced throughout the state and region due to a slower national and state economy during this period.

Following an improvement of the economy in the 1990's, the price of housing in Scituate began to escalate. By 2000 the median price of a home was \$297,600, a 70% increase from 1990. In the first part of 2002, the median home price \$359,900¹¹, a 20 % increase from 2000. The most recent data available for the price

¹⁰ See Camp Dresser & McKee Inc., Town of Scituate, MA Sewer Expansion Study.

¹¹ Based on information from Banker & Tradesman for 1/1/02 through 8/26/2002

range of homes for sale in Scituate, and the increase in median home prices over the past decade, are shown in the two tables below.



New residential development on Forest Lane

Table H-7: Single Family Home Sales, 8/1/01 – 7/31/02

Sale Price	Number of Units Sold
Under \$100,000	0
\$100,000-\$149,999	0
\$150,000-\$199,999	1
\$200,000-\$249,999	11
\$250,000-\$299,999	41
\$300,000-\$399,999	63
\$400,000-\$499,999	34
\$500,000-\$599,999	33
\$600,000-\$699,999	18
\$700,000-\$799,999	4
\$800,000-\$899,999	3
\$900,000-\$999,999	2
\$1 million and over	3
TOTALS	213

Source: Banker & Tradesman

Table H-8: Median Housing Sales Prices in Scituate, 1990-2002¹²

Year	Median Sale Price	Number of Sales
1990	\$173,000	209
1991	\$162,500	283
1992	\$162,500	321
1993	\$156,000	346
1994	\$171,000	372
1995	\$178,000	326
1996	\$192,000	393
1997	\$211,600	447
1998	\$224,000	389
1999	\$255,500	344
2000	\$297,600	327
2001	\$330,000	N/A
2002 ¹³	\$359,900	N/A

Source: Banker and Tradesman and MLS

The increase in housing prices from the 1980's through today has been fueled by a generally very healthy economy with demand for housing substantially exceeding the available supply. Local realtors (Prudential Prime Properties, Dwyer and Mullin, and Braga Real Estate) currently report a very low inventory of houses for sale in the lower range of selling prices. This low inventory has maintained high housing prices and led to a shortage of housing in some areas of the market.

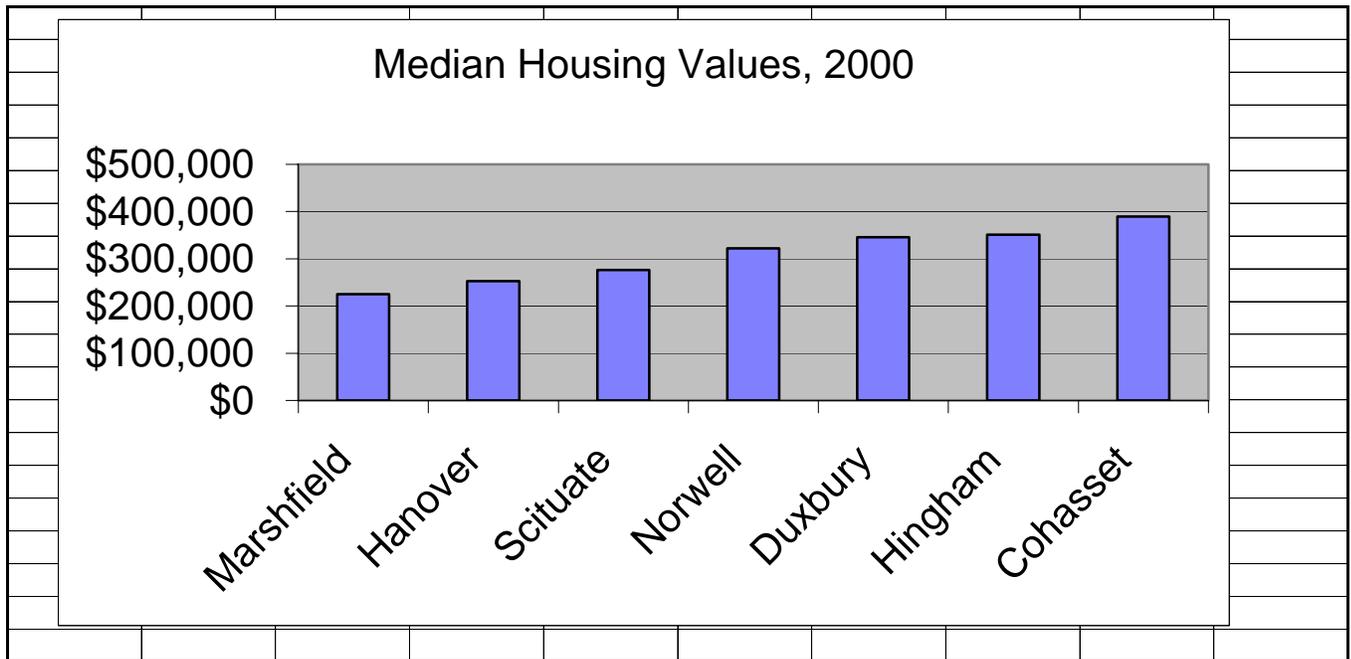
Several realtors interviewed for this section of the Affordable Housing Plan believed that supply did not meet demand in many categories of housing. They reported the most severe shortage in housing in year-round rental units, particularly affordable units. The other shortage noted as quite severe was two-bedroom “starter homes” at a price that “starter families” could afford. There are a number of residential properties in Scituate that meet the definition of starter home, but they are generally no longer affordable.

As prices continue to increase, it is likely that some current Scituate residents such as renters, first time homebuyers and the elderly will no longer be able to afford to live in Scituate even though they may have lived there for some time. Given starting salaries such as those for DPW skilled laborers of about \$26,000 and \$29,000 to \$40,000 for teachers¹⁴, many local employees, including those who provide essential services, may be effectively priced out of the market in Scituate.

¹² Data includes both single family and condominium units.

¹³ Figure is based on sales through 8/21/01 based on MLS data.

¹⁴ \$29,000 is a starting salary for teachers with a B.A. or M.A. with no experience. According to the School Department's Business Manager, a number of new teachers are hired with five years of experience and start at about \$40,000 per year. Figures reflect information for 2001.



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

Figure H-1 compares the median housing value in Scituate with that of surrounding towns. These figures were derived from 2000 Census data. They differ from the median values shown in Table H-8 because the Census based value on the respondent's personal evaluation, rather than actual sale price.

Affordability Gap for Median Income Households

High housing prices are generally associated with high incomes. Young families and moderate-income professionals create significant demand for affordable housing, both rental and owner-occupied. But residents in the low to moderate income range may not have benefited from the booming economy of the late 1990's and in many cases, cannot afford high housing prices. The people in this group may include young adults who grew up in Scituate, as well as individuals in occupations like those mentioned above where wages have not kept pace with housing costs. Many current residents of Scituate in these groups, and children of residents of all incomes, are likely to find it very difficult to purchase a home in the town.

According to the State of Massachusetts' Department of Housing and Community Development (DHCD), monthly payments for mortgaged properties should not exceed 28% of a household's gross income. Most recently, bankers and others frequently use 30% as the standard. If housing costs exceed this level, there can be significant affects on a household's ability to cover other basic expenses. The "affordability gap" for Scituate, the difference between the median housing cost and the price a family earning 80% of median income could afford, was analyzed using current interest rates and other information representative of a typical homebuyer, as follows¹⁵:

A four person household earning 80% of median income would earn \$58,300 annually. If it is assumed that the maximum amount of income that can go towards housing is 30% this family would be able to afford a monthly housing payment of \$1,457.50. After taxes and insurance are deducted, \$1,092.50 remains to cover principle and interest on a mortgage.

¹⁵ This analysis was prepared by Diane Burke-Sanford, Chairman of the Scituate Housing Partnership, and reflects current mortgage rates and housing costs as of 8/22/02. Based on Census data, 80% of Scituate's median income (not broken down by family size) would be \$56,694. DHCD bases their median income figure on incomes for the Boston metropolitan area.

30% of median income = \$1,457.50 available to cover housing costs

Less: \$225.00 assumed real estate taxes per month
40.00 assumed monthly homeowners insurance
100.00 private mortgage insurance (required when less than 20% down)

Leaves \$1,092.50 available for principal and interest payment on mortgage.

Current market interest rates are approximately 6.50% for a 30-year fixed rate mortgage. Based on these rates the \$1,092.50 payment amount would support a mortgage of \$172,845. Assuming a 5% down payment (\$9,105.00) this family could afford a maximum price of \$181,950 for a home.

The potential for a sizeable gap between actual household income and earnings required to purchase a home is very apparent for moderate income households. In 1999, 31.5% of Scituate residents earned less than \$50,000, and 22%, less than \$35,000. Given these statistics, it can be expected that a sizeable portion of the town's population could not afford to purchase a home today.

Thus, the ability to purchase a home in today's market will present a problem for many people in their mid-20's and 30's. This observation was supported by the number of applicants (181) for a recent lottery for four affordable housing condominiums in Scituate. Other towns in Massachusetts have had even higher numbers of applicants for similar developments.

Indicators of Need for Rental Housing

High Market Rents and Lack of Available Rentals

Rents in Scituate can range from \$800 a month for a one-bedroom apartment to \$2,200 a month for a three-bedroom house¹⁶. Based on recent classified ads in the Patriot Ledger newspaper, there are few homes in town for rent year-round for much less than these amounts. According to the U.S. Bureau of the Census, the median contract rent for a year-round rental in Scituate in 2000 was \$809 a month. This figure may include long-term rentals, which are typically lower than the amount sought for new rents. Based on conversations with several realtors who deal with rentals, rents appear to have risen steeply over the last few years.

Scituate's high rents can be attributed to the very low supply of rental units in the housing stock. Furthermore, the market favors seasonal rentals. Landlords can receive over \$1,000 a week for a seasonal rental, effectively decreasing the number of year-round rentals on the market. Many of the more affordable rental properties are seasonal. Properties that are leased for lower prices during the winter months (\$1,200-\$2,000/month) may be leased in the summer for much more. Renters are forced to find another place to live during the summer, and sometimes are required to live with relatives or friends.

Vacancy rates for available rental units showed a 51% decline from 1990 to 2000, indicating a definite decrease, most likely due to the active housing market. Extremely few houses or apartments were available for rent in December of 2000. Information provided by Coldwell Hunneman showed only 12 rental units actively on the market during this period, and of these, only two were year-round units – the others were for rent for periods of a week to several months. Rental units currently being leased through this realtor numbered 72, with the average monthly rent being \$1,769. 13 of these were within multi-family developments, with the remaining 59 in single family homes.

¹⁶ Dwyer and Mullin Real Estate.

One element of the cost of rental housing is real estate taxes, since rents generally cover the owner's expense for taxes. The tax rate in Scituate was \$15.31 per \$1000 for FY2003, resulting in an average single family tax bill of approximately \$3,675¹⁷. This tax rate and average tax bill are mid range for communities in the area.

The difficulty for low to moderate income households with affording rents is compounded by the fact that many do not qualify for subsidized housing assistance because their incomes are too high. Rentals present a problem for a wide variety of households because it is exceptionally difficult to find properties even at the current elevated price ranges. Due to the high prices and shortage of units, many small households and elderly residents may live in rental housing that is mismatched to their needs, and may be forced to move frequently because of seasonal housing and high housing costs. Rentals that are available may be inappropriate, i.e. not have an adequate number of bedrooms, lack insulation, or be winter rentals. Based on the consistently low vacancies and high rental rates over the past decade, additional rentals are badly needed.

Rental Housing for Older Residents

The elderly population in Scituate has steadily increased since 1990. As of 2000, 28.2% of Scituate households had one or more members over age 65, a sizeable percentage. This age group often has needs that differ from those of other segments of the population. They may require assistance in some areas of their daily lives, which can be provided through living arrangements with special services. Many members of this population live on fixed incomes.

Lincoln Park and Wheeler Park units are subsidized housing complexes for the elderly and handicapped, which are managed by the Scituate Housing Authority. Their units are available to one-person households with net incomes up to \$35,150, and for two-persons, to \$40,150 (80% of the median for these size households.) One member of the household must be at least sixty years old, or disabled. There is a waiting list of 70 for these apartments. Local residents are given preference for vacant units. Apartments in Central Park are for residents of sixty-two and older, with incomes not to exceed \$22,550 and \$25,800 (50% of the median) for one- and two-member households, respectively. These apartments also offer housing to the disabled of all ages. There is a wait list of 58 for these units.

All these units will continue to meet a need as the population of Scituate ages, but there appears to be a shortage of rental housing for the older population. The 128 rental units of subsidized elderly housing in Scituate are clearly not enough to meet the current or expected future demand. In order to increase the supply, the town should encourage the construction of more price-restricted rental units designated as elderly housing. Either the Scituate Housing Authority or another organization could oversee the construction and management of subsidized units.

Family Rental Housing

Kent Village is a multi-family development of subsidized family rental housing at the intersection of Kent St. and New Kent St. According to rental manager Fern Mullin¹⁸, Kent Village has a waiting list of 83 for their units, with the highest numbers waiting for one-bedroom units. Housing units at Kent Village are subsidized through Section 8, with most residents earning from 30 to 50% of median income.

¹⁷ Figure for approximate average tax bill provided by Brendan Lynch, Town of Scituate Treasurer.

¹⁸ Interviewed by Cynthia Koebert, a member of the Scituate Housing Partnership, in August, 2002.

According to Gladys Cook, Executive Director of the Housing Authority, the numbers of households on all the rental housing waiting lists tend to remain fairly constant. As of December, 2000 there were 24 families on the waiting list for Section 8 vouchers that can be used in subsidized rental units anywhere in Scituate. Since Massachusetts residents can use their vouchers in towns outside where they currently reside, a large waiting list in abutting counties was also noteworthy.

The town's lowest income groups will have the most difficulty affording high-priced rentals. Based on the number of residents with annual incomes below \$35,000 (22% of the population,) and current market conditions for rentals, the need to increase rental housing is urgent. Those who fall at or below the federal poverty level will also be severely affected by a lack of rental housing. In many cases it is virtually impossible for these households to find adequate housing unless subsidized housing is available. Efforts should continue to expand the supply of rental housing affordable to lower income groups.

Current holders of Section 8 vouchers are primarily housed in 2 bedroom units, but applicants show a preference for one bedroom units. Since renters usually include young people, singles and empty nesters, some apartments or small houses with no more than two bedrooms would be appropriate for rental housing. Some larger units of family rental housing are clearly also needed. The amount and types of rental housing needed should be more closely evaluated.

Scituate's Existing Supply of Affordable Housing

Table H-9 lists all of the units in Scituate that are subsidized with either state or federal funds, the type of units, and tenants eligible for these units. Approximately 70% of these units are for the elderly. Construction is nearing completion in Fairway Village, a condominium which was Scituate's first development with housing targeted to first-time homebuyers. Four affordable units were constructed within this twelve-unit development. According to state guidelines, first-time buyers and individuals or households who have not owned a single family home for three years qualify for this housing. A lottery was held by the Scituate Housing Authority to select the families who purchased the units. 181 households applied to become owners of these units.

Table H-9: Subsidized Housing Supply in Scituate with Demand Indicators

Type of Housing	Development Name	Management Entity	Eligible Tenants	Number of Units/Tenants	Size of Waiting List	Applicants per Year
MA 667	Lincoln Park	Scituate Housing Authority	Over 60, 80% median Income	40/41	70 for all elderly units (9 non-elderly)	40 for all elderly units (3 non-elderly)
MA 667	Wheeler Park I	Scituate Housing Authority	Over 60, 80% median income	40/45	Included in 70 above	N/A
MA 667	Wheeler Park II	Scituate Housing Authority	Over 60, 80% median income	78/81	Included in 70 above	N/A
MA DMR Special Needs	Curt Merritt Bldg.	Scituate Housing Authority	MR/MH	7/7	N/A	N/A
HUD Special Needs	Gene Burns House			4/4	N/A	N/A
MA DMR Special Needs	129 Vernon Rd.			4/ N/A	N/A	N/A
HOP Program	Fairway Village		First time homebuyers	4	N/A	181
MA Rental Vouchers	Townwide, MRVP	Scituate Housing Authority	Families – 200% poverty level	7/10	36	49
MA Rental Vouchers	AHVP	Scituate Housing Authority	Families (by inc. and fam. size)	1/1		
FED Elderly	Central Park	Scituate Housing Authority	Over 62, 50% median income	51/54	58 (10 non-elderly)	52 (10 non-elderly)
FED Section 8 Vouchers	Townwide, 1 BEDROOMS	South Shore Housing	Families, 1 person	1	12	2,820 applicants in SSHDC Region (Plymouth and Bristol Counties) in last year
	Townwide, 2 BEDROOMS	South Shore Housing	Families, 2 person	3	4	
	Townwide, 3 BEDROOMS	South Shore Housing	Families, 3 person	0	4	
	Townwide, 4 BEDROOMS	South Shore Housing	Families, 4 person	1	4	
FED Section 8 Construction	Kent Village	Corcoran Management Inc.	Families	64	83	

Addressing Scituate’s Housing Needs

Current Progress

There have been some active efforts from the public and private sectors towards development of affordable housing in Scituate in recent years. Several private developers have applied for approval of projects containing affordable units, financed through the New England Fund. Their proposals included Fairway Village, a 12-unit condominium with four affordable units which was approved; Satuite Woods, a 96-unit mixed single family home and over-55 multi-family development, whose denial is currently under appeal by the applicant; and Stenbeck Place, a 28-unit condominium which is currently under consideration by the Zoning Board of Appeals.

The Board of Selectmen recently appointed a Housing Partnership to address housing issues for the town. The partnership is made up of six members, including a banker, architect, housing advocate, member of the Housing Authority, member of the Planning Board, an interested private citizen, and the Town Administrator.

The Scituate Housing Authority continues to progress towards construction of a twenty unit family housing development at the intersection of the Driftway and New Kent St. The presence of South Shore Housing Development Corporation as a source of technical assistance has been important in moving this project forward.

Other recent town involvement in affordable housing has included creation of Scituate's Planned Development District, adoption of accessory dwelling and affordable accessory dwelling bylaws, the Planning Board's efforts to obtain affordable housing from private developers and its recommendations on development of tax title land for affordable housing.

Issues in Development of Rental and First-time Buyer Housing

This section will describe some of the issues involved with development of rental and first-time buyer housing, and discuss some ways obstacles to these developments may be overcome. These issues include lack of diversity in housing types, the need to identify the best type of housing for first-time buyers and appropriate locations for housing at higher densities, and Scituate's status vs. the state's mandated goal of 10% affordable housing.

Lack of Diversity in Housing Types

Like many of those living in small towns, most Scituate residents prefer single family homes, which currently predominate in the housing stock. To date, new construction has strongly favored these over multi-family development. The preponderance of single family dwellings means there are few alternative housing types. Multi-family dwellings are generally less expensive to build than single family homes, and lend themselves to rental housing and condominiums suitable for first-time buyers.

The construction costs shown in Table H-4 clearly shows it is more cost-effective to build multi-family when compared to single family homes. Multi-family construction can reduce the amount of land consumed for housing since buildings are generally concentrated on one part of a larger property.

It should be possible to construct more multi-family housing in the Business Districts in locations that are sewered. Generally, in these areas, higher densities are compatible with the existing pattern of development. The need to contain costs should not preclude building multi-family housing that is visually appealing and has appropriate architectural styles for a New England town.

In Greenbush and Scituate Harbor, new multi-family development should be subject to a design review process to make sure landscaping and architecture are attractive and compatible with surrounding neighborhoods. Landscaping, including buffers to adjacent businesses and their parking areas can make living in the village centers more pleasant.

Outside the Business District, multi-family developments may include duplexes, accessory dwellings and developments of three to four attached units. These can usually be served by on-site septic systems and will be more easily absorbed into their surrounding neighborhoods than larger multi-family dwellings¹⁹.

The recently approved bylaw to allow accessory dwellings above businesses will help provide some housing in the town's villages. In addition, Scituate should consider allowing multi-family by right in the Business Zoning Districts where sewer is available. This will support the economic health of the villages as well as providing some less expensive housing. Mixed-use development should also be permitted by right with apartments allowed above the first floor. This will provide additional income for owners of business property, and may encourage more diversity in local businesses.

Appropriate Locations for Affordable Housing at Increased Densities

Affordable housing is often provided through increased densities so developers profits will not be unreasonably reduced by the sale of some units at less than market prices. MGL Chapter 40B allows great increases in density with little concern for neighborhood character. In some cases, the allowed densities may result in negative impacts on the environment which would not otherwise have occurred.

A modest increase above the density allowed by zoning should be sufficient to allow a realistic profit for developers. This increased density should be allowed by Special Permit in areas where environmental impacts will be minimal and sewage disposal can be readily provided, to permit construction of a given percentage of affordable units in developments of a certain size.

Increased densities should be avoided within Zone II's to public water supply wells; the watershed to the Reservoir; including regulated buffers to tributaries; buffers to wetlands; and other sensitive areas. Design, scale and landscaping should be compatible with those of surrounding neighborhoods, with traditional architectural styles considered in historically significant areas. Development on Scenic Roads should be sensitive to historic features such as stone walls and large trees, as required for other types of development.

In all areas, efforts should be made to work with the natural topography; and preserve existing trees and vegetation, to encourage natural drainage and help control erosion. This will help maintain the natural character of the landscape. Landscaping and amenities compatible with the "small town" atmosphere of Scituate should be provided for affordable housing as for other types of development.

Appropriate Housing for First Time Buyers

Several realtors in the area were interviewed to determine the types of housing that customers were seeking to buy or rent. First-time homebuyers were seeking homes of about 1,200 sq. ft., with two or three bedrooms and ¼ acre of land. (Jack Conway & Co.) In recent years, new construction in Scituate has recently been generally limited to homes with four or more bedrooms and over 3,000 sq. ft. of living area, priced at \$650,000 and up. Only higher-income families can afford homes in this price range.

¹⁹ Several attractive duplex developments built in Scituate include Merrit Woods, Brookside and Doctor's Hill, although none of these can be considered affordable.

Under the state's guidelines, housing units must be affordable to households whose incomes are no more than 80% of the county's median income level to be considered affordable. In order to ensure that affordable housing remains reasonably priced, resale prices are typically controlled through deed restrictions. This ensures below market values are passed from one eligible owner to the next.

The need for smaller homes for first time buyers and empty nesters suggests there should be an increased effort to construct two bedroom houses at a price these groups can afford. This effort could include seeking developers to build starter homes on some of the town's remaining small lots if these are proposed to be taken for tax title, soliciting development of one or two parcels by Habitat for Humanity, as well as seeking funds to purchase land and develop new housing in a way that is carefully controlled by the town. Smaller units can be encouraged by allowing increased density in exchange for deed-restricted affordable housing.

Both small homes and condominium units could be successful as housing for empty nesters. These units, and all subsidized housing at higher densities than allowed by zoning, should be distributed throughout Scituate and situated among houses of a variety of types and price ranges.

10% Target for Affordable Units

In an effort to increase the supply of housing to low and moderate income citizens, the Commonwealth of Massachusetts has set a target for municipalities to increase their "affordable" housing stock to at least 10% of their year-round housing units²⁰. The state defines "affordable" units as those whose rent or sales price is controlled at a below-market value through deed restrictions.

According to the state's inventory of affordable units, Scituate is presently credited with 292 units of affordable housing. This is approximately 4.25% of the town's 6,869 year-round housing units. If the town can obtain credit for its existing accessory dwellings, and housing now under consideration is constructed, Scituate will have to create 320 more affordable units to meet the 10% requirement²¹.

It is recommended that the town seek to produce an average of 22 deed-restricted affordable units per year for the next fifteen years, to meet the 320 unit goal. At the current rate of housing production, this is a very ambitious goal, and 320 is proposed here for planning purposes, in order to address the state's 10% requirement.

With construction of each new market rate development, the town falls further behind the 10%. The gap will worsen unless the town increases its supply of affordable housing with every new development. The town must begin to require that a minimum 10% of all homes in new subdivisions be

²⁰ Chapter 40B, the state law that encourages affordable housing development in cities and towns, can place final approval for proposed developments with affordable housing in the state's Housing Appeals Committee when affordable housing projects are denied if fewer than 10% of a municipality's housing stock is subsidized to maintain affordability.

²¹ Scituate has approved 28 accessory dwellings. Together with housing proposed by the Scituate Housing Authority and Chapter 40B developments currently under consideration, these would reduce the remaining units needed to meet the town's 10% to approximately 320.

deed-restricted to be permanently affordable. This could be accomplished through adoption of inclusionary zoning. The 22 unit target does not include units which would be obtained through inclusionary zoning.

Scituate should take a multi-pronged approach to address housing affordability, using many strategies, each likely to produce small numbers of new housing. The following table shows how these twenty-two units could be produced each year. Units produced through inclusionary zoning are not included, and no new Chapter 40B developments are assumed.

Table H-10: Projected Production of Affordable Units to Reach 10% Affordability

	Per Year	By 2007	By 2012	By 2017
Accessory dwellings	3	15	30	45
Affordable accessory dwellings (obtain through amnesty/relaxed regulations)	3	15	30	45
Buy-down of market rate units (subsidize through HOME program and other available funding sources) or deed restricted units beyond 10% in new developments	5	25	50	75
New rental units in Business Districts	4	20	40	60
Homes obtained through Habitat	2	10	20	30
Development on parcels purchased through Community Preservation Act	5	25	50	75
TOTAL	22	110	220	330

RECOMMENDATIONS

HS-1 The Scituate Housing Partnership, in conjunction with the Planning Board, should develop an outreach program to educate local residents about the need for affordable housing and inform them of available housing opportunities. This could include a forum on housing for town officials and/or town residents, workshops for first-time buyers, information about new programs, and a survey of town residents.

HS-2 The Scituate Housing Partnership, in conjunction with the Planning Board, should pursue sources of funds to develop a Strategic Plan with a time line to implement the recommendations of this report, and lead the implementation effort. This plan should include a more complete assessment of the town’s housing needs and available resources in order to plan effectively for additional rental and ownership housing.

HS-3 The town should evaluate its capacity to administer and manage housing programs, working closely with the Housing Authority, South Shore Housing Development Corp., and other non-profit agencies, with an eye to increasing that capacity if necessary to implement the recommendations of this plan.

The town should consider joining the Quincy-Weymouth HOME consortium together with Hingham, to receive funding for programs which fund housing rehabilitation, buy-down of market rate units, and to develop additional rentals and ownership units from existing housing.

HS-4 Scituate Housing Partnership, in conjunction with the Planning Board, should pursue opportunities to provide direct financial assistance to renters and first-time homebuyers. These include participation in the Soft Second loan program, and implementation of programs for homeowners in need of assistance. Programs for first-time buyer financing should be publicized so applicants for available units can receive assistance.

HS-5 The town should continue efforts to increase its numbers of affordable rental units.

- **Zoning should be adopted to further encourage multi-family dwellings in the Business Districts.** The town should amend zoning for its Business districts to promote mixed-use development projects with apartments located above commercial developments in the village centers. The Scituate Zoning Bylaw permits residential uses in the Business Zoning Districts, but requires 10,000 sq. ft. of land for each unit. This requirement should be reduced or eliminated. It may be desirable to establish a design review process, and review landscaping and parking requirements in conjunction with this change. Mixed use, with retail on the first floor and apartments above, should be specifically permitted in this district.
- **The town should promote use of the accessory dwelling and affordable accessory dwelling options in the Zoning Bylaw.** The town should adopt an amnesty program for illegal apartments which would allow them to be legally grandfathered as long as health and building codes were met, and they were maintained as affordable.
- The town should investigate use of tax title land or land acquired using donations, the Community Preservation Act, the HOME program (see recommendation 6) d. below) and other sources to develop rental units in multi-family housing. This housing should be developed in the Business District or on nearby parcels.

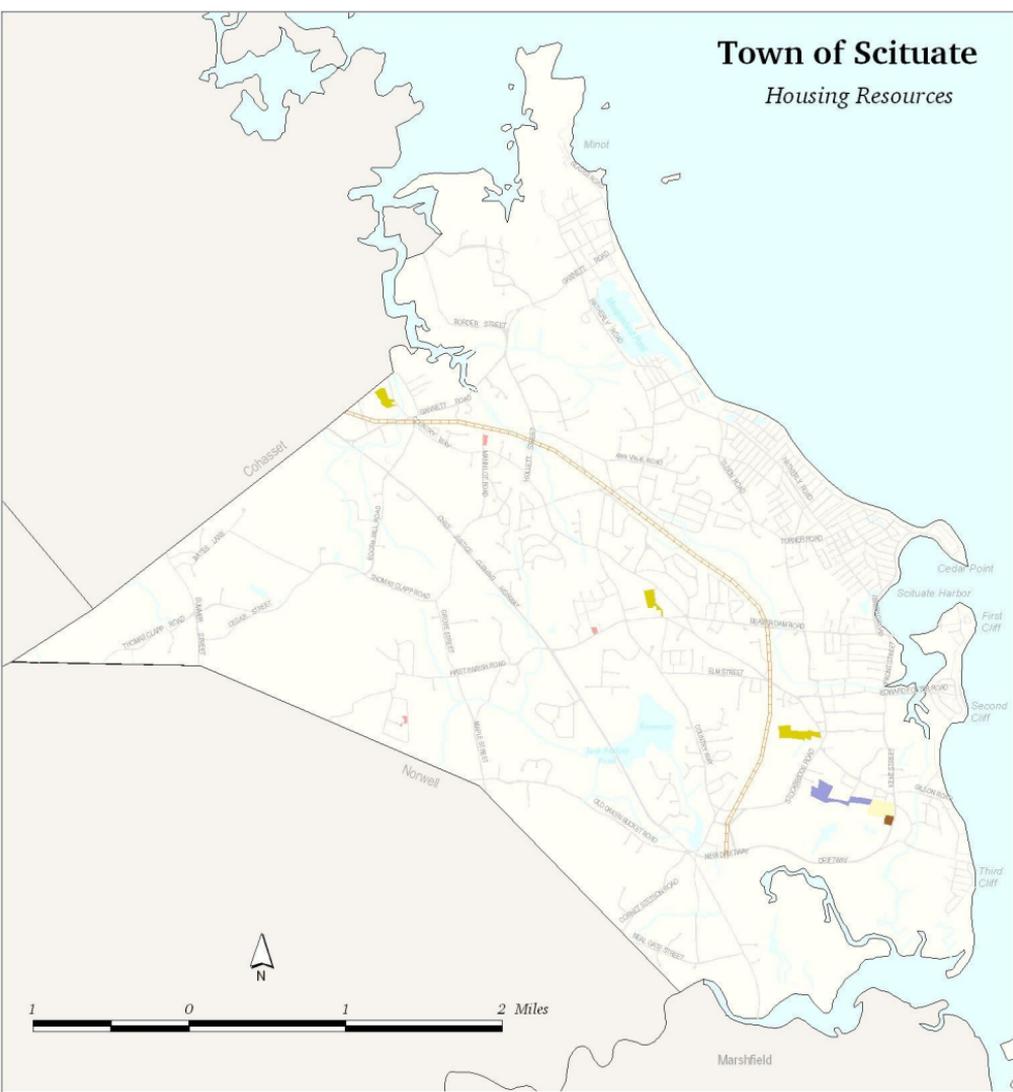
HS-6 The town should continue efforts to increase its numbers of affordable homes for first-time buyers. Existing smaller homes should be utilized for affordable housing for first-time homebuyers and empty-nest households. This will help distribute affordable housing through all parts of Scituate.

- **The town should adopt an inclusionary zoning bylaw to obtain at least 10% affordable units in new developments of ten or more units.** Inclusionary zoning requires that all developments include a set proportion of deed-restricted affordable units. While this is not specifically allowed for in the state Zoning Act, M.G.L. Chapter 40A, to date no legal challenge to inclusionary zoning has been successful. This is an immediate means of assuring that every development of a substantial size will have an affordable component.
- **The town should adopt a zoning bylaw to allow increased densities in exchange for affordable units in areas where there will be minimal environmental impact.** To accomplish this, the Planning Board could initiate a zoning amendment to obtain a higher than 10% fraction of deed-restricted affordable development by allowing up to a 30% density bonus in appropriate locations.

- Increased densities should be avoided within sensitive environmental areas such as Zone II's to public water supply wells; the watershed to the Reservoir; including regulated buffers to tributaries; buffers to wetlands; and other sensitive areas.
- **New construction of affordable housing should be compatible with surrounding neighborhoods.**
- **The town should use the Community Preservation Act as a source of funds for purchasing land or deed restrictions for development of affordable housing.** Community Preservation Act acquisitions could include land to support some affordable units, while avoiding impacts on areas that are environmentally sensitive, and preserving properties with aesthetic importance.
- **The town should continue to work with organizations like Habitat for Humanity to develop affordable housing on scattered sites.**
- **The town should continue thorough review of 40B proposals.** The Scituate Housing Partnership should meet with developers before proposals are submitted to the Zoning Board of Appeals. Pro-forma statements should be reviewed to ensure that densities do not exceed those required for a reasonable profit. The town should strive to negotiate for infrastructure improvements wherever these are needed. Technical review funds from Massachusetts Housing Partnership should be obtained where these can help with review of any aspect of the proposal including financial statements and site design.
- **The Scituate Housing Partnership should work with the Zoning Board of Appeals, Building Commissioner and Town Planner to develop standard guidelines for 40Bs.** These should include target percentages of affordable units; inclusion of units with greater subsidies; affordability of condominium fees, maintenance of long-term affordability, and targeting the population such as town residents, families of town residents, employees of town businesses and others who should benefit from affordable units to the maximum extent possible.
- **The town, through its regulatory boards and agencies, should strive to maintain affordability for new housing through deed restrictions for the longest time allowed by law.** The town should closely monitor those properties with deed restrictions. The Scituate Housing Authority or an appropriate non-profit agency should be empowered to monitor and enforce affordability restrictions, to oversee the development and occupancy of affordable units, and to monitor eligibility and continuing affordability.

Town of Scituate

Housing Resources



HOUSING

-  Elderly Housing
-  Family Housing (Rental)
-  First Time Buyer Housing
-  Housing for Disabled
-  PDD Aff. Housing District
-  Roads
-  Proposed Commuter Rail

Data provided by
Town of Scituate and EOE/MassGIS
<<>>

Map prepared by
KRF: Technology Planning & Management Corporation
August 2002



ECONOMIC DEVELOPMENT

INTRODUCTION

The Scituate economy has evolved during more than 300 years of town history, but retains the land use patterns and economic activities of its historic economy – three village centers located on the train line and on the harbor, that include small business zones at two key rail locations, and a working waterfront. While retail business has grown and modernized with the evolving economy, Scituate contains few of the office/commercial business activities of many other communities in the Boston area. The Scituate economy consists largely of convenience and specialty retail activities, smaller professional offices and light industrial activities, resource-based activities, and a small tourism sector.

Scituate has little land available for business expansion. Areas zoned for business are 30 to 40% built-out, relative to the potential of the Zoning District. In some cases uses are less intensive than the zoning

would allow, and in others the land is occupied by residential rather than business properties. Scituate must resolve land use questions regarding whether to expand its business zoning and where this expansion should occur.

GOALS AND OBJECTIVES

To provide vibrant sustainable economic village centers that include retail, office, light industrial/technology and home-based uses, as well as natural resource-based activities, that provide income, village commerce, and tax revenues. To provide businesses and services that serve the needs of Scituate residents and visitors.

To achieve these Goals, the Town has drafted the following Objectives:

- 1) To support local business owners in retaining and starting retail businesses that meet the needs of town residents.
- 2) To support local property and business owners in maintaining vibrant, attractive, functional retail centers. To develop design and function plans for retail centers, including parking, pedestrian access, façade improvements, streetscape improvements, including landscaping, signage and lighting, and transportation elements.
- 3) To develop identities and image for retail centers that reflect the town’s character.
- 4) To support events, public art, and celebrations that enhance retail activities and community life.
- 5) To increase local employment opportunities in well-paying jobs in Scituate in identified areas.
- 6) To preserve and enhance local natural resource-based commercial activities such as fishing.
- 7) To provide necessary infrastructure to support business activities in Scituate, including optimizing local automobile, bicycle and pedestrian access.
- 8) To encourage tourism as an economic sector through development of necessary and appropriate accommodations and attractions.
- 9) To encourage appropriate home-based business activity.
- 10) To create an organizational entity that brings the town, businesses and residents together to improve communication and encourage successful long range planning.
- 11) To support existing businesses and encourage new businesses, in order to strengthen Scituate’s tax base.
- 12) To accomplish all of the above while discouraging growth in automobile traffic, roadway congestion, and associated pollution; and, while encouraging visitors and residents to shop, recreate and do other business locally.

EXISTING CONDITIONS

A variety of primary and secondary sources were consulted in the preparation of this section of the Scituate Master Plan. Data provided by the Commonwealth of Massachusetts, including Department of Housing and Community Development, Department of Employment and Training, and Department of Revenue, were critical in structuring this information and analysis.

The Town of Scituate provided a listing of businesses in Town, Assessors' records, and several reports. Primary data collection included a listing of businesses by village and zone, interviews with members of several business sectors, and several public meetings and discussions.

The Business and Employment Base

The business base in Scituate comprises the retail, commercial, and industrial activities that are typically considered the basis of a local economy, but it also includes the variety of resource-based activities, the financial and human service providers, the finance industry, and construction businesses. Table E-1 provides basic information on the total number of establishments in Scituate in key years, as well as the number of employees in each of the key areas of business activity.

Table E-1: Employment and Businesses in the Scituate Economy in Selected Years

Year	Number Businesses	Employment by Industry								
		Agr. Services, Forestry, Fishing	Government	Construction	Manufacturing	Transpt., Commun. & Public Util.	Whol. & Retail Trade	Finance Ins. & Real Estate	Services	TOTAL
1988	394	55	633	238	214	63	1,277	116	662	3,257
1990	376	32	605	160	169	44	1,088	136	672	2,906
1995	364	53	622	138	55	44	1,197	110	771	2,990
1999	396	89	665	180	53	104	1,048	103	879	3,121
2001	412	55	699	146	53	113	984	156	917	3,123

Note: Table starts with 1988 data because industry definitions occurred in 1988 making information from previous years not strictly comparable. Source of Table: Commonwealth of Massachusetts, Division of Employment and Training (ES-202 Series)

Information in Table E-1 demonstrates that while the Scituate economy has been relatively stable in the number of establishments (dipping during the economy of the early 1990's and recently returning to late 1980's levels), employment in town has not kept pace (not yet bouncing back to late 1980's levels). Employment in Agriculture/Forestry/Fishing increased after 1996, then dropped back to 1996 levels in 2001. Employment in Government, FIRE and Services has increased, while significant drops are particularly evident for manufacturing, but also for Construction and Trade.

The relative contribution of classified business sectors to the Scituate employment base is instructive. The largest sectoral employers are the same in 1988 and 2001, but their relative contribution has changed. In 1988, 40% of employment was in wholesale or retail trade, with government and services each contributing another 20% each. By 2001, trade contributed only 32% of the employment, with services rising to 29% and government rising to 22%. Table E-2 suggests that perhaps the increase in service jobs are in the now significant Health services sector.

Table E-2 provides information on businesses in Scituate in 1999 that have so-called “covered employment”, meaning that they pay into the state’s unemployment insurance system for their employees. This list is representative of most of the businesses in town, 362 of the total 396 businesses shown in Table E-1, excluding businesses without salaried employees. In Scituate, key businesses not included in this list are probably fishing activities, family day care, home-based businesses, and some other small business activities.

Table E-2: Employment and Wages in Covered Employment, 1999 and All Employment for Businesses in Scituate

SIC Code	Business Activity	Number of Covered Units	Total Payroll	Average Wage	Average Monthly Employment
07	Agricultural services	15	\$1,768,480	\$20,327	87
09	Fishing	*			
15	General bldg.	12	\$1,652,684	\$48,608	34
17	Special trades	38	\$6,289,978	\$44,928	140
44	Water transport	6	\$776,525	\$29,866	26
47	Transportation services	6	\$670,235	\$44,682	15
50	Wholesale trade	21	\$2,390,555	\$46,874	51
51	Wholesale trade	16	\$1,449,275	\$45,290	32
52	Building mat.	3	\$635,940	\$13,531	47
54	Food stores	11	\$1,621,210	\$10,326	157
55	Automotive	4	\$867,648	\$20,178	43
58	Eating/drinking	24	\$7,164,933	\$12,461	575
59	Miscellaneous retail	18	\$3,131,840	\$23,372	134
60	Depository institutions	7	\$1,818,694	\$30,312	60
64	Insurance	6	\$558,500	\$27,925	20
65	Real estate	8	\$596,815	\$39,788	15
72	Personal services	10	\$967,223	\$16,394	59
73	Business services	33	\$4,839,622	\$26,160	185
75	Automotive repair	7	\$858,646	\$26,833	21
79	Amusement & rec.	11	\$1,711,250	\$17,462	98
80	Health services	28	\$7,318,408	\$35,185	208
81	Legal services	7	\$456,504	\$28,532	16
83	Social services	11	\$1,327,628	\$16,191	82
86	Membership org.	5	\$169,769	\$28,295	6
87	Engineering	28	\$5,269,328	\$60,567	87
88	Private household	27	\$422,436	\$10,832	39
	TOTAL Covered Employment	362	\$54,734,126		2,237
	Total All Employment	396	\$86,086,235		3,121

*Included in this table only to indicate that there are no covered employers listed in fishing. Source: Department of Employment and Training (www.detma.org/1mi/es-202/202ct99a.txt)

Most of Scituate businesses are quite small, with an average overall of 6 employees per business. Eating and Drinking Establishments show the largest employment (averaging 24 covered employees per establishment) and Food Stores (averaging 14 employees). In both cases, many of these employees are part-time. Other local sectors with relatively large numbers of businesses and/or employment are special trades, retail, business services, and health services. Special trades, health services, and engineering show the largest numbers of business, while engineering handily has the highest average wage. This table suggests a significant attraction of Scituate for small, high wage engineering firms that should be considered for further business growth.

Tables E-1 and E-2 together contain information on total employment and total “covered” employment in Scituate. There are approximately 900 employees who are working in Scituate that are not covered by unemployment insurance. Further, there are 9,628 Scituate residents in the labor force in 2001 but total employment located in Scituate was only 3,123. Scituate is a net exporter of labor with at least 6,500 workers

who live in Scituate and go elsewhere to work.

Information provided by the Department of Employment and Training (DET) shows a steadily rising increase in payroll that Scituate businesses pay to their employees. Total wages paid to employees by all Scituate businesses has risen from \$66 million in 1991 to \$90 million in 2001. When adjusted for inflation (Consumer Price Index, USDOL), this represents an 8.7% increase in total wages for local workers. Average annual wages paid for the same years increased from \$22,437 to \$28,714. Again, when adjusted for inflation, the average real increase in income per employee is only 2.4%. The discrepancy between an 8.7% increase in total wages versus an average annual increase in average wages per employee results from the fact that there are 182 more workers in 2001 over 1991.

DET also tracks residents of Scituate and their employment history. In 1990, there were 9,112 residents in the labor force, while 4.2% (or 385) were unemployed. By 2001, residents in the labor force had increased to 9,628, with only 2.6% unemployed. The growth in the labor force is largely a result of the growth in population in Scituate. In both years noted above (and all others recorded since 1983), the Scituate unemployment rate has been roughly 1% less than the statewide average rate.

Sales

The 1997 Census of Retail Trade provides a window on the critical elements of the Town's retail sector. The small number of businesses in some sectors results in the unavailability of information, but the information that is available does provide insight into the relative size and importance of the key retail activities. 1992 information is included here as well as 1997 in Table E-4 because it contains information on sales for Eating and Drinking Establishments.



North Scituate parking

Table E-3: Retail Sales for Scituate Business Sectors

Business Categories	Number of Establishments	Sales (1,000's)
Bldg. Materials, Garden Supplies	3	\$1,512
General Merchandise	3	\$748
Food Stores	9	\$13,636
Automotive Dealers	2	D
Gasoline Service Stations	4	\$4,107
Apparel, Accessory Stores	2	D
Furniture, Home Furnishings	1	D
Eating and Drinking Establish.	25	\$13,543
Drug Stores	2	D
Miscellaneous	19	\$13,235

Source: 1992 U.S. Census of Retail Trade

The two most prominent elements of the retail economy in Scituate in 1992 show Eating and Drinking Establishments, Food Stores, and Miscellaneous to be the dominant sectors. This is consistent with the current mix of retail activities. These retail uses are representative of a “convenience” retail sector serving the day-to-day needs of local residents, and the “recreation” uses of both local residents and visitors.

Table E-4: Selected Business Sectors by Two Digit and some Four Digit NAICS Code 1997, with Sales and Employment Information

1997 NAICS Code	Business Sector	Number of Businesses	Sales (000's)	Payroll (000's)	No. of Employees
42	Wholesale trade	19	\$40,926	\$2,390	73
421	Wholesale trade, Durable	10	\$21,989	\$1,252	33
422	Wholesale trade, Nondurable	9	\$18,937	\$1,136	40
44-45	Retail trade	48	\$51,457	\$6,803	377
445	Food and beverage stores	14	\$19,662	\$1,881	139
447	Gasoline stations	4	\$4,333	\$241	17
448	Clothing & accessories	4	\$1,922	\$414	26
454311	Nonstore (heating oil dealer)	3	\$6,522	\$1,448	
531	Real estate sales/rental	7	\$4,644	\$317	16
54	Profess., scient., tech. service	43	\$9,519	\$3,356	104
56	Admin.& Support Serv.	17	\$6,889	\$2,651	163
61	Educational services	2	D	D	c
62	Health care, soc. asst.	40	\$22,625	\$10,278	447
71	Arts, entertain., recreation	11	\$4,504	\$961	48
72	Accommodation, food Serv.	28	\$18,949	\$6,126	584
721	Accommodation	2	D	D	b
722	Food service/drinking	26	D	D	f
81	Other services	16	\$5,045	\$1,373	62

Source: U.S. Census. 1997 Economic Census.

D: Withheld to avoid disclosing data of individual companies

b: 20-99 employees

c: 100-249 employees

f: 500-999 employees

Table E-4 summarizes some information presented in previous tables, updated using the new NAICS Codes for categorization of business sectors. Major categories that summarize the information in rows immediately below them are shown in this table in shaded rows. Table E-4 confirms the ongoing dominance of retail trade, health care, and food service in the Scituate economy by employment, sales, and payroll. While having fewer employees, and total number of businesses, wholesale trade shows a very significant level of sales.

Recent Growth in Business Sector

Table E-5: Growth in Businesses in Scituate by Type and Size

Business Sector	Year	Total Establish.	1-4 Employ.	5-19 Employ.	20-49 Employ.	50-99 Employ.	100+ Employ.
Agricultural. Ser., Forestry, Fisheries	1994	14	12	2			
	1997	15	11	4			
Mining	1994	1					
	1997						
Construction	1994	48	37	8	2	1	
	1997	54	47	6	1		
Manufacturing	1994	12	10	1	1		
	1997	8	6	1		1	
Transportation and Public Utilities	1994	9	4	5			
	1997	23	16	6	1		
Wholesale Trade	1994	23	16	6			1
	1997	24	16	7			1
Retail Trade	1994	71	33	25	9	4	
	1997	66	24	30	8		
Finance, Insurance, Real Estate	1994	27	16	11			
	1997	29	22	6	1		
Services	1994	131	90	32	6	2	1
	1997	144	99	37	5	2	1
TOTAL	1994	337	212	91	18	7	2
	1997	366	242	99	16	7	2

Source: U.S. Census Bureau. Zip Code Business Patterns. 1994 and 1997

Table E-5 provides a snapshot of recent growth in Scituate, as the regional economy was moving out of the downturn of the early 1990's. Primary growth in business formation has been in Construction, Services, and Transportation and Public Utilities. These small construction operations are probably individual contractors going into business for themselves. Other business formation also appears to be in small operations. In no cases were any of the increases in business formation in businesses with more than 20 employees. While Scituate can boast a growing business base, it does not provide significant new employment.

Contribution to the Tax Base

According to the Assessor's records, as of January 1, 2002 Scituate had 133 commercial¹ properties and 13 industrial properties that had total assessed values of \$71,570,800 and \$5,670,400 respectively.

¹ In this Master Plan element, the word "commercial" is used with its standard meaning of "pertaining to commerce," including all retail, wholesale, office and service activities (Webster's Dictionary, 1978 ed., ed. by John Gage Allee.) In Scituate's Zoning Bylaw, the Commercial Zoning District refers to the location where uses such as light manufacturing, processing and assembly, and wholesale distribution are permitted.

Scituate businesses are subject to the same tax rate as residential properties which was \$9.38 per \$1,000 of assessed value in 2003. Business properties, including commercial, industrial, and personal property taxes, contributed only 4.0% of the Town's tax revenue in FY2003. This is down from a high of 6.5% in the early 1990's. These changes may result from a rise in the value of residential properties that was steeper than the rise in value of business properties in the mid 1990's. There were very few new commercial properties developed during this period. Of the 4.0% contribution to taxes from business properties, only .2% of that is contributed by industrial properties.

These figures are indicative of the fact that there are no business properties in Scituate that have a high assessed value and contribute any significant share of the tax revenue. While there are a large number of business properties, they are generally small, older retail establishments that offer little value to the overall tax base.

Since 1988, the number of commercial parcels assessed has increased from 127 to 133 parcels in 2003 (with this number never being higher than 136 parcels in the intervening years), and industrial parcels changed from 11 to 13. This information is further confirmation that Scituate has a very stable economic base, but one that is literally not growing.

Table E-6: Percent of Tax Revenue Contributed by Type of Real Estate, by Municipality, 2000

Municipality	Revenue from Commercial, Industrial, and Personal Property	Revenue from Residential and Open Space Parcels
Scituate	5.3%	94.7%
Norwell	18.1%	81.9%
Marshfield	7.7%	92.3%
Cohasset	7.2%	92.8%
Duxbury	4.2%	95.8%
Hanover	20.3%	79.7%
All Massachusetts Municipalities	21.3%	79.7%

Source: MA Department of Revenue (using DOR definition of commercial and industrial)

This table summarizes the level of contribution of business properties to overall tax revenue in neighboring South Shore towns in FY 2000. The level for Scituate is lower than in many surrounding communities. Scituate residents will continue to have to contribute the bulk of the tax revenue to the town to continue to fund the quality services they have come to rely on. The Town could consider economic development as one method to reduce the Town's heavy reliance on residential real estate taxes to support town and school functions.

Scituate is a good candidate for businesses seeking a high "quality of life" environment – a location with scenic amenities, recreational resources, pleasant but relatively affordable residential properties. This is born out by the relatively large number of professional engineering firms in the Town. There might be some potential to develop commercial properties to attract similar small, high wage firms to the area. There may also be potential to provide retail businesses to serve local residents, who are often required to purchase basic goods and services in other towns.

Business Sector Information

While the information provided in the tables above, largely using information from the Department of Employment and Training, a closer look into how the actual business sectors work in Scituate is essential to understand the contribution they make to the community, and how these sectors can be improved, complemented, or expanded upon. The following brief discussions of key economic sectors that contribute not only to the economy of Scituate, but also to its identity and appeal for its residents, will form the basis of some recommendations to be made in future sections.

Fisheries

Business activities in the fishing industry make less of a contribution to the town's economy than they did in years past. In general, fishing in New England has declined significantly in the past twenty years due to depletion of stocks. Furthermore, the industry is restricted by the limited number of days boats can go out due to weather conditions (88 days this past fishing year), and the areas that can be fished. The area most accessible to Scituate fisherman is closed for a number of months during each fishing year (May 1 to April 30 of the following year). During the 2000-2001 fishing year, the area proximate to Scituate was closed for 6 months.

There are 15 boats that regularly fish for fin fish, are considered full time, and tie to the Town pier. There are another 10 or so smaller boats that are part-time lobster boats and part-time fin fish boats that are moored. In 1997, 54 Scituate residents listed their occupation as fisherman or lobsterman.

Most of the fish landed in Scituate is picked up by wholesalers based largely in New Bedford and Boston, and for specific fish, in Gloucester. There are two small fish wholesaler/retailers in Scituate but they count for little of the volume of fish landed. In 1998, the value of fish offloaded from commercial fishing vessels in Scituate Harbor was valued at \$2,839,000. The species of fish which had the highest total value was yellowtail flounder, with 530,000 pounds landed and sold for \$924,000. Second in landings was cod, with 504,000 pounds sold for \$646,000. Statistics provided by the Massachusetts Division of Marine Fisheries show that over 481,000 pounds of lobster were landed in Scituate in 1998, with a value of \$1,765,000. This was the 11th highest catch of lobster for all towns within Massachusetts.

With a total sale value of \$4,409,000, sales from fishing activities are comparable to sales from gasoline service stations and to arts/entertainment/recreational activities. While commercial fishing is not as significant in the local economy as it once was in either sales or employment, it is critical to the Town's identity and an important part of its coastal scenery. Scituate retains the appearance of a working port. This attracts visitors to visit the Harbor and its retail stores, as well as local restaurants for their fresh seafood menus. It is important for Scituate to assure that its commercial fishing activities continue and are not displaced from the waterfront by recreational boating.

Tourism

Tourism is important to the Scituate economy, but there are few destinations where it has a measurable impact. The Town has several historic building museums including the lighthouse, it has an active sport boating sector with several boats for hire for fishing excursions, and it has a beautiful harbor with a quaint commercial center. The presence of a hotel and several bed and breakfasts in the Harbor is important for attracting transient visitors to Town, and some business owners believe they could easily find customers for another hotel. The businesses in the Harbor note that summer tourism is key to their financial survival with considerably higher sales in summer than in winter.

Perhaps most importantly, Scituate has numerous residential properties that are rented during the summer season and bring many temporary residents to town who will be using the restaurants, shops, and convenience retail during their stay. According to the 2000 Census, there are 816 residential properties in Scituate that are “Vacant housing units: For seasonal, recreational, or occasional use.” Of these seasonal properties that are rented, the average rent can run in the range of \$1,000/week or more. Whereas local residents may shop elsewhere, tourists or vacationers are more likely to buy local. Tourists are net importer of revenue to an area.

Scituate’s tourist economy can also build on the more than 600 private boats that are moored in Scituate Harbor during the summer (with another 400 or more boats moored in Cohasset Harbor). The presence of these boats, with access from the village center, generates significant additional summer activity of recreational shopping and provisioning for boat outings. Promotional marketing activities by local merchants aimed at this population of boat owners could result in increased sales.

In 1997 there were 450 recreational clamming licenses issued by the Town of Scituate. In 2001, beds on the North River were reopened after a long period of closure. If good water quality can be maintained, shellfishing can continue to be an important seasonal attraction for residents and visitors alike.

Attracting more tourists to Scituate will require marketing efforts. These should be based on the town’s rich outdoor recreation amenities. New attractions may be required, which would provide opportunities for new businesses. Suggestions have been made for kayaking or boat rental outfitters and bus tours. Additional attractions may be required to attract the number of visitors that will increase patronage of restaurants and shops. Public beaches are the most likely attraction to bring multi-use tourists to town, but the town will have to decide that this is desirable, and parking would have to be provided. A mix of numerous outdoor active recreation offerings including bicycling, water sports, and beach opportunities are key to full-day use with associated expenditures for food and shopping.

Government

Scituate’s largest employer is the Scituate Town government with 665 employees. The municipal employees include teachers, Town department staff, and public safety workers. These professionals and committed public employees are important assets to the town.

Business Civic Involvement

With the absence of large employers in Town, it is difficult to secure significant business sponsorship for municipal or non-profit events or activities. Scituate does have a significant number of banks in Town that play an active role in the Town’s civic life. Scituate has an active Chamber of Commerce, primarily comprised of retail businesses.

Business Location and Land Use

Businesses in Scituate are primarily located in several small business zones. These include the traditional village centers of North Scituate, the Harbor, and Greenbush. North Scituate and Greenbush are located at former, and potential future, rail stops. North Scituate and the Harbor both provide a strong selection of “convenience” businesses serving the local population. Both areas have several financial institutions, drug

stores, small restaurants, stores carrying some clothing items, florists, and a variety of service businesses. These areas also house other types of commercial businesses in buildings with predominantly retail uses and a few stand-alone commercial buildings. These business uses (primarily service firms) are not major elements of either commercial center. Along with existing modest residential uses in its village centers, Scituate has many successful examples of mixed use.

Scituate Harbor

The Harbor village is noteworthy because it has a public pier with commercial fishing activity, a hotel, several bed and breakfasts, two large waterfront restaurants serving the tourist industry, several upscale gourmet restaurants, a movie theatre, specialty stores serving visitors, home-decorating items and surfing goods, and a mid-sized, small chain supermarket. The Harbor also has several projects in planning or under construction with 2nd and 3rd floor residential condominiums. This mix of additional retail options over the basic convenience shopping options elsewhere, linked with the stunning location on Scituate Harbor, make the Harbor the primary retail center in Scituate. It is also the only retail center that significantly caters to the tourist trade, with a large number of restaurants and specialty shops. However, it may lack the key employment and/or residential mix to maintain vibrant economic activity year round, and in particular outside the tourist season.

Greenbush

The Greenbush area is a mix of several small retail businesses in older buildings west of the rail alignment, a number of retail and light industrial uses east of the rail alignment, and an area of newer retail businesses just north and south of the Driftway. The light industrial businesses include a storage facility, a concrete pipe wholesaler, small machine shop, and others. The retail uses include service businesses such as indoor sport facilities, veterinarian, and others. If the MBTA commuter rail extension is built, a number of these will be displaced. Even without the commuter rail line, these areas of activity are diffuse and disconnected, with poor opportunity to move easily between them. Yet the distances are not great, and they could invite visitors to complete multiple tasks in one visit, if appropriate automobile, bicycle, and in particular pedestrian facilities were available.

Greenbush has several “convenience” businesses, including a bakery and liquor/convenience store. While there is a small Post Office, it is in an out of the way location, separated from other businesses. The layout of buildings and parking for stores on Country Way supports the use of automobiles, but does not encourage shoppers to walk to adjacent stores. In the Herring Brook Mall south of the New Driftway, the dance studio and exercise gym qualify as convenience or frequent activities and attract regular visitors, but there are few retail uses in this area. Finally, there are fairly dense residential uses within 1/2 mile of this activity, including two senior care facilities, James Landing condominiums, and single family homes off of Country Way and Stockbridge Road.

The physical layout of Greenbush is loosely organized and the village lacks a clear identity. Few people other than a town resident would be likely to go there, and out-of-town residents would go only for the specialty shops and services, including the veterinarian and the bait and tackle shop. Nearby residents are unlikely to walk or bicycle in the area due to a completely uninviting bicycle and pedestrian environment, and visitors are unlikely to walk among multiple tasks.

Greenbush is the least developed of the town’s three villages, with fantastic potential for positive or negative growth. Its current role as a gateway to the town could be expanded with the possible advent of

commuter rail, bringing up to 1,000 travelers through the village daily. The town should support the types of businesses that would benefit from this traffic flow. But it also must support a larger residential population in this village, especially if one is encouraged and attracted by commuter rail. Specifically, there is already a good mix of commercial activities in the one-quarter mile radius around the proposed rail hub, including convenience retail and services, specialty stores, and light industrial uses, and a good initial residential mix. But the village lacks physical connections—specifically pedestrian infrastructure and a public realm—between these activities. If these are improved and residential density is increased, it will be possible to permanently support an economically vital and appealing village, and not just a commercial hub that serves transient automobile traffic. Streetscape improvements with consistent features and a style that reflects potential rural charm could unify the village and create more of a sense of place. These should be thoughtfully designed, with input from local residents and property owners.

North Scituate

North Scituate can boast an active business base, with a mix of convenience services and retail (a bank, Post Office, dry cleaners, food store, and many others), plus two newer commercial buildings with office space for small businesses, and a building with woodwork shops. It has parking at its center, dominating the streetscape. The main parking area is centrally located, is poorly laid out, and combined with an extremely large intersection at Gannett Road and Country Way, is both inefficient for automobiles and a dangerous barrier to routine bicycle and pedestrian traffic. Coupled with one story buildings on the south side of the district, the parking and large intersection dominate the appearance and transportation utility of the village, undermining its appeal and efficiency as an attractive shopping, commercial, and retail destination.

North Scituate needs the addition of public spaces with the installation of attractive and utilitarian infrastructure such as crosswalks, traffic calming, and inviting public spaces to transform it into the pleasing and efficient center that it could be. This will be especially important if commuter rail is constructed. Rail service is expected to be accompanied by considerably greater traffic volume and will give the village greater visibility and some potential customer traffic. But if the new infrastructure is done poorly it will detract from the village ambience, and further heighten the barriers to routine commercial activity. Although the North Scituate is more developed than Greenbush, it could also benefit from an integrated program of streetscape improvements to unify the village and make it more appealing to pedestrians. Decisions about automobile and pedestrian traffic patterns and local residential density are likely to be central to determining which way the village evolves.

Overview of Economic Issues in Scituate Villages

Each village center has a set of problems that needs to be addressed to improve its functioning. Most of the developed business real estate in Scituate consists of older buildings. In all the villages, many buildings are in need of repair. North Scituate, Greenbush and the Harbor could benefit from façade, sign, streetscape and landscaping improvements. Each has its unique parking problems and could benefit from improved pedestrian circulation and bicycle facilities. In North Scituate, the parking in front of the Post Office building is unattractive and potentially dangerous, with cars entering and exiting the roadway along the entire length of the building. The Harbor has a large public parking area but it is located on the waterfront side at the south end of the main street, leaving many business on the northwest end of the main street with little to no public parking nearby.

Each of the village areas suffers because of the low density of typical public and religious uses which are

seen in many New England town centers. In many traditional village centers, there are several churches, and in many cases a post office and elementary school. These institutions are powerful attractants to “convenience” users who also will frequent the retail shops in that village area. The low density of these institutions puts the retail sectors in these villages at a significant disadvantage. However, the Harbor has a major church, and actively used church hall, the present senior center and new elementary school nearby, as well as an “anchor” grocery store and numerous financial institutions. Similarly, North Scituate has a bank and post office, and Greenbush has a small post office and diffuse but extensive commercial activity. The biggest problem may be that these areas are going through important transitions, and are in dire need of focused planning and supportive infrastructure improvements.

Specifically, all three village centers are seeing a change in the character of the businesses and the need for (and in the harbor, the move toward) increased residential density. There is the potential for non-retail business activity—already being realized in the Harbor, and possible in North Scituate and Greenbush. And there is the clear need for greater residential use to support these as stable and vital business centers. A key element of success is the creation of a public realm that is inviting to people, and efficient for but not overrun by automobiles. Utilitarian but unobtrusive parking, high quality pedestrian facilities with calmed traffic, and true mixed-use settings with fully developed residential capacity all will invite residents and visitors to shop and recreate locally, and to carry out multiple commercial activities when in each village center.

Although the business zones in Scituate are largely built out, they are undergoing substantial redevelopment. In all the villages, there are some vacancies in existing buildings and at least a few vacant parcels. In Greenbush, many residential properties could be redeveloped for business use. At the same time, multi-family residential use should be encouraged to increase the activity level in the villages and create thriving economic centers. While Greenbush has vacant land suitable for new free-standing multi-family development, all the villages have substantial room for expansion of residential use with the addition of second and third stories. Zoning should be amended to allow multi-family in the Business Districts at acceptable densities.

In those sections where business uses predominate, Scituate finds itself with small businesses with lower value in their real estate, and limited land resources on which to expand and increase the value of the business base. And in each of the village centers the public realm and pedestrian facilities range from fair (the Harbor) to poor (N. Scituate) to non-existent (Greenbush), undermining efforts to create real anchor destinations or activities. This can be changed with implementation of pedestrian improvements and development of attractive, easily accessed public spaces. Appealing streetscape amenities that invite visitors to spend more time in the villages will help establish attractive, vibrant retail shopping areas.

Indicators of the Future Economy of Scituate

There are a variety of indicators that suggest the options and directions for Scituate’s economy in the future. Continuing growth pressure in the metropolitan area, a beautiful physical setting, and possible extension of commuter rail and the extension of town sewer to its Business Districts, place Scituate in the position to take advantage of several opportunities.

Availability of Land for Development

According to the MAPC Build-Out Analysis, the three defined “Redevelopment Areas” in Scituate (roughly corresponding to the three villages) show an estimated total of 510,547 sq. ft. of building area, or a

total of approximately 11.7 acres of floor area. It is estimated that 189,698 sq. ft. of potential future building area will be lost with the development of the Greenbush MBTA parking area, or a total of approximately 4.4 acres. This leaves a net gain of 320,850 sq. ft. or 7.3 acres of floor area. This is a small resource for a community of Scituate's population and size. This resource should be carefully planned to maximize the benefits the Town is seeking from further development of land for business.

Trends in the Regional Economy

Even though Table E-1 shows there is little net growth in the numbers of Scituate businesses, the rate of new business formation in the MAPC region has increased since 1990 after bottoming out in 1992 and recovering to 1990 levels by 1994. According to Table E-1, Scituate has currently exceeded its 1990 level of number of businesses, showing a rate of new business formation during the 1990's of 5.8%, very comparable to the MAPC region's 5.6%. Scituate has also had an unemployment rate below that of the region as a whole.

According to a recent article on the South Shore area in the Banker and Tradesman (thewarrencgroup.com), real estate absorption has picked up considerably in the area after a "roller coaster ride for much of the 1990's." The current projects in construction in the region include a 160,000 sq. ft. building in Quincy, redevelopment of the Hingham shipyard, and a 100,000 sq. ft. building in Weymouth. Several new office buildings have been constructed in the last few years on Route 3A in Hingham and Cohasset, with a similar almost 10,000 sq. ft. medical office under construction in Scituate. The area overall has 10 million sq. ft. of office space, and has been attractive to insurance companies and financial services providers, as well as back-office operations. The presence of the MBTA Red Line and commuter rail has been attractive to business seeking to expand operations based in Boston.

Major real estate brokers have identified a wider variety of tenants considering South Shore locations. These potential tenants are seeking smaller, flexible spaces in the 15,000 to 20,000 sq. ft. range. Consolidation of large businesses into new campuses may leave temporary vacancies, but it is expected that these spaces will soon be absorbed.

Much of the business growth in Scituate over the last ten years resulted from home offices. In-home businesses have little impact on infrastructure or town services and help residents support their families while eliminating commuter traffic.

RECOMMENDATIONS

EC-1 Develop Outdoor Recreation as a Tourist Attraction.

Scituate must offer multiple outdoor activities that can attract users in three seasons and for full day use to drive expenditures in other businesses in Town. The Town should continue to promote golf and expand the draw of Widow's Walk as a recreational point of interest for visitors to Scituate, and strongly support biking, walking and all types of water-based recreation. The following actions will support the strong "outdoor" character of Scituate and its recreation, and will strengthen the town economically. Some items may be desirable for other reasons as well.

- 1) Maintain the Route 3A greenbelt as integral to maintaining the character and appeal of Scituate as a recreational, residential, and business destination.
- 2) Encourage development of recreation-based businesses, including canoe/kayak outfitter and rentals, bicycle rentals, continue town-sponsored golf activities such as Widow's Walk, consider addition of a golf driving range, expansion of MacKenzie's restaurant into a function hall/conference center, and utilization of civic space for any activities (e.g., North Scituate visitor center, capped landfill) as appropriate.
- 3) Create a connected and safe network of bike trails, lanes, and recommended routes through town.
- 4) Complete a network of recreational and transportation footpaths and multi-use trails, including (but not limited to) along the Driftway recreation area and former landfill, North River estuary, Greenbush rail corridor trail, Ellis estate, and Rt. 3A greenbelt area. Work to connect these with trails and sidewalks as necessary, for a comprehensive pedestrian network.

EC-2 Business Center Growth and Revitalization.

The town needs to improve public infrastructure and pursue a focused program of activities to encourage business growth and vitality in its business centers. Real effort is needed to proactively build a strong business climate, rather than merely letting things take their course. In addition to providing shopping opportunities for local residents, the growth of Scituate's business centers can provide needed tax revenues. The following actions could be taken to support business center growth in all the villages:

- 1) Launch an integrated, community-wide marketing plan, utilizing joint public and private efforts and resources (Chamber of Commerce, individual businesses, and town). The Chamber of Commerce and Town will need to work closely together on any proposed initiatives. The marketing plan should include such activities as:
 - Event promotions.
 - Maps of preferred bicycle and pedestrian routes.
 - Directional signs and local wayfinding (posted trail maps, "you are here" signs) noting points of interest, such as Lawson Tower, light house, and recreational opportunities. (Pursue possible TEA-21 funds for such efforts.)
 - Promotion of Scituate as a destination and as a desirable, livable community for business investment.
- 2) Pursue PWED and TEA-21 funding for streetscape improvements which enhance commercial appeal, bicycle and pedestrian access, parking and general customer convenience for retail and commercial businesses.
- 3) Pass code and regulatory changes which will preserve the village scale and character, support village redevelopment and enhance sustainability of local businesses, including:
 - No drive-throughs.
 - Maximum set backs from curb to building front (e.g. 12 feet) to maintain continuity and enhance the pedestrian realm.
 - No parking lots in front of buildings (except legal on street parking) and encourage shared

- parking to rear (preferred) or side of buildings. Utilize landscaping to optimize spaces while reducing negative aesthetic and functional impacts (e.g., cars hanging over walkways).
- Require full pedestrian and bicycle access: contiguous sidewalks, pedestrian crossings, convenient and secure bicycle parking. Utilize traffic calming to maintain a safe and appealing public realm, especially in defining automobile entries to village centers.
 - Require traffic, massing and environmental impact studies where appropriate.
 - Review the sign code with an eye to revision, including limiting the maximum area allowed.
 - Develop comprehensive design guidelines to promote attractive architecture, good landscaping and appealing sign design.
 - Update the Zoning Bylaw to allow mixed use, to encourage apartments and multi-family above first floor retail and service uses in the Business Zone, and to include modern business uses.
- 4) Consider transit/shuttle service between three town centers during periods of peak demand.
 - 5) Encourage shared parking areas to the side or rear of a building housing retail or business use.
 - 6) Encourage consistent enforcement of parking regulations.
 - 7) Develop guidelines to support good building design, signs and landscaping in the village centers.
 - 8) Provide public restrooms in all village centers.

EC-3 Aid North Scituate Development.

The town should pursue infrastructure improvements and a focused program of activities to encourage business growth and vitality in North Scituate. The expected extension of commuter rail with a stop in North Scituate will bring opportunities for some business growth and expansion of residential uses. The lack of sewer here is crippling the potential expansion of businesses and many have septic systems in failure. It is important for improvements and any new construction to blend with the fabric of the more attractive older buildings. There is a pressing need to remedy this situation as quickly as possible. If the following actions are NOT taken, the economic health of the village will be severely undermined, and it risks becoming a desultory pass-through, rather than the vital destination it could become.

- 1) Raise the priority of sewer service to North Scituate business district.
- 2) Develop a parking plan to optimize on-street and municipal parking, while creating a central public space which is not dominated by automobiles. Define clear parking entrance and exits for municipal lots, and use space more efficiently (for example, along Gannett Road and near post office, etc.)
- 3) Explore extending the business/mixed-use zone to encourage downtown retail and business development, with additional (e.g., second floor) business and residential uses.
- 4) Develop North Scituate as a key gateway to the marketed business and recreational activities of recommendation EC-1, for example through development of a visitor center.
- 5) Plan ahead for MBTA impacts, especially parking; create municipal parking which can be protected from MBTA rider overflow (e.g., enforced time limits), and utilize MBTA lots for evening/weekend

demand (e.g., special events).

- 6) Develop a comprehensive plan for streetscape improvements to enhance the village center and make it more appealing for shoppers.

EC-4 Complete Greenbush Planning Study and Rezoning to Enhance Development and Sustainability.

The Town should also pursue a focused program of activities to encourage business growth and vitality in the Greenbush area, taking specifically into account the potential impacts of restoration of rail service, and the desire to create a healthy, self-sustaining village center with or without the train. As the planned terminus of the Greenbush rail extension, the village could be dominated by traffic at commuter hours, and fail to attract more than a meager number of convenience businesses. It is most important for the future of the village to provide the amenities, infrastructure and regulatory framework to promote healthy growth in the residential and business sectors.

- 1) Utilize the recommendations of the MAPC's Region at Risk study. Implement the zoning, streetscape and design guidelines recommendations of the Greenbush planning study and design charrette process, enhancing mixed-use and residential density in the village center.
- 2) Develop Greenbush as a key gateway to the marketed business and recreational activities of recommendation EC-1.
- 3) Anticipate the displacement of businesses by rail restoration, and define relocation possibilities.
- 4) Use a full suite of tools to create a pedestrian- and bicycle-friendly village center, to enhance local utilization and enhance sustainability. Specifically, create a contiguous sidewalk network, on-street parking, frequent crosswalks and traffic calming to support local businesses and improve connections and create a clear, defined, inviting village core. Specifically, make connections between Country Way retail and historic mill area, Driftway retail and service areas (e.g. Herring Brook Mall, veterinary and medical buildings) and nearby residential areas (senior care facilities, James Landing, and proximal Stockbridge Rd. and Country Way neighborhoods).

EC-5 Enhance Scituate Harbor as a Central Business and Retail District.

Scituate Harbor is the largest business and retail district in Scituate, and future development must be carefully designed to maintain its small-town character, while anchoring the economic health of the community. Thus, the town must continue to address ways to maintain economic vitality, without allowing the village to be overrun with automobiles and rendered dysfunctional. A fundamental principal must be that parking capacity will be finite, and thus local residential activity and alternate modes of travel to the Harbor must be institutionalized to assure a sustainable downtown is developed. The Harbor should capitalize on the recent trend of increased residential development.

- 1) Consider a comprehensive parking plan for downtown which utilizes extensive existing parking (on-street, Cole Parkway, and other large lots), as well as that included in any new development and employee parking facilities.
- 2) Explore utilization of regional parking for peak demand periods (e.g., festivals, holiday weekends)

through shuttles to schools, MBTA parking, etc.

- 3) Use full suite of tools to create a pedestrian- and bicycle-friendly village center, to bring more customers downtown without automobiles. Specifically, create a contiguous sidewalk network, frequent crosswalks, secure bicycle parking, and more traffic calming to slow vehicle speeds and enhance safety for non-automotive users. Encourage greater second and third floor setbacks to maintain an appealing environment on main thoroughfares, while encouraging increases in residential and business density.
- 4) Implement the recommendations of the Scituate Harbor Public Access study.
- 5) Improve pedestrian circulation plan as a framework for future improvements.
- 6) Add public sanitary facilities to serve visitors to Scituate Harbor.

EC-6 Support In-Home Offices and Non-disruptive Home-Based Business Activity.

The Town may want to better define in-home businesses so appropriate uses can be clearly allowed under zoning.

- 1) Assess and modify zoning codes to assure they are supportive of in-home office development, without undermining residential community character.

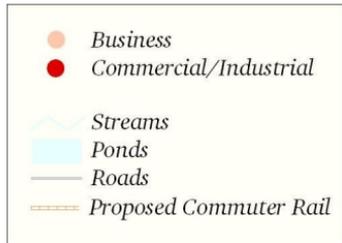
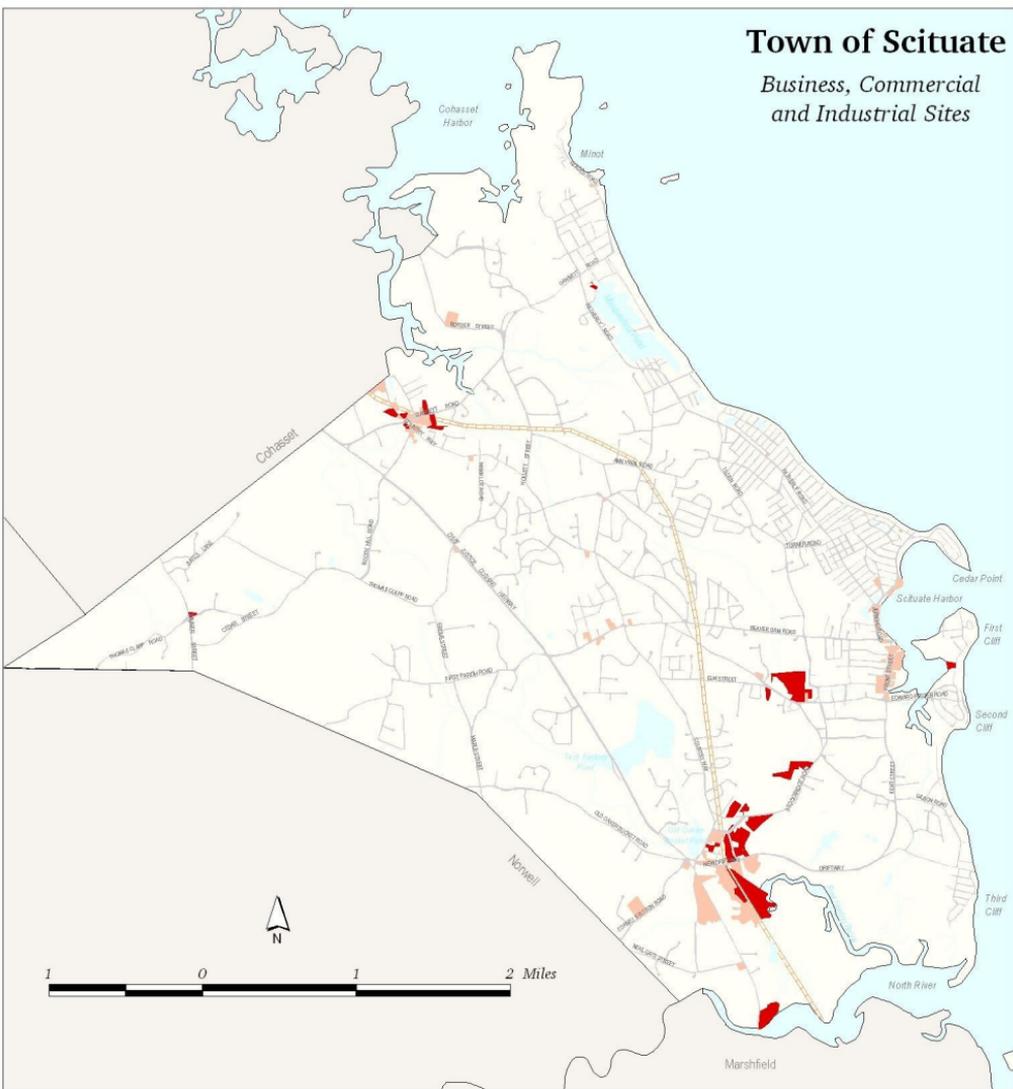
EC-7 Support a Sustainable Fishing Industry.

Pursue a program of policies and activities to insure the growth and vitality of Scituate's fishing and Shellfishing industry.

- 1) Pursue state and federal funding for infrastructure modernization that supports commercial and/or sport fishing.
- 2) Explore opportunities and funding for development of commercial aquaculture.
- 3) Explore the feasibility of an open-air summer fish and produce market at the Cole Parkway parking lot.
- 4) Consider a fee and local tax structure that is favorable to the fishing industry.
- 5) Protect all natural resources that support Scituate's fisheries and shellfish.

Town of Scituate

Business, Commercial and Industrial Sites



Data provided by
Town of Scituate and MassGIS
Map prepared by
KRF: Technology Planning & Management Corporation
May 2002



Town Reservoir

NATURAL RESOURCES

INTRODUCTION

Although located less than twenty miles from Boston, Scituate retains a distinct rural flavor that is enhanced by an abundance of natural resources of great diversity and value. The Town has a long history of dependence on land and sea as a fishing and shipbuilding community, where mossaing and farming were once common occupations. Today Scituate's natural resources are still essential to the community's quality of life. Groundwater tapped by wells and a Reservoir system provide public drinking water; commercial fishing remains part of the Town's economy; and its coastline, scenery and historic buildings distinguish Scituate from other towns and make it an attractive place to live.

This element of the Master Plan provides a description of the Town's natural resources, their value to the community, their sensitivity to development and human use, and recommendations for their protection. Most natural resources require special consideration and responsible stewardship. In many cases, the impacts of human activity can be greatly reduced by wise management of the natural resources and thoughtful planning.

During the public forums held toward the beginning of the planning process, the following goal and objectives were established for Scituate's natural resources. These were used to develop the policies that

govern the recommendations of this element.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Natural Resources:

To ensure that Scituate's natural environment is protected and enhanced for future generations, growth and development should not be disruptive of Scituate's special environmental features.

To achieve this Goal, the Town has adopted the following Objectives:

- 1) To strengthen efforts to protect the fundamental parts of a healthy environment: air, water, plant life, wildlife, soil and landscapes.
- 2) To ensure that enforcement supports the Town's efforts to protect its resources.
- 3) To improve Town efforts to protect all current and potential sources of water supplies, both public and private, on a local & regional basis.
- 4) To continue the rehabilitation and protection of the beaches and Scituate Harbor.
- 5) To protect all wetlands, rivers, estuaries, streams and ponds.
- 6) To protect groundwater recharge quality through preservation of open spaces and conservation restrictions.
- 7) To identify, preserve, and protect the Town's scenic assets.
- 8) To guide future growth so that its impacts on natural resources and infrastructure are minimized.

EXISTING CONDITIONS

A number of environmental conditions and factors have contributed to Scituate's land use and growth patterns. Throughout much of Scituate, groundwater is high and wetlands, including harbors, embayments, streams, ponds and marshes, are prevalent. From the Town's earliest settlement through the present, a substantial amount of building has occurred which has consumed much of the Town's upland and relatively good soils. Much of the land that remains contains marginal soils and scattered wetlands, and greater impacts on wetlands and groundwater are likely to result from construction in these areas.

As the Town continues to develop, its natural resources are increasingly subject to the impacts of growth. New development increases pressure on particular natural resources that are required to serve a

growing population. The demand for drinking water is greater, while higher volumes of stormwater impact natural areas and the waste from larger numbers of septic systems must be absorbed. The needs of additional development may overburden the Town's water supply and sewage treatment systems. Development and increased activity on barrier beaches have reduced these areas' ability to provide wildlife habitat while intensifying erosion. Greater use of harbors may increase discharge of wastes to the water, degrading water quality.

The following sections of this element describe key environmental resources, their features, and the challenges which must be met for their successful protection. These sections include Groundwater and Surface Water Resources, Wildlife Habitat and Native Vegetation, Farmlands and Agricultural Soils and Coastal Resources. Additional details on geology, watersheds, flora and fauna, habitat, and wetland resources can be found in the 1988 Master Plan Update.

Groundwater and Surface Water Resources (Public Drinking Water Sources)

Approximately 80 per cent of the Town's drinking water is supplied by six public drinking water wells¹. These wells tap the groundwater, or underground water supply, located within the stratified drift aquifer underlying the Town. The groundwater in this aquifer is classified "Class A" by the state's Department of Environmental Protection. This designation means it is of high quality and suitable for use for public drinking water.

Scituate's municipal drinking water wells include Well 18B, on the Widow's Walk golf course; the Webster's Meadow wells, 10 and 11, on Cornet Stetson Rd.; the Stearns Meadow well, 17A on Tack Factory Pond Rd.; Well 22, off Old Forge Rd. and Well 19 (Edison's Station) on Chief Justice Cushing Highway next to Teak Sherman Park. Three wells, 17A, 19 and 22 lie within the First Herring Brook watershed and are influenced, through infiltration, by its surface water system. Water drawn from Well 17A has been diverted into Old Oaken Bucket Pond to be treated with the surface supply. Well 2A, the Kent Street well, is used for irrigation at the golf course. It does not provide drinking water due to low capacity and poor aesthetic quality.

In 1993, the Town purchased the Dolan property to serve as a groundwater source for a potential future municipal well. This site is available for additional water withdrawal subject to the Town obtaining necessary approvals from DEP. Other potential additional water sources include expansion of the Reservoir and associated ponds, which could be accomplished through dredging. Sites for new wells are limited due to the Town's small acreage of suitable undeveloped land.

An analysis prepared by MAPC² (1998) projects that at current zoning, Scituate can accommodate approximately 2,890 additional dwelling units. Using a factor of 2.58 persons per household, the Town's ultimate population is projected to be approximately 27,500. At buildout, an additional 560,000 gallons of drinking water per day will be needed to meet residential demand, based on use of 75 gallons per day per person. This projected level of future demand should be used as a guide for planning for the Town's needs for its water supply.

The land area above the groundwater pumped by a well, or that drains into a surface supply, is called the

¹ In 1998, Scituate residents consumed 1.73 million gallons of drinking water per day on average.

² Metropolitan Area Planning Council, the regional planning agency for towns in the greater metropolitan Boston area.

recharge area. Within these recharge areas, activities on land can impact the groundwater below. The Massachusetts Department of Environmental Protection (DEP) terms the area where groundwater will reach a well under acute pumping conditions, i.e. pumping at maximum capacity for 180 days without rainfall, the Zone II. The Zone III is defined as the entire area where groundwater or surface water drain towards the Zone II. The Zone IIs and Zone IIIs to Scituate's Wells 10, 11, 19 and 22 were delineated by Earth Tech, Inc. in 2000. A single Zone II was defined for Wells 10 and 11 which are close together (600' apart,) with the second delineated for Wells 19 and 22, which are separated by 1,300 feet. These Zone IIs were approved by DEP in August, 2001³. The active Town wells, proposed Dolan well site and Zone I and II delineations are shown on the Groundwater and Drinking Water Resources map at the end of this element.

The primary source of recharge, or replenishment of the water in the aquifer, is infiltration from precipitation and surface water resources. Scituate has two predominant types of soils, stratified drift and glacial till, with differing abilities to absorb precipitation. Recharge in the stratified drift is unrestricted and occurs at a relatively high rate compared to the low recharge rates found in glacial till areas. The Zone IIs contain areas with high permeability associated with their geologic deposits, which readily replenishes the quantity of water, but there is also a greater probability of contaminants being transported through their soils to the aquifer tapped by the wells. To ensure the protection of the public water supplies, it is important to identify and manage the land use and the soils in the areas which provide recharge to the pumping wells⁴.

The Reservoir, Old Oaken Bucket and Tack Factory Ponds are impounded sections of the First Herring Brook. Their waters are major components of the Town's surface drinking water supply and provide approximately 20 per cent of the Town's municipal water. They receive water originating in the South Swamp, and from a network of tributaries, including the First Herring Brook. The South Swamp, near Scituate's western boundary with Norwell, contains the headwaters for First Herring Brook. These rivers and streams are hydrologically linked to neighboring wetlands and groundwater, and contamination of one part of the system can affect the water quality of the other connected resources.

The watershed to a reservoir is the geographic land area where all surface and groundwater flows downhill to the surface water. The most sensitive part of the watershed to a Reservoir is termed the Zone A. The Zone A is defined as the land area within a 400' lateral distance of the bank of a reservoir, and within 200' of the banks of its tributaries. The Zone B is the area within a half mile of the Reservoir. The entire remainder of the watershed to the Reservoir is termed the Zone C. The First Herring Brook watershed is a significant part of the Zone C to Scituate's Reservoir.⁵ Old Oaken Bucket Pond, its tributaries and their bordering wetlands, including the Reservoir and Tack Factory Pond, have been designated "Outstanding Resource Waters" in 314 CMR 4.00 "Surface Water Quality Standards," and on maps prepared by DEP. The Reservoir, Zone A and watershed to the Reservoir are delineated on the map of Groundwater and Drinking Water Resources at the end of this element.

³ Earth Tech, Inc., Source Water Assessment Program – Conceptual Zone II Delineations for Wells No. 10, 11, 19 & 22, Scituate Water Division, November, 2000

⁴ 1988 Town of Scituate Master Plan Update, IEP

⁵ The Herring River Watershed encompasses approximately 35 percent (6.87 square miles) of the Town's land area and drains in a southeasterly direction to the North River. Approximately 86 percent of the watershed area consists of the First Herring Brook drainage area and the remainder is tidal marsh (CDM, 1974.) The Brook originates in Norwell at South Swamp and flows southeast to join the Herring River south of the Driftway. Its many wetlands and tributary brooks include Doctor's Brook, Cedar Swamp Brook, and Pincin Hill Brook which feed First Herring Brook. 1988 Town of Scituate Master Plan Update, IEP.

When contaminants are discharged within watersheds for surface waters which connect to the drinking water supply, they have potential for grave affects on the quality of drinking water⁶. Although water from the Reservoir is treated, it is still desirable to keep the level of contaminants as low as possible. It is extremely important to protect the water quality of the Zone A's, as well as the wetlands and tributaries which are connected with the Town's water supply. Many of these surface waters have other vital roles as wildlife habitat and flood control.

The western part of Scituate including Mt. Hope, Judge's Hill, the Bound Brook headwaters and South Swamp, provides the Town's largest areas of open space. These are linked to large open areas in Hingham, Cohasset and Norwell. Much of the land here is in watersheds critical to protecting the Town's Reservoirs. Whether purchased outright or protected through other means, property in this area should be targeted for acquisition or other methods of long-term protection.

The Cohasset and Scituate water supply watersheds overlap in areas north of Clapp Road and within the northwestern edge of the South Swamp. This discovery is documented in Cohasset's recent Surface Water Supply Protection Plan and resulted in an adjustment of Cohasset's watershed map. Significant sections of the First Herring Brook and its watershed lie within Norwell. Because these resources lie within several Towns, an intercommunity approach towards managing the watersheds is needed.

The Town of Scituate is currently undertaking a Surface Water Supply Protection Plan or comprehensive plan to plan for best management of its Reservoir waters and their watersheds. This plan is part of the national effort promulgated by the 1972 Clean Water Act to improve the nation's water supplies and waterways and is expected to be completed by March, 2003.

The First Herring Brook Watershed Initiative (FHBWI) is a citizens-based group formed in April, 1999 whose mission includes "encouragement of community commitment to the preservation of the quality and quantity of our water resources within the watershed." The FHBWI is affiliated with the nonprofit North and South Rivers Watershed Association, with whom it shares resources and nonprofit status.

FHBWI has conducted shoreline surveys of many portions of the First Herring Brook which provide some of the data for the Surface Water Supply Protection Plan. This study most likely will include recommendations for zoning, public outreach and education, and other strategies to better manage the watershed. It is expected to recommend that DEP expand the Zone A for the Reservoir system to include the Reservoir and Tack Factory Pond as essential parts of the Town's water supply. Currently, only the Old Oaken Bucket Pond is officially recognized by DEP as a source of drinking water.

The Town's water supply is not unlimited. Scituate, like many other Towns on the South Shore, needs to carefully assess the ability of its water supply to support additional development, and plan accordingly. MAPC (the Metropolitan Regional Planning Agency) recently completed a study that identifies Scituate as one of a dozen municipalities within its region that will continue to face water supply problems⁷. This is due to a combination of rising consumption coupled with the discharge of significant quantities of water outside the watershed. Long term planning for municipal water service should include controls on growth if necessary, and increased public education about the necessity for water conservation.

⁶ The hazards of nitrate and nitrite infiltration are demonstrated by the loss of the Beaver Dam Well off Beaver Dam Rd. Other contaminants have impacted the Kent Street Well.

⁷ South Coastal Basin Watershed Pilot Project, Final Report, MAPC, 2001

Common contaminants of groundwater include bacterial and viral organisms, nitrates, sodium, hydrocarbons, and volatile organic compounds. If these potential hazardous substances are spilled or enter the ground within the Zone II's or surface water protection zones, they can be expected to migrate toward the pumping well or Reservoir. It is therefore important to designate these areas so they can be properly managed to protect water quality. Once the boundaries of these areas are defined, the Town can adopt zoning and other regulations to protect them from common sources of contamination. Good strategies for water quality protection may also include acquisition of open space to prevent contamination and increase recharge from precipitation. Typical sources of contamination of surface waters and groundwater, and recommended methods for protecting water quality, are described below.

Sources of Groundwater and Surface Water Contamination

Impacts of Septic Systems on Groundwater and Surface Waters

Approximately 70 percent of all homes in Scituate use on-site septic systems, including some that are still utilizing cesspools⁸. In the typical septic system, 99 per cent of wastewater and sewage deposited in septic tanks or cesspools flows through the system into the ground, in some cases after distribution through a leaching area.

Sewage contains bacteria and viruses which to some extent are attenuated in the soil, but may cause contamination of groundwater. Nitrates and nitrogen produced by breakdown of urea can also impact groundwater, with potential effects on the health of infants. Studies have shown that septic systems are a leading source of nitrogen in groundwater.⁹

Phosphorus is another element contained in the leachate from septic systems. Nitrogen and phosphorous are natural nutrients that encourage plant growth. As the level of nitrogen in a freshwater pond rises, the resulting increased growth of algae and freshwater plants can result in eutrophication, a permanent change in water quality, ultimately resulting in the pond filling in as plants overgrow and sediments accumulate. Poor water quality will decrease the ability of rivers, streams and wetlands to sustain wildlife, and associated algae blooms and unpleasant odors damage their attractiveness in the landscape. Eutrophication is a potential environmental effect of septic systems located too close to contained fresh- or salt-water bodies.

In the types of soil conditions typical of many locations in Scituate, it is difficult to properly site septic systems¹⁰. The presence of till in many areas makes it very difficult for wastewater from septic systems or stormwater runoff to be absorbed into the ground. In their 1969 soil survey, the U.S. Department of Agriculture Division of Natural Resources and Conservation Serves (NRCS) classified approximately 85 percent of the Town's soils as having "severe" or "very severe" limitations for septic systems. These

⁸ Comprehensive Environmental Inc., Supplemental Facilities Plan for Wastewater Management, 1992

⁹ Studies by Horsley Witten and Hegmann, conducted by the Buzzards Bay Project, February 1992 found that septic systems contributed 74% of nitrogen in groundwater, while stormwater accounted for 23%.

¹⁰ In 1996, the Metropolitan Area Planning Council initiated a study which identified sources of non-point pollution for Towns on the South Shore, the South Shore Nonpoint Source Management Plan (July, 1998.) This plan suggests the presence of particular problem septic system areas at Hatherly Rd. /Egypt Beach, Minot, North Scituate village, Musquashcut Pond, Sedgewick Dr., Pratt Rd./Arborway, Harbor Heights Rd. and Second Cliff within the Bound Brook/Gulf Basin. In the North River watershed, Greenbush is identified as a major problem area, with the special concern that it is adjacent to the Town's drinking water Reservoir. (Pp. 75-6)

classifications were based on soil conditions such as shallow depth to bedrock, shallow depth to the water table, slow percolation rate due to compact, impermeable soils or hardpan, and periodic flooding. They indicate that soil properties in many parts of Scituate preclude on-site disposal systems without major and costly corrective measures.

Failing septic systems within the watersheds of surface waters or groundwater used for drinking water can have serious negative effects on water quality. High housing density, poor maintenance and inadequate sizing contribute to septic system failure. These situations may be improved by increasing lot size, requiring good septic system maintenance and strong enforcement of Title V¹¹. In areas with numerous failing systems, the Town should consider alternatives to upgrades of individual systems, such as community systems or eventual connection to sewer. When septic systems are situated in locations with high groundwater, prominent changes to topography often result from mounded fill. These mounds permanently change the landscape and character of residential lots. This should be taken into account when the Town plans for long-term mitigation of failing systems.

Under a DEP Administrative Consent order, Scituate was required to upgrade its Wastewater Treatment Plant and expand the plant so it could handle a greater volume of sewage. Under the conditions of the Order, no new sewer connections were permitted until the plant was upgraded.

In March 2001, Camp, Dresser & McKee completed a Sewer Expansion Study for the Town, which proposed geographic priorities for new sewer connections. This study established these priorities using the following factors:

- proximity to the existing sewer system;
- cost per person served;
- proximity to other areas proposed to be seweraged;
- impact on water supply; and
- impact on water quality¹².

The priorities and expected number of additional sewer connections of different geographic areas are as follows¹³:

Greenbush/Reservoir (Districts 23 and 28)	890 connections
The Cliffs (Districts 20 – 33)	1,360 connections
Musquashcut Pond (District 1A)	1,690 connections
Front Street (Districts 24 and 25)	2,130 connections
North Scituate (Districts 3, 6 and 10)	2,725 connections
Minot (District 1)	3,080 connections

The upgrade and expansion of the plant are now complete. The state’s moratorium has been partially lifted so that existing homes or businesses already on sewer may obtain approval for increases in flow. The Town has applied for approval of an increase in flow to allow sewerage of Districts 23 and 28 in the

¹¹ Title V, the state law governing placement of septic systems, is administered locally by Boards of Health.

¹² Summary, Town of Scituate Sewer Expansion Study, Camp Dresser & McKee Inc., prepared for Public Meeting No. 2, February 13, 2001, p. 12

¹³ Ibid., p. 12

Greenbush area. This area includes a Business District and residential development which is adjacent to the Reservoir.

March, 2002 Town Meeting authorized expenditure of \$13.5M for sewer extensions. This will be recouped through betterments charged to new users. It will be important to coordinate efforts made by homeowners to improve their septic systems with future connection to the sewer system so that homeowners do not have to pay for both septic upgrades followed by a sewer connection fees and sewer bills shortly thereafter.

The Town must continue to address the problem of failing septic systems, particularly in recharge areas to Town wells and the Reservoir system, and near streams, wetlands and coastal waters. The Board of Health has made an excellent start by pursuing development of a septic system management program to track information about on-site systems, including inspection and maintenance records. Their efforts to identify sources of contamination are also very important. They should continue to seek and distribute state-funded grants to aid residents who cannot afford to upgrade their septic systems. Revisions to Title V requirements and planned extension of sewer taken together should produce a significant reduction in the pollution of the streams and wetlands in the Town.

Stormwater and Common Household Contaminants

Road and parking lot runoff, lawn fertilizers, pesticides, and herbicides are also sources of groundwater contamination associated with development. Stormwater runoff contains hydrocarbons, nitrogen, suspended solids and coliform bacteria deposited on the street by cars, pets and other sources. Untreated runoff is a major source of poor water quality, with potential to contaminate coastal and fresh surface waters, groundwater and shellfish beds . Its effects will increase as the Town continues to become more developed.

The Town is currently acting vigorously to reduce stream pollution from storm sewer discharges. A number of studies completed in recent years have addressed stormwater remediation¹⁴. In 1996, Scituate completed a Stormwater Management Plan as a condition of DEP's Administrative Consent Order. The Surface Water Supply Protection Plan and First Herring Brook Watershed Initiative's Watershed Report documented swales, catch basins and roadways that discharge untreated or partially treated stormwater directly into the water supply system.

The Town is now undertaking a Stormwater Management Master Plan which is expected to be completed in 2004. This is an extensive planning project which will include mapping of the Town's

¹⁴ These include the Town of Scituate Storm Water and Other Nonpoint Source Pollution Plan (CEI, April 1998), No Discharge Area Designation North and South Rivers and Their Tributaries, Scituate, MA (CEI, March 1998), and the Growth and Connection Control Plan (CEI, 1997). Numerous recommendations regarding the protection of water quality were made in the Water Resource Protection Study, Town of Scituate, MA prepared by IEP, Inc. in May 1987. The First Herring Brook Watershed Management Study (January 1991) completed by the Town of Scituate indicated that the watershed was relatively clean, but continued monitoring was recommended. The Clapp Brook watershed was highlighted for special preventative attention because certain actions could prevent future problems. One area of concern was the high coliform counts that were attributable to stormwater runoff rather than septic systems, which could be corrected by ongoing maintenance and drain reconstruction. Older developed areas on small residential lots and commercial uses were deemed to pose the greatest threat. The recommendations section below incorporates the recommendations of these reports. Land acquisition to preserve water quality is addressed in the Open Space element of this Plan.

drainage system including all discharges to wetlands and waterways; public outreach to Scituate residents; modeling to determine the effects of new development on the system; and a town-wide plan of drainage improvements. As part of this plan, water samples taken at the discharge outlets in dry weather will be analyzed for contamination. The plan will outline how the Town can best comply with the new requirements of Phase II of the federal National Pollution Discharge Elimination System (NPDES), a new regulation of the Environmental Protection Agency which includes standards for how communities manage their stormwater. The Town should consider incorporating recommendations from the Stormwater Management Master Plan in its Zoning and Subdivision Regulations.

Best management practices (BMP's) for control of stormwater runoff include the use of open, natural drainage systems that improve water quality of the runoff and aid flood prevention. These systems include wet basins, vegetated swales and creation of wetlands to retain and recharge stormwater pollution while absorbing pollutants. Stormwater is detained in swales for short periods of time while ponds and wetlands treat stormwater for longer periods. In contrast, a closed system is one that relies on curbs, gutters, catch basins pipes and culverts to quickly divert stormwater to other locations.

The Town has striven to reduce impervious area in locations where runoff can flow towards surface water bodies in order to reduce the impact of stormwater on wetlands, streams, and other surface waters. Increases in impervious area also contribute to flooding by increasing peak stormwater flows as water travels more quickly over hard surfaces, bypassing groundwater recharge and discharge that are crucial to normal stream flow.

In several locations, the Town has installed remedial drainage facilities to mitigate the impacts of stormwater on the Reservoir. In 2001, BMPs including devices to remove sediment, oils and grease, swales, a small constructed wetland pond and plantings to take up nutrients, were installed at eight locations along the First Herring Brook between the Reservoir and Old Oaken Bucket Pond. The locations where these were put in place included sites on Satuit Trail, Oakhurst Rd., Pin Oak Dr. Eisenhower Rd. Colonial Way and Hughey Rd. The Town should continue to seek available state grants and funding sources for drainage improvements and stormwater mitigation for public drainage facilities in the Zone II's, the watershed to the Reservoir and other sensitive areas.

Chemical substances such as fertilizers, pesticides and herbicides contain significant amounts of nitrogen and phosphorous. When these are used, spilled or discharged on the ground in watersheds or recharge areas to surface waters and groundwater, contamination may result. The Town should develop an educational program to inform residents about the impacts of these common household materials on important natural resources.

In 1996, the passage of the state Rivers Protection Act gave Conservation Commissions jurisdiction over all activities within two hundred feet of rivers and perennial streams. Scituate's Zoning Bylaw requires a 150' setback from any river or stream tributary to the Tack Factory Pond Reservoir, but not to Old Oaken Bucket Pond. In addition to the state Wetlands Protection Act, Scituate has a strong local wetlands bylaw, which further protects wetlands and surface waters from potential contamination from point-source discharges, non-point pollution and sedimentation. All of these regulations should continue to be strongly enforced to help maintain high water quality for Scituate's wetlands, surface waters and drinking water reservoirs.

Hazardous Materials Resulting From Commercial and Municipal Activities

Like septic system leachate, stormwater and household contaminants, certain materials used by

businesses can have major effects on water quality. Many commercial and home businesses such as printing, photography, woodworking, automobile repair, use chemicals that contain hydrocarbons, sodium and volatile organic compounds. Because of the extensive use of pesticides and herbicides, some agricultural uses are also sources of hazardous materials. Because Scituate has had negligible exposure to manufacturing and large commercial operations there are no significant commercial hazardous waste discharges in the Town.

As of December 10, 2002, there have been 44 releases of oil or hazardous material reported in Scituate under the provision of MGL Chapter 21E according to DEP's Bureau of Waste Site Cleanup. The uses which generated the spills generally fall into the following categories: gas stations, residences, marina properties, schools, and commercial sites. Several sites have already been cleaned up, while others are on a schedule for remediation.

Underground gasoline and heating oil tanks, landfills, salt storage areas and junkyards are also sources of groundwater contamination. These land uses must be identified and managed to reduce the potential for degradation of the Town's water supply. It is important for the Town to take the necessary steps to prevent contamination since treating water after chemical pollution has occurred can be extremely costly.

Like many other Massachusetts towns, Scituate previously operated an unlined sanitary landfill on the Driftway in a former gravel pit. This landfill site is located in a glacial outwash plain, consisting of stratified sand and gravel, and therefore the soil is very permeable. The landfill lies to the southwest of Well 18B. The Town has closed and capped the landfill with an impervious liner and constructed a transfer station to handle its solid waste, which is now shipped to SEMASS for processing. Two other former "dump" sites exist in Scituate. The Stockbridge Road site, which was closed in 1976, was used for some 25 years. In the West End a similar operation was conducted at the end of the Clapp Road near the Norwell Town line. The Stockbridge Rd. site was capped in the early 1980's; the West End "dump" was capped in 1960. Monitoring wells were installed downgradient of the Stockbridge Rd. landfill to identify any hazardous materials that might have migrated from this site towards sensitive resources. There was no requirement for monitoring wells when the West End site was capped.

Scituate has limited land zoned for business. However, some home businesses may use significant quantities of hazardous materials their activities. Their owners may receive little information about required practices, and a number of home businesses are found in remote locations. It is important for the Town to educate its residents about the potential impacts of hazardous materials generated by home businesses on the water supply.

Wildlife Habitat and Native Vegetation

Scituate has a large variety of native wildlife, including birds, small mammals, amphibians, fish and reptiles. Their habitats include wetlands, woodlands, transitions between woods and fields, barrier beaches, rocky shorelines, and other natural areas which provide forage for species that subsist on the vegetation and other wildlife. No recent inventory of the wildlife of the entire town has been made, but the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) maintains information on rare and endangered wildlife species.

Scituate's inland water resources consist of rivers, streams, ponds and wetlands. The Herring River,

Musquashcut Brook, Satuit Brook, Herring Brook, and Bound Brook are some of the Town's other important fresh water rivers and streams. These waterways supply habitat for insects, fish and amphibians, which provide food for birds and mammals.

Vernal pools are small ponds which dry up in the summer, but reappear each spring in the same location. They are essential for breeding of salamanders and certain other species. Through a process of certification with MNHESP, these ponds are provided with extra levels of protection pursuant to several environmental regulatory programs, including the Wetlands Protection Act, Surface Water Quality Standards and Title 5.

Twenty vernal pools have been certified in Scituate, including three in North Scituate, fourteen in the West End, and three in Greenbush. The Conservation Commission's efforts to locate additional vernal pools are ongoing. The Natural Resources Appendix contains information regarding the Town's rich variety of migratory and resident bird species and endangered wildlife in Scituate. In addition to those listed in the Natural Resources Appendix, more recent documented occurrences (sightings) of state-listed rare species include: *Crangonyx Aberrans* (Mystic Valley Amphipod) found in Hick's Swamp, Greenbush, in 2001; five occurrences of *Terrapene Carolina* (Eastern Box Turtle), three occurrences of *Hemidactulium Scutatum*, two occurrences of *Clemmys Guttata* (Spotted Turtle), and one occurrence of *Circus Cyaneus* (Northern Harrier Hawk), all found in the West End between April 2001 and July 2002.

The Town's coastal areas offer many varieties of prime habitat. In addition to fish, shellfish, and mammals such as seals, Scituate has long held an attraction for birdwatchers because of the wide species diversity found here on a year-round basis. Historically, Scituate has been a breeding spot for many bird species because of its proximity to the ocean, rocky cliff areas suited to nesting and protection, and rich salt marsh areas filled with abundant food supplies. The Fourth Cliff site is the home of the second largest least tern colony in the country. This bird is listed for special concern in Massachusetts. Also, at Fourth Cliff is the nesting site of piping plovers, a threatened species in Massachusetts¹⁵.

Farmlands and Agricultural Soils

The Town's farms are a traditional part of Scituate and a source of open space, and should be preserved for the enjoyment of future generations. The Steverman and Treeberry Farms are among the Town's largest, but there are small acreages in active farming, as well as nurseries, scattered throughout Scituate. The U.S. Dept. of Agriculture's Natural Resource and Conservation Service (NRCS) identified three categories of farmland in Scituate, including prime farmland, farmland of state and local importance, and cranberry bogs under production. The classification of prime farmland soils is based upon acceptable pH, lack of excessive stoniness and favorable climatic conditions for agriculture. Soils defined as prime farmland must be available for use as cropland, pastureland or forest land.

State or local important farmland soils are those that "fail to meet one or more of the requirements of prime farmland, but are important for the production of food, feed, fiber, or forage crops. They include those soils that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods." (NRCS, formerly Soil Conservation Service, 1986). While cranberry bogs are classified as wetlands, and therefore are protected by the Wetlands Protection Act, it is important to note the value of these areas both to support a particular type of agriculture and as open

¹⁵ 1988 Town of Scituate Master Plan Update, IEP

space¹⁶.

In general, soils best suited for agriculture are well-suited to competing uses, and in many locations, Scituate's farmland soils have been developed. In addition to tax incentives, which are already available, preserving the Town's remaining farms and areas of productive soils may require acquisition of land or of development rights to protect all or part of these important resources.



Ed Foster Causeway Looking Towards Peggotty Beach

Coastal Resources

Scituate's coastline is one of its most appealing features. Within an area of approximately seventeen square miles, Scituate has 57.8 miles of shoreline. A fundamental Scituate resource is the Town's ample natural harbor, providing refuge to an estimated 1,400 recreational boats.

The Town's coastal resources are varied, but all are sensitive to development and increased use. Since the shoreline offers many recreation opportunities, coastal resources are often subject to intense use. Many of its ecosystems are inherently fragile and irreplaceable. They can be altered significantly by human development. The sections below will describe coastal ecosystems, shellfish resources, barrier beaches, Scituate Harbor, coastal water quality and coastal access; the pressures on these resources; and how the Town can best balance human activity and the needs of these natural systems.

¹⁶ Ibid.

Coastal Ecosystems

Scituate's coastal ecosystems include salt marshes, tidal flats, barrier beaches and rocky shorelines. Each is characterized by distinct soils, topography, vegetation and wildlife.

Salt marshes are extremely productive ecosystems which act as nurseries for the young of many salt water organisms, and afford habitat for many species of wildlife that feed on these organisms. Scituate has 1,245 acres of salt marsh, which is 11.4 percent of the total acreage of the Town. Salt marshes are generally typified by flat, open, grassy areas along tidal waters. They are usually found in sites protected from the high energy of the open coast: in estuaries, salt ponds, or low entrapped portions of barrier beaches. The Massachusetts Wetlands Protection Act¹⁷ defines a salt marsh as a coastal wetland that "extends landward up to the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to, or prefer living in, saline soils."¹⁸

Dominant plants within salt marshes are salt meadow cord grass (*Spartina patens*) and/or salt marsh cord grass (*Spartina alterniflora*)." Other plant species which can be found in salt marshes include spikegrass (*Distichlis spicata*), marsh elder (*Iva frutescens*), saltworts (*Salicornia* sp.), and sea lavender (*Limonium carolinianum*). Salt marsh resources are valued for a variety of reasons which include providing wildlife habitat, contributing to the marine food chain by producing and exporting large quantities of plant material to nearby waters, providing natural flood protection, adsorbing and transforming some water-borne contaminants, and protecting ground water from salt intrusion by forming a peat filtration system along the shore¹⁹.

Tidal flats offer extensive shellfish habitat. Scituate's major tidal estuaries, the North, South and Gulf Rivers, serve as breeding grounds for a variety of fish and shellfish species. The Town's beaches are actively used by its residents, and support unique plants and wildlife, particularly birds. The rocky shorelines provide homes for seals, lobsters and other marine life especially adapted to these habitats. More information about these specialized ecosystems can be found in the 1988 Master Plan.

Shellfish Resources

Scituate's prime shellfish beds for soft-shell clams and mussels include the South River, the North River and Cohasset Harbor. Surf clams, less popular for harvesting, are available along the shoreline from the Glades to Third Cliff. In the Briggs Harbor area on the southern side of Cohasset Harbor is a vast resource of soft-shelled clams and mussels. As of 2002, this area has been closed for two years to allow shellfish to regenerate. The North River is another productive area for soft shell clams. It has been open seasonally from December 1 to April 30 for the past four to five years. Quahogs can be found only in small tributaries of the North River and in a small area of the South River. Scituate's shellfish beds are shown on the map of Recreational Facilities at the end of the Open Space element.

The Division of Marine Fisheries periodically surveys shellfishing resources to determine water quality and whether shellfishing should be allowed. While contamination is responsible for the permanent or

¹⁷ MGL Ch. 131, s.40

¹⁸ 1988 Town of Scituate Master Plan Update, IEP

¹⁹ Ibid.

periodic closing of shellfish areas, the state's readings may be infrequent and may not reflect recent improvements in water quality. This circumstance makes it difficult to reopen shellfishing areas in a timely way.

Shellfishing in Scituate Harbor and the South River has long been prohibited due to unsatisfactory water quality (Sanitary Survey Report of Scituate North and South Coastal in the Town of Scituate, Division of Marine Fisheries, November 30, 2000). Some of the problem in the South River is most likely due to a lack of sewerage in Marshfield. Sewerage of downtown Marshfield has recently been approved by the voters, and hopefully this will improve water quality in the South River.

The water quality of the North River has improved substantially over the past several years, and efforts are continuing to identify remaining sources of contamination. This system is complex, with heavily traveled roads, businesses and other land uses upstream, as well as wildlife, contributing coliform bacteria to the river's waters.

Scituate's shellfish resources are abundant, but their use is limited by poor water quality in the North and South Rivers. The Town has worked hard to upgrade the Wastewater Treatment Plant, and is attempting to identify other sources of fecal coliform that could affect shellfish beds. The Town should pursue the reopening of these historically productive areas for year-round use since if the beds are not reopened in the near future, they may be formally reclassified as permanently closed. This would make reopening a significantly more difficult and lengthy process.

Barrier Beaches

Barrier beaches are narrow, low-lying strips of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast²⁰. They are separated from the mainland by a relatively narrow body of fresh, brackish or saline water, or by a salt marsh system. A barrier beach may be joined at the mainland at one or both ends. Scituate's barrier beaches are listed in CZM's Barrier Beach Inventory Report with a total of 323.1 acres (Hankin et. al, 1985). The Humarock/Rexhame barrier beach is the sixteenth largest barrier beach landform in Massachusetts and is attached to the mainland at the southern end²¹. Scituate's barrier beaches are illustrated on the Recreation Facilities map found at the end of the Open Space and Recreation element of this Master Plan. They include:

- Strawberry Point
- Minot Beach from gate to 300' south of Bailey's Causeway
- North Scituate Beach from Mitchell Ave. to Mann Hill Beach
- Mann Hill Beach from North Scituate Beach to Egypt Beach
- Egypt Beach from Mann Hill Beach to Bradford Ave.
- Shore Acres/Sand Hill Beach from Seventh Ave. to the southerly end of Rebecca Road
- The Beach along Edward Foster Road between First and Second Cliffs
- Peggotty Beach
- The Sand Spit (Rivermoor)
- Humarock Beach except Fourth Cliff²²

²⁰ Wetlands Protection Act, M.G.L. Ch. 131, S. 40

²¹ 1988 Town of Scituate Master Plan Update, IEP

²² Vincent Kalishes, Conservation Agent, 7/11/02

Coastal erosion is a natural process, where wind and waves continuously transport sediment along the shorefront. Barrier beaches help protect inland areas from the subsequent erosion, but are also subject to its effects. Erosion of beaches has been occurring along the coastline of Scituate at an average rate of approximately one foot a year. In the past 50 years, large sums of public and private money have been spent to erect seawalls and build revetments to protect the Cliffs and other shorefronts from erosion. The Cliffs are actually marine scarps formed by the erosion of drumlins. The base of the Cliffs has been protected with heavy blocks of granite in several locations. The armoring of the Cliffs has temporarily reduced the erosion of the scarps. In the past, this eroded material served to nourish Peggotty Beach and other adjacent barrier beaches. With the loss of nourishment, these beaches are receding at an increasing rate. Photographs taken at the turn of the century show that the beaches then were much more extensive than they are today.

Storm damage prevention and flood control are two of the most important values of the barrier beaches. The sands of a barrier beach can absorb the force of storm waves, and the reshaping of beaches and dunes by waves provides material to beaches down-current and eases the effects of erosion²³. In Scituate, long stretches of barrier beaches have been extensively developed, increasing the potential for flood damage as well as erosion.

Coastal storm flooding has historically caused significant damage to Scituate homes which front directly on the water. An extremely severe coastal storm, the Portland Gale of 1898 created a breach in Scituate's southernmost barrier beach, with the result that Humarock became separated and has remained isolated from the remainder of the Town ever since. During the past ten years, there have been several intense coastal storms on the South Shore, including severe northeasters in 1991 and 1992 which were accompanied by significant coastal erosion and storm flooding in Scituate.

Statistics from the Department of Environmental Management indicate that Scituate has had a very high volume of insurance claims for flood losses. From 1978 to 1998, 2,379 claims were filed by Scituate residents, totaling \$45,000,000, a significant percent of the state's total losses of \$204,000,000 during the same period²⁴. Over the past decade Scituate has made many efforts to encourage flood-resistant construction and stem repetitive loss claims. The Town requires major new construction in the flood plain to be elevated to one foot above the minimum base flood elevation, and has strictly enforced this standard. Because of the vulnerability of development in waterfront locations, the Town should continue this policy.

Scituate participates in the Community Rating System (CRS) program administered through FIA (the Federal Insurance Agency), which offers a reduction in flood insurance rates to municipalities that provide education about floodproofing and require flood-resistant building techniques. The Town has also obtained several grants from FEMA through the Flood Mitigation Assistance Program to help homeowners pay for elevating their dwellings and raising utilities so they are protected from flooding.

Approximately 30% of the Town's land, or 3,279 acres, lies within the Flood Plain and Watershed Protection Zoning District. Within this Town overlay District, a Special Permit is required for major additions and renovations to existing homes. New construction can only be allowed if a property owner can show his land is not subject to flooding. The Town has a second flood-related Zoning District, the Flood

²³ 1988 Town of Scituate Master Plan Update, IEP

²⁴ Conversation with Rich Zingarelli, Program Manager, Flood Hazard Mitigation Program, Massachusetts Department of Environmental Management

Insurance District, which corresponds to the FEMA Zone A or hundred year flood plain. The Town should consider combining these two Zoning Districts to simplify administration and enforcement of zoning.

Although large sections of Scituate’s barrier beaches are already extensively developed, they continue to provide excellent protection against flooding of more inland areas. They remain fragile and prone to erosion, and new building in these locations should be avoided to the greatest extent possible. It is important for the Town to continue its strong enforcement of local, state and federal building codes to make sure any improvements on the barrier beaches are able to withstand flooding to the greatest extent possible.

Coastal Water Quality

Through the 305(b) Water Quality Assessment process, DEP periodically rates water quality for coastal surface waters, estuaries and river segments according to use classes. These designations, used by the Environmental Protection Agency (EPA) and other federal agencies, classify water bodies according to appropriate uses. The water quality of Scituate’s coastal water bodies, rivers and estuaries as of May, 2000, is designated as shown in the tables below.

<u>Salt Water Body</u>	<u>Use Class</u>	<u>Pollutants (Sources)</u>
Cohasset Harbor	SA	Pathogens (Septic systems, point sources, non-urban runoff)
The Gulf	SB	Pathogens (Septic systems, non-urban runoff)
Scituate Harbor	SA	Pathogens (Source unknown)

<u>River or River Segment</u>	<u>Use Class</u>	<u>Pollutants (Sources)</u>
North River – Main St., Marshfield to Mouth	SA	Pathogens (Septic systems, non-urban runoff)
Bound Brook	B	None listed

Source: Department of Environmental Protection. Information for other water bodies was not available.

“SA” is the highest quality salt water designation and means that dissolved oxygen is not less than 6.0 mg/L and average levels of coliform bacteria do not exceed 70 coliform per 100 ml. These waters are approved for swimming and boating. “SB” is a lower rating for salt water, reflecting dissolved oxygen not less than 5.0 mg/L and 200 coliform per 100 ml, with more variability in pH than SA (314 CMR). These waters may be used for boating but not swimming. “B” is a fresh water designation of water which is acceptable for swimming and boating, but is not of high enough quality for use as a drinking water supply.

The construction of sanitary sewers around Scituate Harbor has greatly improved pollution of the harbor in wintertime. Two sewer pumpouts for boats in the harbor have been installed at the Harbormaster’s building. Regular water quality testing shows low fecal coliform counts. In addition, as noted above, Scituate has upgraded the Wastewater Treatment Plant to meet state and federal requirements.

It is important to maintain a high level of water quality in all of Scituate’s coastal waters to preserve the integrity of coastal ecosystems, maintain their quality for boating and swimming, and keep them appealing

to residents, boaters and visitors to the Town's waterfront.

Coastal Access

New development along the shore often infringes on historic ways to water. If these ancient pathways are not marked on the site or at a minimum, mapped, they may be lost to the public forever. By investigating Registry of Deeds records and Assessor's Maps, it may be possible to identify ways to water that were once considered public but were abandoned, and reclaim them for public use. Sometimes old access points can be located by asking long-time Town residents for information. If necessary, title searches may be used to establish public ownership of these access points.

In 2000, the Planning Board obtained a grant from CZM to investigate how to better physically and visually connect Front St. and the waterfront in Scituate Harbor. The resulting Scituate Harbor Access Study by the Urban Harbors Institute recommended creation of a walkway including three sections, the Scituate Harbor Walk, the First Cliff Route and the Lighthouse Route. This study emphasized the importance of building community support for any walkway to ensure its successful creation.

The state's Chapter 91 licensing program governs development below the historic high tide line and on filled tidelands. Its regulations require that public access be accommodated when new construction occurs in tidelands. The Planning Board should monitor development on the coast and call for implementation of Chapter 91 to increase public access to the extent feasible.

Scituate Harbor

Scituate Harbor is a singular natural, recreational and commercial asset of the Town. It has local and regional significance as a waterfront village that supports an active fishing industry. A large, busy harbor, it is estimated to be used by as many as 1,410 recreational boats²⁵. There are approximately 751 moorings in the North River, South River and Scituate Harbor combined²⁶. There can also be as many as 81 fishing boats, including draggers, gill netters, and lobster boats. The Harbor also supports several deep-sea fishing charter boats. There are two public boat ramps, three private yacht clubs, three private marinas, and one public marina in Scituate Harbor. Cohasset Harbor, which has waters in the Town of Scituate, has a marina and the majority of its boating activity within the Town of Cohasset.

The Scituate Waterways Commission is actively engaged in planning for the waterways of the Town. It has been responsible for major waterways improvements that are now taking place and have been implemented in the last six years, including the dredging of the South River and Scituate Harbor, and rebuilding the jetties at the Harbor's entrance. These improvements grew out of the Commission's action planning efforts and have a value in the \$5 to \$6 million dollar range. The Waterways Commission's planning also led to the rewriting of harbor regulations that ensure that the harbor is open to all, by prohibiting the sale or unrestricted transfer of moorings.

The state's Harbor Management Planning process provides a model for negotiating issues that can arise where there is high demand for space to serve many activities on land and water. This process uses extensive public participation to develop goals and objectives for the harbor, and to identify locations which

²⁵ Information provided by Harbormaster's Office, 12/12/02

²⁶ See the Open Space and Recreation Element of this Master Plan for more information on Scituate's public and private marinas.

will best serve the diverse interests of many users of the Harbor. In general, it is important in long range planning for the Town to review the relationships between land and water activities, and provide ample, inviting public access to the water's edge. Keeping the harbor aesthetically attractive and protecting the environment should be high priorities since both can promote a strong local economy and create a village center which is a desirable place to live, work and shop.

Almost all harbors and navigation channels require periodic dredging to eliminate shoaling and restore navigational depths. The Commission has worked to implement dredging of the harbor, dredging of the South River, and reconstruction of the jetties and breakwaters of the harbor. These jetties and breakwaters protect the harbor and downtown area from dominant northeast storms. The U.S. Army Corps of Engineers has undertaken maintenance dredging of Scituate Harbor as a federally funded project which includes the channel, inner harbor and outer harbor mooring areas in Scituate Harbor. Dredging for the South River is now being designed, and will include the section from the mouth to the Sea St. bridge. The preferred disposal alternative is nearshore disposal which will enhance the barrier beaches storm damage and flood control functions while protecting marine fisheries habitat.

The Town of Marshfield is proposing to dredge from Sea St. to Julian St. Seventy-five percent of the cost of these projects is funded by the state. The federal project is one hundred percent funded by the federal government with the town funding permitting through the state level. The Town funds its share through the Waterways Enterprise fund derived directly from fees from waterways users.

RECOMMENDATIONS

NR-1 Review regulation of activities in locations which can affect the Reservoir and public water supply wells.

- 1) The Board of Health should continue strong enforcement of Title V in Zone II's and watersheds to the surface water and groundwater used for the Town's drinking water supply.
- 2) The Town should continue to enforce zoning which restricts businesses which produce hazardous materials in Zone II's and the watershed to the Reservoir. The Town may want to consider amending this zoning to include review of new home businesses in these locations.
- 3) The Town should work with the Mass. Highway Department to develop a plan for protection of the Reservoir surface water system from stormwater, spills of hazardous materials and other impacts resulting from commercial and other traffic on Route 3A. This plan should include protection of Tack Factory Pond and the Reservoir, and should reflect potential expansion of the Reservoir if this is considered necessary.
- 4) The area of the Water Resource Protection District should be reviewed to insure that it includes all newly designated Zone II's.
- 5) Some Scituate Zone II's and watersheds to Reservoir fall in the Town of Norwell, while portions of the watershed to the Aaron River Reservoir in Cohasset lie in Scituate. Scituate should work closely with neighboring towns to ensure that these regional groundwater resources are adequately protected.
- 6) The Town should adopt the recommendations of the Surface Water Supply Protection Plan for

water quality protection and water conservation.

- 7) The Board of Health should consider adopting regulations governing the generation, storage, and transportation of toxic and hazardous materials. These could include provisions regarding inventory and reporting of materials stored on-site, contingency planning in the event of spills and leaks, and prohibitions of certain storage and usage practices.
- 8) The Town's Zoning Bylaw should include high standards for density for new homes within the Zone II's for the public wells and the Zone A for the Reservoir system when these are necessary to protect the Town's water supply.

NR-2 Consider options for long-term protection of the area west of Route 3A to protect valuable water resources.

In the past, most of the residential development in the Town has been to the east of Route 3A. However, with buildable land at a premium, developers are now concentrating on the West End. This section of Scituate includes the headwaters and a large segment of the First Herring Brook, a main tributary to the Town's Reservoir. The area is also valuable for wildlife habitat, special vegetation species and water supply. Property in this area should be targeted for acquisition or other methods of long-term protection. The Town should endeavor to obtain areas of contiguous open land that are most useful for wildlife habitat.

NR-3 Develop programs to educate the public about the sensitivity of natural resources.

- 1) The Town should continue public education about the need to conserve water, and provide information on devices and practices that can aid in water conservation and protection.
- 2) The Town should consider greater efforts to educate the public about the harmful effects of household hazardous materials and fertilizers. Programs could include brochures, mailings, and public service announcements on Cable TV. The Town may want to coordinate these efforts with those of the First Herring Brook Watershed Initiative, a local organization whose purpose is water quality protection.
- 3) The Town should continue to educate the public about the needs of sensitive bird species which use recreation areas for their nesting and breeding. It may be appropriate to provide signage at Driftway Park about terns and other birds which use The Spit, and at some public beaches.
- 4) The Town should find ways to inform the public of the need to control pet waste near coastal waters. This could include signage and provision of "pooper scooper" bags for disposal at the beaches and other high traffic locations. Additionally, homeowners near these water bodies should be encouraged to leave buffers of tall natural vegetation along the water to discourage Canada Geese.
- 5) The Town should continue efforts to educate boaters about the need to use pump-outs and avoid discharge into coastal waters.
- 6) The Town should support efforts of FHBWI to educate homeowners and others about the value and sensitivity of the Town's surface and groundwater supplies of drinking water, and associated rivers and streams.

NR-4 Manage sewage and wastewater in a way that protects groundwater and environmentally sensitive resources in all parts of Scituate.

- 1) The Town should continue implementation of extension of sewer to environmentally sensitive areas, and encourage upgrades and repairs for failed systems where sewer will not be extended until some time in the future. The Town should continue to use available sources of information on failing systems, including the historical data found in Metcalf & Eddy's Wastewater Facilities Plan, to develop solutions for its septic system problem areas. These can include alternative methods of sewage disposal tailored to serve communities where problem areas are located, as well as sewer extension.
- 2) The Board of Health should continue implementation of its Septic Management Program, which includes development of a database to track pumping and other maintenance of septic systems. This should be developed as a tool to identify failing systems, educate the public about the need for maintenance and repair, and otherwise manage the Town's sewage disposal.
- 3) Private wells should be mapped because their water quality may easily be affected by septic systems and any nearby sources of contamination.

NR-5 Continue to implement policies to encourage careful stormwater management.

- 1) The Planning Board and Conservation Commission should continue their efforts to mitigate the effects of stormwater on sensitive resources and maximize infiltration in areas of recharge to the Reservoir system and public wells, by pursuing the following strategies in their review and approval of new development:
 - Maintaining undisturbed natural areas within a development;
 - Use of gravel driveways and other pervious surfaces in all new and redeveloped projects to increase groundwater recharge;
 - Recharge of stormwater through use of dry wells to discharge roof leaders and other clean runoff;
 - Stormwater treatment, including oil and grease separators in large parking lots near wetlands, and detention basins to remove suspended solids;
 - Design of drainage systems to avoid direct discharge to wetlands or surface waters;
 - Use of Best Management Practices for controlling stormwater and mitigating the impacts on wetlands and undeveloped land;
 - Use of innovative stormwater designs to enhance groundwater recharge.
- 2) The Town should adopt policies and/or regulations to assure that detention basins and other drainage facilities will be successfully maintained over the long term. The DPW, Board of Health, Conservation Commission and Planning Board should work together to review the Town's enforcement of responsibility for their maintenance, and make any necessary changes to policies or regulations.
- 3) In order to protect natural vegetation which increases stormwater recharge, and preserve existing drainage patterns, the Town should investigate adoption of bylaws to prohibit clearcutting and regulate the use of fill in new subdivisions, and on individual lots.
- 4) The zoning applicable to the Water Resource Protection District should be reviewed to determine the need for amendment to add design criteria to improve stormwater control.

- 5) The Town should continue to enforce Town and state bylaws which control discharge and treatment of stormwater runoff, and limit disturbance of wetlands and surface waters.

NR-6 Continue policies which encourage protection of its inland surface waters.

The Town should consider adoption of recommendations of the FHBWI Watershed Report for surface waters within the watershed, and in other areas as applicable. The Conservation Commission should continue strong enforcement of requirements for vegetated buffers around inland waters. They should continue efforts to certify vernal pools which remain unprotected.

NR-7 Continue to strictly enforce requirements for new construction in the flood plain.

- 1) To protect developed barrier beaches from storm erosion, it is essential that the Town continue to monitor beach erosion and strictly enforce state and local building regulations for construction in the flood plain.
- 2) The Conservation Commission should also continue to encourage use of pervious surfaces and maintenance of natural vegetation to protect barrier beaches from erosion. Minimizing impacts on the environment, including preventing erosion, should be given priority in future uses of the beaches.
- 3) The Town should simplify its zoning which deals with coastal flooding. It may be possible to combine the Town's two flood-related Zoning Districts. This could simplify administration and enforcement of this zoning. However, controls on new building in the flood plain should be maintained to the greatest extent possible.

NR-8 The Town should support residents' use of the harbor and beaches by supporting improvements that are sensitive to the needs of the natural environment.

- 1) The Town should continue its long range program for periodic dredging of Scituate Harbor, with analysis of the dredge spoil and placement in locations where it will have minimal environmental impacts.
- 2) Beach nourishment should be considered in any locations which have significantly eroded. Seaweed removal and access for persons with disabilities need to be addressed in future planning for the beaches. Efforts should be made when cleaning up after storms to return sand that has been displaced to paved areas back to the beach ecosystem.
- 3) The Town should continue to pursue designation of additional coastal waters as No Discharge Zones. In order to protect the quality of coastal water bodies, the Town should consider expanding No Discharge Zones to include the North River and South River, if feasible, so these waters, and the adjacent tidal flats, receive the best possible protection from pollution.

NR-9 The Town should work to preserve areas of prime farmland and consider them a priority for open space acquisition.

NR-10 The Town should pursue permanently reopening its historically productive shellfish beds.

APPENDIX

MASSACHUSETTS NATURAL HERITAGE PROGRAM Element Occurrences in Scituate

Scientific Name	Common Name	Date	
		Last OBS	DFW Rank (a)
** Rarity Rank S2			
Platantherea flava			
Var Herbiola	pale green orchis	1900-07-10	T
Arishda purpurascens	seabeach needlegrass	1983-09-18	T
** Rarity Rank S3			
Calidris canutus	red knot	1978	-
Charadrius melodus	piping plover	1986	T
Charadrius melodus	piping plover	1986	T
Sabatia kennedyana	Plymouth gentian	1890-06-06	SC
Sabatia kennedyana	Plymouth gentian	1914-09-20	SC
Sterna antillarum	least tern	1986-06	SC
Sterna antillarum	least tern	1986-06	SC
** Rarity Rank SH			
Puccinellia lanbeana			
SSP Alaskana	northern alkali grass	1899-07-03	SC

Notes:

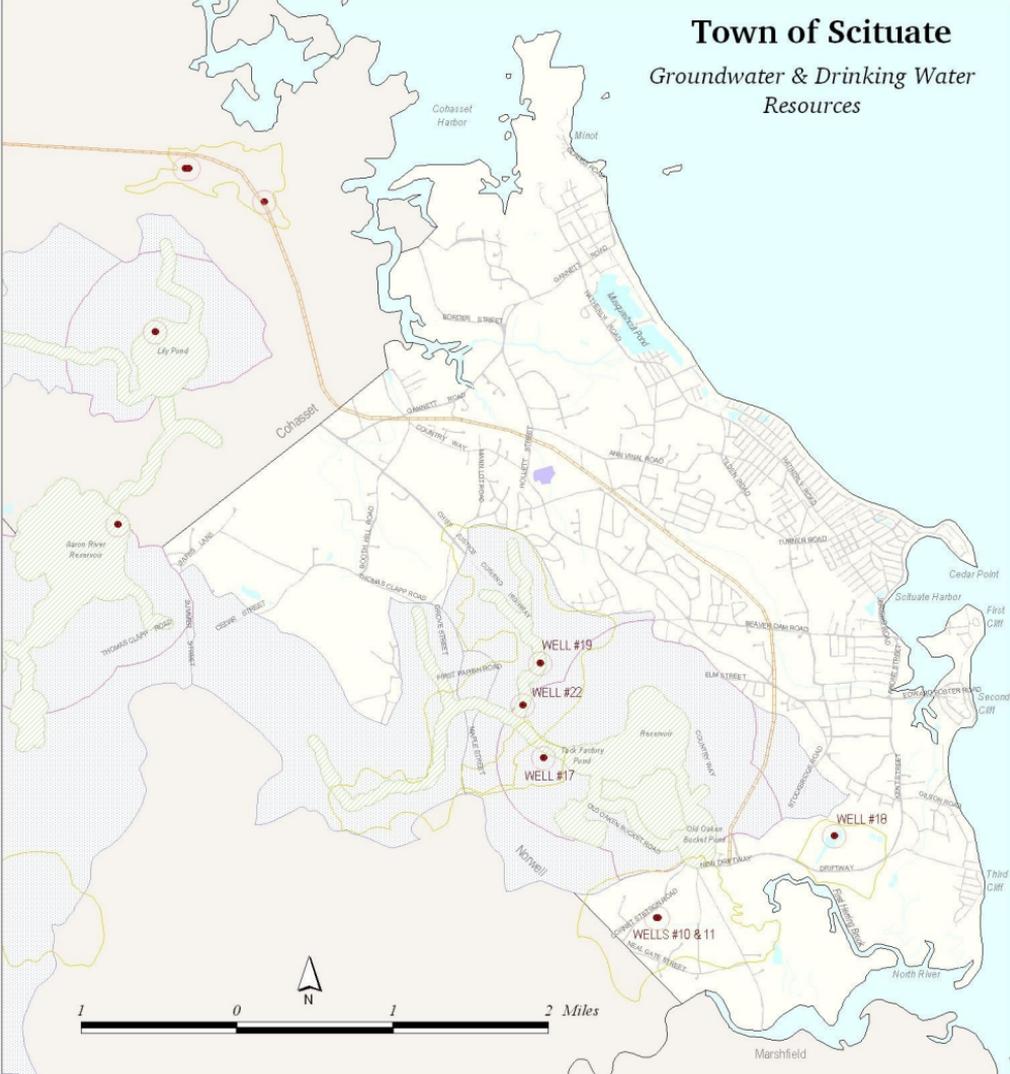
- a- Massachusetts Division of Fisheries and Wildlife rankings
 E = Endangered
 T = Threatened
 SC = Special Concern
 "" = Unranked Status

Of all of the rare species in Scituate, the piping plover (*Charadrius melodus*) is the most significant, because this shore bird is now federally listed by the U. S. Fish and Wildlife Service as Threatened along the East Coast. In Massachusetts the piping plover is also classified as "Threatened". Nesting sites can be found on the north shore of the North River mouth (Rivermoor) and along the Fourth Cliff. The piping plover is a sparrow-sized shorebird which is known to inhabit sandy and cobbly beaches, dune areas, and open flats with beach grass, sea lavender and salt-spray rose. Piping plovers are one of the first migratory birds to return to Massachusetts in the spring and arrive around March 25th. Limiting factors and reasons for rarity include the loss of beach habitat to human development, human disturbance at beaches, off-road vehicles, and ground predation of eggs by fox, skunk, raccoon and birds.

The least tern (*Sterna antillarum*) would be the next most important species, because it is listed for Special Concern in Massachusetts. The least tern is the smallest of the tern species living in Massachusetts. They inhabit broad, flat, open, sandy, pebbly beaches with sparse vegetation. This species is considered rare in Massachusetts because extensive recreational and residential development of coastal beaches has led to habitat destruction. The least tern colony at Fourth Cliff is the second largest of its type in the country. In 1985, 80 pairs were censused. Third Cliff was once a nesting area for this species, however, they are no longer found there. (Source: Massachusetts Natural Heritage Program, June 1987)

Town of Scituate

Groundwater & Drinking Water Resources



- Public Water Supply Wells
- Potential Wellsite Area
- Zone I
- Zone II
- ▨ Zone A
- ▨ Zone B
- ▨ Public Surface Water Supply Watershed
- ~ Streams
- ▭ Ponds
- ~ Proposed Commuter Rail

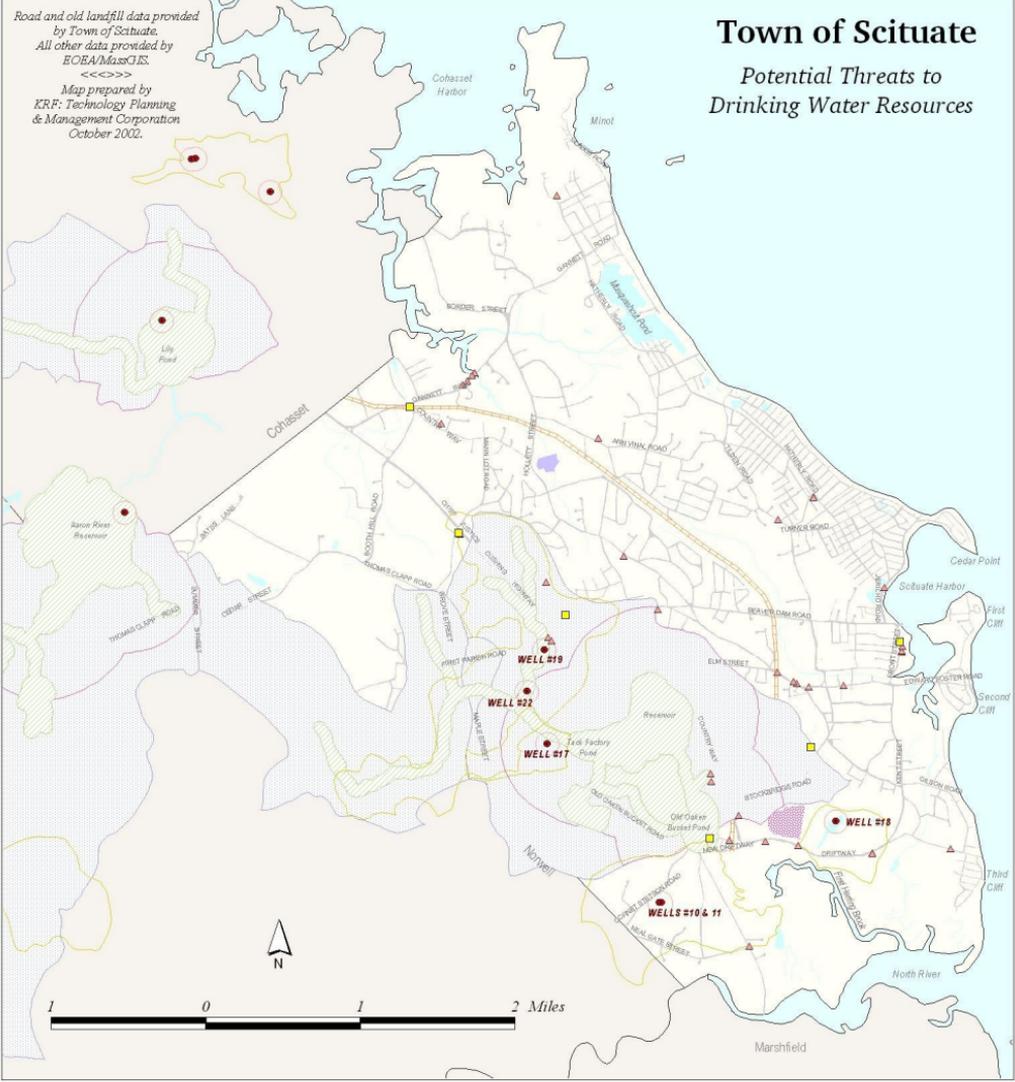
Road data and public water supply points provided by Town of Scituate.
 All other data provided by EOE/MassGIS.
 <<<<>>>>
 Map prepared by KRS Technology Planning & Management Corporation
 October 2002.

Road and old landfill data provided by Town of Scituate.
 All other data provided by ECHA/MassGIS.

Map prepared by KRF: Technology Planning & Management Corporation October 2002.

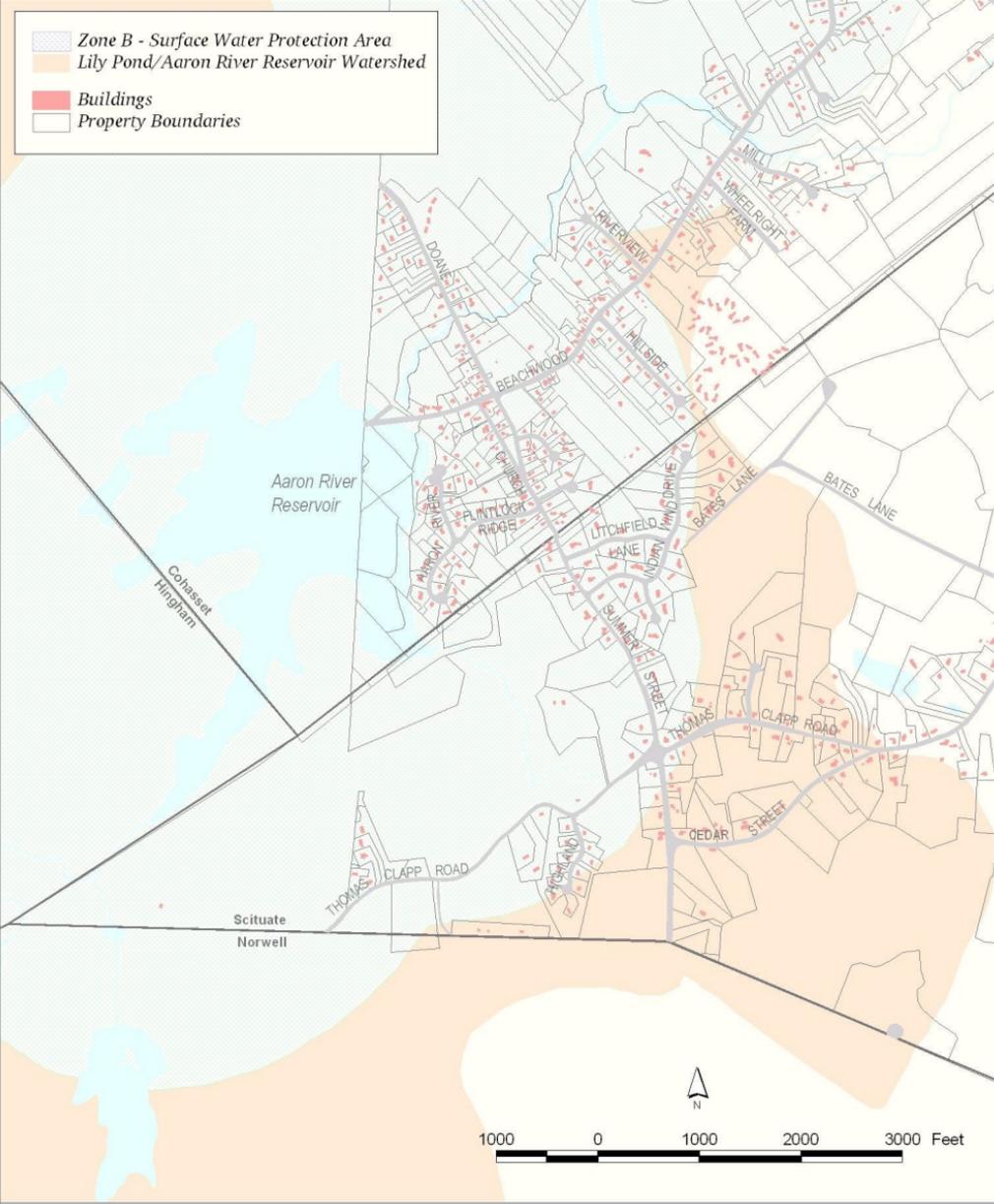
Town of Scituate

Potential Threats to Drinking Water Resources



	Public Water Supplies
	Proposed Wellsite Area
	Zone I
	Zone II
	Zone A
	Zone B
	Public Surface Water Supply Watershed
	Streams
	Proposed Commuter Rail Ponds
POTENTIAL THREATS	
	Ch 21E (Oil or Hazardous Material Sites)
	Underground Storage Tanks
	Landfills
	Old Landfills

-  Zone B - Surface Water Protection Area
-  Lily Pond/Aaron River Reservoir Watershed
-  Buildings
-  Property Boundaries



Town of Scituate - West End and Aaron River Reservoir Water Protection Area

Data provided by the Town of Scituate
and EOA/MassGIS.

Map prepared by KRF: Technology Planning & Management Corporation
March 2003

Town of Scituate

Wildlife Habitat

Data provided by:
EOEA/MassGIS

NHESP 1999-2001 Priority Habitats of State-Listed Rare Species:

NOT equivalent to 'Significant Habitat' as designated

under the Massachusetts Endangered Species Act.

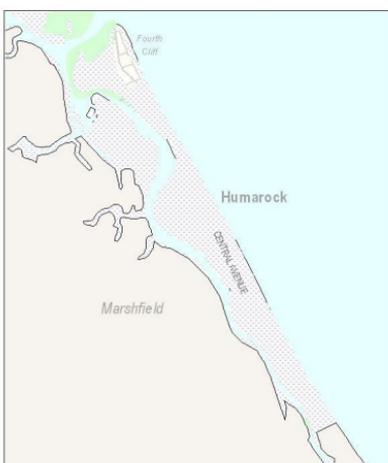
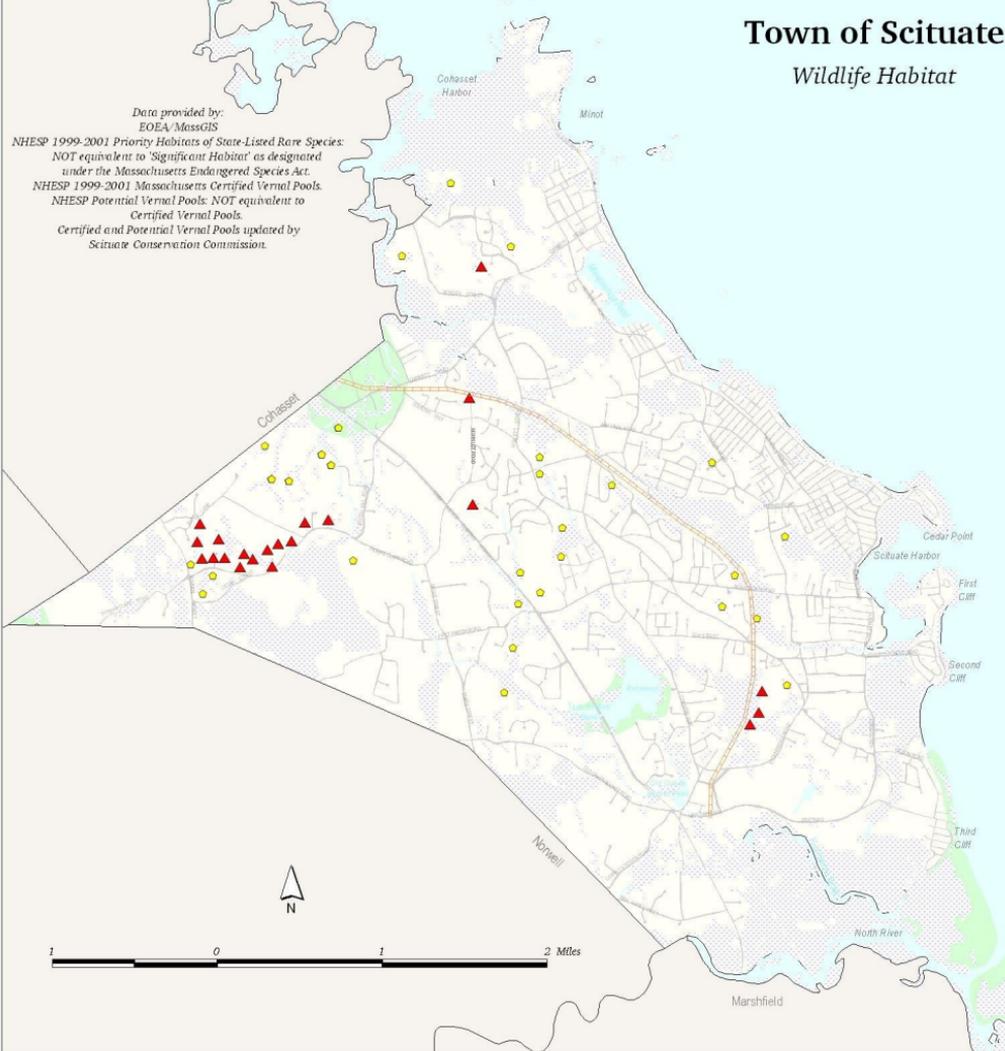
NHESP 1999-2001 Massachusetts Certified Vernal Pools.

NHESP Potential Vernal Pools: NOT equivalent to

Certified Vernal Pools.

Certified and Potential Vernal Pools updated by

Scituate Conservation Commission.



IMPORTANT WILDLIFE HABITAT AREAS

- ▲ Certified Vernal Pools
- ★ Potential Vernal Pools
- * Priority Habitats
- Streams
- Ponds
- Wetlands
- Roads
- Proposed Commuter Rail

* As identified by Massachusetts Natural Heritage Program.



Tack Factory Pond

OPEN SPACE AND RECREATION

INTRODUCTION

One of the key quality of life factors in any municipality is the ability of residents to find opportunities to enjoy areas of open space and recreational facilities. As in most towns, Scituate has a number of such parcels that afford residents of all ages the opportunity to appreciate the Town's natural beauty and partake in passive and active recreation.

The Town has had a history of preserving land to enhance its rural character. It also has rich environmental and cultural resources such as its beaches, woodlands, stone walls, ledge outcroppings, and scenic vistas, as well as numerous agricultural and historical sites. To date, the Town has preserved over

2,100 acres of land in order to maintain its open space character. Yet, there are still many additional sites that warrant consideration for protection as well as for active and passive recreation.

The Town of Scituate has an adopted and approved Open Space and Recreation Plan (OSRP), dated 1998, as well as a more recent Report of the Open Space Committee (2001). Using information from the Master Plan Open Space Study Committee, Town officials, and these sources, this chapter identifies Scituate's open space and recreational resources and needs as well as the ownership and parties responsible for managing these resources. Findings and recommendations are presented in the final subsection.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Open Space and Recreation:

To maintain Scituate's legacy of distinct rural beauty, essential recreation land and vital biological diversity through permanent preservation of protected and unprotected open land in Scituate.

To achieve this Goal, the Town has adopted the following Objectives:

- 1) To manage existing open space properties in a manner that ensures access to Scituate residents for active and passive uses.
- 2) To link current and future public land and private open space holdings locally and regionally, through construction of trails and strategic land acquisitions.
- 3) To promote the protection of Scituate's natural environment through public education about the value of natural resources and threats to local ecosystems.
- 4) To acquire open land consistent with Town goals of protecting wildlife habitat, safeguarding the drinking water supply, and preserving open space. This may be achieved through direct purchase, conservation restriction, or development restrictions. Grants, and regulations such as zoning, could be used to help achieve this objective.
- 5) To acquire open land that meets the Town's needs and goals for active recreation.
- 6) To encourage private development to include open space and trail systems that are connected to other open space areas where possible.
- 7) To establish a process and criteria for prioritizing future land acquisitions.
- 8) To provide public open space and recreation lands that bring residents close to the natural environment and meet the Town's needs for passive recreation.
- 9) To preserve Scituate's West End Greenbelt, adjacent open spaces and scenic vistas.
- 10) To preserve Scituate's Route 3A Greenway.

- 11) To provide recreational facilities that meet the demands created by new growth.
- 12) To protect and promote Scituate's coastal recreational resources, including its beaches and harbors.
- 13) The Master Plan also endorses implementation of the goals of the Open Space and Recreation Plan, which are as follows:
 - Goal 1: Conserve water bodies, aquifer areas, watershed and natural drainage areas, pond and stream shorelines. Water resources are irreplaceable and, therefore, careful conservation practices are imperative.
 - Goal 2: Satisfy the present and future outdoor recreation needs of the community residents and their visitors.
 - Goal 3: Protect the heritage of the Town through the preservation of scenic and historic structures and areas.
 - Goal 4: Make a commitment to those in the community with special needs to provide accessible open space and recreation facilities; the guidelines contained in and associated with the ADA (American with Disabilities Act) will be used in this effort.
 - Goal 5: Relate the open space land to the urban land in such a way as to give order, shape, and form to the community.
 - Goal 6: Ensure adequate sites for public and semi-public facilities and services necessary for the well being of present and future generations.
 - Goal 7: Enhance the natural beauty of the Town's landscape and rehabilitate areas that show the effects of careless and haphazard development.

The following objectives of the Plan were slated to be implemented over the five year period from 1998 to 2003:

- Explore the potential use of "soft" solutions to coastal flooding and its related property damage including the establishment of a beach management plan.
- Explore acquisition of or protection of the Glades, the Proving Grounds, Fourth Cliff and Young's Boatyard.
- Acquire trail easements allowing public access, connecting Bates Lane from Clapp Road to the Rod & Gun Club entrance on Chief Justice Cushing Highway.
- Protect land in the Herring Brook Watershed including the Reservoir through actions such as acquisition and/or obtaining development easements
- Acquisition of significant parcels for Conservation/Recreation in all areas of Town.
- Implement recommendations of the accessibility study.

EXISTING CONDITIONS

Inventory of Open Space and Recreational Land

An inventory of areas important to the Town for their open space and recreational use was prepared as part of Scituate's Open Space and Recreation Plan (OSRP.) The parcels listed include land held by both public and private entities, and contain inland and coastal wetlands, cultural and historic resources, open space parcels and recreational sites and facilities. This inventory was updated by a report of the Scituate Open Space Committee completed in 2001.

Based on data from MassGIS maps, as of 2000 approximately 61% of the land in Scituate was developed and 19% was vacant and developable. The remaining land (20% of the total) is either protected open space or considered unbuildable because of environmental constraints such as wetlands or steep slopes. According to the Open Space Inventory contained in the Open Space and Recreation Plan, as of May 1998, approximately 2,150 acres of open space in the Town were owned by public entities or private nonprofit conservation groups. The location of this land is shown on the map of Open Space Resources at the end of this element. While in theory development may be possible on some of these parcels, it would be highly unlikely. Such ownership tends to allow these properties to be considered "permanently protected" for planning purposes.

Recent acquisitions of open space include land obtained at the time of approval of the Laurelwood, Doctor's Hill and Northey Estates subdivisions (5 acres on Scituate Harbor, behind First Boston bank; 13.8 acres adjacent to the Reservoir, 3.4 acres on Route 3A, and 3.3 acres on Cornet Stetson Rd. adjacent to the Old Oaken Bucket House.) These acquisitions relate to subdivisions approved in 1997, 1999 and 2001 respectively. Other open space acreage is protected through Conservation Restrictions held by the Executive Office of Environmental Affairs, Division of Conservation Services. This protected land includes the Guyer property (21 acres,) James Landing (13 acres,) Scituate Country Club (55 acres) and a parcel adjacent to Kent Village (1.25 acres.)

It is important to note that many of the parcels shown as private open space in the OSRP inventory are not protected in perpetuity. Some of the largest are held by private landowners without assurances that they will not be developed at some time in the future. The Hatherly and Scituate Country Club golf course land, combined with the Adams estate at the Glades, account for 350 acres of unprotected open space. Another noteworthy parcel which is unprotected is the Air Force Recreation compound on Fourth Cliff.

Similarly, over thirty parcels totaling 443 acres are designated as Chapter 61 land under the Forest Taxation law (managed as forest pursuant to an approved management plan), Chapter 61A land pursuant to the Farmland Taxation law (used to grow and sell agricultural products), and Chapter 61B land in accordance with the Recreational Land and Open Space Taxation law (private recreation land). These parcels are identified on the map of Open Space Resources at the end of this section.

Under the Chapter 61 programs, landowners receive tax advantages in exchange for managing the land for the purposes stated above. When land is removed from these programs, the Town has only 120 days to exercise its right of first refusal to purchase the property. With the numerous legal complications that can arise, as well as the procedural requirements that must be met for a municipal purchase of land, 120 days does not provide much leeway for the Town to exercise this right. Given the large acreage of land currently

either in Chapter 61, 61A or 61B in Scituate (or other lands identified in the OSRP for consideration), it is important to establish criteria that will assist the Town in prioritizing parcels that become available.

In 1998, according to Assessor's data, Scituate had approximately 497 acres in these three programs, accounting for one sixth (16.5%) of the total open space inventoried. Since then, according to 2001 Assessor's data (several properties coming off the program and several others added), the total acreage has dropped to approximately 443 acres.

The Town's open space acreage provides a wide range of active recreational opportunities including bicycling, boating, clamming, fishing, hiking, hunting, playgrounds, swimming, and Town-sponsored recreational activities such as youth programs. A map of Recreational Resources at the end of this section shows the locations of Scituate's recreational facilities. The Town's open space also provides passive recreation such as nature study and wildlife observation.



Active Recreation: Athletic Fields, Tennis Courts and Playgrounds

The Town has a number of fields, parks, and playgrounds for active recreation. These are identified on the map of Recreation Resources at the end of this section. The majority is clustered near the center of Town, next to the High School, Gates Intermediate School and the Town Library.

During the last five years, the youth of Scituate have become more involved in organized sports such as soccer, softball, baseball, football and other athletic programs. There are a growing number of organizations which use Scituate's fields, including Scituate Youth Football/Cheerleading, Scituate Soccer Club, Scituate Instructional Lacrosse, Scituate Lacrosse, Scituate Youth Travel Basketball, Scituate Little League, Men's Over-55 Softball, Men's Senior Baseball League (Over 30), Scituate Youth Center (tennis, fall soccer, lacrosse and softball,) the Scituate High School Athletic Program and Scituate Recreation Commission programs.

Waterfront Recreation

Boating

Boating has always been extremely popular in Scituate. Scituate Harbor is in high demand as a stopover for boaters because it is one of the few harbors on the southeast Massachusetts coast open year-round. According to the Town of Scituate Harbormaster, as of December, 2002, there were 347 individuals or households on the waiting list for moorings. As the number of boats has increased, the area taken by moorings has expanded and the space available for water recreation has declined.

According to the Harbormaster's office, as of the fall of 2002, the Town maintained approximately 751 moorings. Of this number, it is estimated that 13 were in the North River, 75 in the South River and 663 were in Scituate Harbor. All moorings require Town permits which can be obtained through the

Harbormaster's office. There are four private marinas on the North and South Rivers: North River Marine in the North River, James Landing Marina on First Herring Brook, and Simm's Bros. Marina and Erickson Marine in the South River. Marinas in Scituate Harbor include the Mill Wharf, O'Neil's Marina, the Quarterdeck, Dineen's Marina, the Scituate Harbor Marina, Satuit Waterfront Club, Scituate Harbor Yacht Club and Cole Parkway Marina, operated by the Town of Scituate. The Satuit Boat Club is a private boat club which provides launch service but has no slips. Since boating has always been an active pursuit in Scituate, the Town's Recreation Commission would like to expand the sailing program, and ultimately, to create a sailing center.

The proliferation of boating and other activities on the water is a challenge for maintaining a safe waterfront. A high number of boats using Town waters also means a high demand for services such as mooring inspection, well-maintained landing and launching facilities, parking for trailers, and waste removal. Two stationary facilities and one private pump-out boat are currently in operation. Competition between commercial and recreational boaters for space and services can be expected to increase with the expansion of boating activity.

Shellfishing

Shellfishing has been an integral part of Scituate's culture for generations. Indeed, many families survived during the Great Depression years because of the ready availability of shellfish. The types of shellfish that are found in Scituate include the soft shell clam or steamer, mussels, surf clams, and rarely, oysters and quahogs.

Today shellfishing is in decline for a number of reasons. These include the closing of shellfish areas due to pollution, the decrease in shellfish resources due to disease, and a significant demand placed on the remaining resources by those citizens who still seek out shellfish. A number of steps should be taken and/or continued to rejuvenate this activity for the citizens of Scituate. They include conducting research in conjunction with the Division of Marine Fisheries to attempt to determine the cause(s) of resource depletion, compiling an inventory of the access points to shellfish areas and taking steps to assure their availability for future use, attempting to rehabilitate the shellfishery through procedures such as resource management, law enforcement and artificial seeding, and reducing pollution impact to the shellfishery by continuing to ascertain point source releases and remedying same.

Fresh- and Salt-Water Fishing

Shoreline fishing is a popular sporting activity which occurs at many places along Scituate's ocean shoreline, estuaries and inland ponds, lakes and reservoirs. Some of the more popular areas for salt-water shoreline fishing include the marshes in the inner harbor and the jetty at Scituate Lighthouse, while fresh-water fishing draws many fishermen to the Reservoir, Tack Factory Pond and Old Oaken Bucket Pond along Chief Justice Cushing Highway. The main responsibility for the Town in relation to shoreline fishing is to continue to provide access to the shoreline, estuaries, ponds and the reservoir so that citizens can continue to participate in this activity.

Fish species that are commonly taken from Scituate's shoreline include striped bass and bluefish. Several tackle stores which support these activities are part of the business fabric of Scituate. Many people from outside of Scituate visit especially for shoreline fishing.

Swimming, Surfing, Water-Skiing, and Jet-Skiing

Swimming, surfing, water-skiing and jet-skiing are popular recreational activities at Scituate's beaches. The main related responsibilities of the Town are to continue to provide a high level of maintenance of its beaches and associated parking areas, to provide appropriate access to the beaches and to monitor water quality. The Recreation Commission believes there is a need for lifeguard stands at all public beaches. Bike racks should also be provided at all the Town's beaches to encourage bicycle use. The Recreation Commission has also pointed out the need to provide access to the beaches for physically challenged individuals.

The use of certain beaches, in particular Humarock Beach and the Spit, may need to be limited to protect the unique wildlife and natural resources of these areas. Another concern that needs to be addressed is the natural erosion of Scituate's beaches. The Town should continue to take advantage of beach nourishment programs when these become available.

According to state law, jet skis cannot be launched from the shore or operated within 300' of a public bathing area, except they may be run at the lowest speed between 150' and 300' from the shore. None are permitted in the North and South Rivers. These types of regulations help prevent conflicts between swimmers and fast-moving small motorized watercraft.

NEEDS ANALYSIS

The Town's needs regarding open space and recreation have been previously identified in the OSRP, the 1987 Water Resource Protection Study, the 2001 Open Space Committee Report and a 2002 Recreational Field Study, and will be summarized here. As stated earlier, the Town has a wealth of land and water resources with unique characteristics that makes Scituate distinct from many of its surrounding communities and helps to maintain its rural character. The Town's open space contains some very large parcels that provide for a number of different passive and active recreational experiences.

Additionally, there are a vast variety of water resources that provide additional recreational opportunities as well as serving a water supply function. The OSRP describes the need to continue to acquire additional open space that is accessible to the public in order to maintain the rural character of the Town and to provide for educational and recreational experiences for Town residents. The OSRP recognizes that growth pressures will continue to threaten parcels that are not adequately protected from future development. Several of the most important factors that should be considered in decisions on future land acquisitions are described in detail in the subsections below.

Water Supply Protection

The OSRP and the Town's 1987 Water Resource Protection Study recognized the importance of utilizing open space to protect existing surface and groundwater resources. These resources are vitally important to maintaining groundwater recharge to ensure an adequate supply of water for Town residents and local businesses.

Open space can also protect water quality when buffers to significant surface water resources are provided. Vegetation helps by removing nutrients from stormwater before they reach wetlands and surface

waters; bacteria are removed as stormwater is filtered by natural soil before it reaches groundwater. The Zone II's and specific locations of other areas where groundwater recharge and surface water supply protection are important to the Town's public water supply are shown on the Map of Groundwater and Drinking Water Resources found at the end of the Natural Resources element.

As the Town continues to grow, additional water will be needed. The Town has one potential site for a new well, the Dolan property. The OSRP also considered an area roughly bounded by Pincin Hill, First Parish Road, the Norwell town line, and Old Oaken Bucket Road as a possible new reservoir site. Water quality and quantity are long-term issues that will continue to need to be addressed by the Town. They are discussed in more detail in both the Natural Resources and Infrastructure elements of this plan.

Access to Open Space

The ability of the public to access open spaces and recreational facilities is an important consideration. A considerable number of Scituate's open space properties are easy to reach and have public parking, but at some, including several beaches, access is limited. Beaches in Sand Hills and Minot, for example, have limited parking. The OSRP calls for development of additional parking and access points for the Town's beaches, particularly at the North Scituate, Minot and Humarock beaches¹.

Increasing walking paths and other pedestrian facilities in appropriate locations could encourage more people to visit open spaces, participate in recreational opportunities, and enjoy Scituate's visual assets. Trails and even seawalls could provide informal paths for pedestrians to reach recreational resources and open space. The Recreation Commission has supported an increase in the number of hiking and biking trails.

Some open space areas are somewhat remote such as the mud flats north of the Glades, Bassings Beach, and some of the shoreline in Minot and along the Cliffs. The Town should examine the feasibility of creating a comprehensive network of existing and new trail systems as a recreation amenity which will provide better access to open space resources

Permanent Land Protection

The MBTA Mitigation Agreement provided \$3,000,000 for an Open Space Fund for purchases of open space by the Town of Scituate. The Community Preservation Act, adopted by the Town in March, 2002, is another source of funds for this purpose.

The Master Plan and OSRP discuss some priorities for open space preservation through acquisition, easements/restrictions, and other means. In selecting and prioritizing sites, the following elements are recommended to be considered:

- value for water supply protection
- areas that connect with other open space properties, including the Route 3A Greenway and West End Greenbelt
- preservation of scenic views

¹ Town of Scituate Open Space, Conservation & Recreation Plan, May, 1998 Section VII, Page 59.

- balanced geographic distribution of open space and recreation among different Scituate neighborhoods, with access available for all Scituate residents

In particular, the Master Plan and OSRP have identified the following locations and scenic vistas which have been preserved, or are noted as worthy of preservation in the near future. Additional adjacent land may be acquired or new sites preserved in the following locations:

- South Swamp
- Bates Lane
- Route 3A Greenway
- Land at or adjacent to Scituate beaches
- Fourth Cliff
- Strawberry Point (The Glades)
- The Goulston Property/Proving Grounds in Sand Hills/Shore Acres
- Scituate Lighthouse and Scituate Harbor
- Young's Boatyard
- The Bleakey property / Border St.
- Clapp Road
- The Driftway viewshed
- Herring Brook Watershed lands west of Grove St.
- Land north of Reservoir
- Potential ball field and school site between Elm St. and Country Way

Establishing specific criteria for prioritizing future purchases would provide a framework for decisions on open space acquisition. This could be especially beneficial when the Town has limited time to proceed with the acquisition of a particular parcel. Specific criteria that can be used in deciding how open space parcels should be prioritized for possible purchase can be found in the Recommendation OS-1 below.

Since the OSRP was recently prepared, its five-year action plan for open space acquisition is still relevant. The Master Plan notes the following key parcels targeted for high priority for acquisition or another means of permanent protection:

Strawberry Point (the Glades) is located at the northernmost point of the Scituate coast. It is one of the last promontories of unspoiled coastline in Massachusetts. Strawberry Point, with its stunted trees bent permanently by the wind and its granite cliffs dropping to the sea, is truly an inspiring place. It is a valuable property that has been owned by the Adams family for a very long time. It has several residential structures on it and is still utilized by the family. Because of the scenic vistas and the unique and sensitive coastal resources found at the site, the Town hopes to secure conservation restrictions on the property to ensure that no further development occurs there.

Fourth Cliff has long been a priority for Town acquisition. The site has been controlled by the U.S. Air Force and is used as a recreation area by Air Force personnel. It could be an exceptional regional park, with its tremendous view of the Atlantic Ocean to the East and the North River marshes to the West.

The Proving Grounds is located on Hatherly Road in the Sand Hills/Shore Acres section of Scituate and is the only significant parcel of open land left in this neighborhood. It has been the focus of several development proposals, but remains essentially vacant. It includes beach access and extraordinary unobstructed views of the ocean. Upland portions of the site may be useful for future active and/or passive recreational purposes.

The West End Greenbelt consists of an extensive area between Route 3A and Clapp Rd. which includes land of the Scituate Rod and Gun Club, several parcels of Conservation land and large privately owned, undeveloped properties. While access to some of the interior land is limited, the area surrounds Bates Lane, a historic, unimproved way, and provides significant areas for habitat and groundwater protection.

The Route 3A Greenway is one of the most impressive features of Scituate and the first to be noticed by a visitor. This consists of a protected 100' setback on either side of Route 3A running the length of Scituate from the Cohasset town line to the Marshfield town line on the North River. It is a gateway to the community and has many valued open space parcels and environmental resources within its corridor. This magnificent stretch of woodland is broken only occasionally by homes, small businesses or public buildings, and gives the traveler a feeling of remoteness and depth one normally associates with Northern New England.

The Town possesses many beautiful scenic vistas. Unfortunately, several have been negatively impacted by newer development or lack of access. The new Coast Guard Station in Scituate Harbor provides one example where access to beautiful views of Scituate Harbor has been recently blocked. There are small parcels scattered throughout the Town that could become neighborhood parks or green spaces. One example is the triangular piece of land between Carrie W. Litchfield Lane and Stockbridge Rd. near the former Allen Library. Many communities establish programs where parcels such as these are sponsored and landscaped by local organizations and businesses. Several streets in Scituate could benefit from a street landscaping program, with newly developed disease-resistant species of elms and other species of trees enhancing the quality of existing open space and views along the streets.

Active Recreation: Athletic Fields, Tennis Courts and Playgrounds

The OSRP calls for more neighborhood parks and fields in the West End, Humarock, First, Second, and Third Cliffs, the Harbor Area, Sand Hills, Shore Acres, and North Scituate. Expansion of these types of facilities is deemed necessary to meet the needs of Scituate's growing population. This is particularly true for youth-oriented activities, where participants otherwise must depend on parents driving them to parks or fields.

The growing demand for active recreation for school children and adults has created a shortage of athletic fields. To illustrate this point, in 1992, there were 2,987 participants in seven athletic leagues in Scituate; by 2002 the numbers had grown to 5,007 participants in nine leagues. The number of fields currently available still falls short of the need given the growth in demand resulting from new development and subsequent population growth.

In 1998, an Athletic Fields Committee identified three Town-owned parcels, Parcel 4 on the Driftway, and parcels at the Cushing and Wampatuck Schools, which they believed had potential for use as athletic fields. A recreational field study recommended two new fields at the Cushing School, three at Town-owned land on the Driftway, and two at the Wampatuck School to meet the Town's immediate needs. It is hoped that these would be phased in over the next five to six years. The Recreation Facility Committee obtained \$30,000 at the 2002 Town Meeting to examine the feasibility of these proposed sites in more detail. The

fields that are to be constructed should respond to the demand from particular sports. The Town will also obtain \$490,000 for a Recreation Fund through its Mitigation Agreement with the MBTA.

The Town should project the expected numbers of school aged youth when the Town is entirely built out and the population has reached its maximum possible level to determine the number of different types of fields that will ultimately be needed. To the greatest extent possible, those fields should be located in areas where there has been significant growth and the unmet need is the greatest. These areas are identified in the Land Use element of this Master Plan. Other considerations for siting new athletic fields are that parking can be readily provided, costs of development are not excessive and the existing landscape is not overly disturbed. Removal of significant stands of trees should be avoided wherever possible.

The Recreation Commission believes some additional recreation needs that need to be addressed include upgrading and lighting the Town's tennis courts; installing bleachers and lighting at the Town's athletic fields; and building a new playground for 5- to 12-year old children. There is a need for neighborhood-based recreation. Facilities such as tennis courts, basketball courts and playgrounds should be installed in neighborhoods where they are needed. Humarock is greatly lacking in such facilities. The OSRP stresses the need for ongoing maintenance of the Town's existing recreation facilities. The Recreation Commission would ultimately like to see a Community Center considered for Scituate which would serve a variety of age groups with a wide range of recreational facilities.

RECOMMENDATIONS

Non-Regulatory Approaches to Open Space Preservation

For towns wishing to preserve their open spaces, outright purchase is the best option for permanent protection. Moneys provided through the Community Preservation Act are an excellent source of funds for this purpose. Because no municipality can afford to acquire every parcel that becomes available, it is imperative to consider methods of open space preservation that do not rely on land acquisition. Moreover, it is important to establish criteria for to evaluate land available for purchase. This will help the Town use the limited funding available to acquire those parcels with the most significance.

OS-1 Develop Criteria for Prioritizing Open Space Purchases.

Any open space acquisition scheme—whether to preserve one acre or 10,000—needs to address the issue of prioritization. Before any parcel is to be purchased or any money is sought for preservation, the community must assess the value of the land for open space or recreation and determine in advance which lands are the highest priorities to preserve. Such an approach contrasts sharply with the piecemeal, ad hoc decision-making processes that often determine open space acquisitions.

The OSRP identified protection of natural resources, including groundwater and surface waters which provide the Town's drinking water supply, as a very high priority for purchasing land for open space. Other important needs that should be considered in acquisition of land for open space include prevention of flooding, preservation of the Town's barrier beaches and overall coastline, protection of wildlife habitat, and preservation of unique sites, including those with scenic views.

The OSRP also stipulated that land should be purchased for community needs, including recreation. Ideally, recreation parcels should be situated in neighborhoods where the children live who use the

recreation programs. Land which can be used for beach parking or protection of rights of way to the water is also a high priority.

The Town has unofficially adopted several criteria for open space purchases (including water resource protection, waterfront location, and wildlife habitat.) It is recommended that these as well as the above criteria be applied in future decision-making.

Rather than waiting passively for opportunities to arise, the Town (or private land trust or other entity) must proactively seek preservation opportunities for the most valued parcels. Priorities stated clearly in advance can lead to such opportunities, whether as a result of grant funding, private donation, or contributions as a result of a land use approval process.

The most significant factors to consider in preserving open space include protection of drinking water sources, natural resources and scenic views, creation of networks of open spaces and trails, and maintaining the rural character of the Town. These factors have been repeatedly stressed in the Goals and Objectives of this element and during the course of public participation forums held as part of the master planning and OSRP processes. Broad guidelines for ranking open space purchases, using established criteria, are as follows:

- Given the vulnerability of the Town's water supply and potential non-point pollution sources (septic systems and soil conditions), open space acquisitions around water supplies and within local watersheds should be considered for a very high level of priority.
- Property with agricultural value such as open fields, and land which contains prime agricultural soils, scenic views from and into agricultural land, visible stone walls, and agricultural structures such as barns.
- Location of the parcel in relation to other protected land including property owned by the Town, the Commonwealth of Massachusetts, not-for-profit organizations such as conservation organizations or land trusts, and land set aside as a result of cluster or open space preservation development.
- Location in a neighborhood currently underserved with respect to open space area.
- Potential of the land to create new or expanded connections to an existing trail network for walking, hiking, biking, cross-country skiing, and other recreational opportunities, to provide public access to water, or parking for beaches.
- Value for protection of highly significant environmental resources including existing and potential drinking water sources, wetlands, waterfront, ponds, lakes, streams, and significant vegetative and wildlife habitat and wildlife corridors (including habitat for rare or endangered species).
- Presence of scenic resources with special landscape characteristics such as steep slopes and unique geological features, a view into the parcel or a view from the inside of the parcel to adjacent properties, or scenic waterfront or coastal resources.
- Proximity to historic and cultural resources.
- Potential environmental problems with the site must be identified, particularly if there is a likelihood of a hazardous waste liability problem arising from previous uses at the site.

Significant long-term legal and cost issues may place such a parcel in a lower priority classification. However, these problems are not insurmountable and if the costs for remediation are known, they can be managed and factored into the purchase price.

- Finally, the cost of the parcel needs to be considered, especially when compared with others. If the land has a high potential for development with few environmental constraints, it may cost more than an equivalently sized parcel with severe limitations on future development.

Theoretically, points can be assigned to these factors to assist in the decision-making process. A piece of land that has agricultural features, contributes to a water supply area, and provides a connection with an existing trail network may receive more points and be given a higher place on the priority list than a parcel that only can demonstrate two of these factors.

OS-2 Develop Criteria for Prioritizing Recreation Purchases.

As an initial step in planning for future recreation programs, the Town should quantify its needs for additional land for recreation. Objective criteria, such as projected population by location and targeted age group, accepted standards for the size of athletic fields, playgrounds, outdoor athletic facilities and the use of indoor recreation facilities should be used to determine the size, location and characteristics of land needed for specified purposes. This will ensure land is suited to the proposed use before it is targeted for use and/or acquisition, and that the Town's long-term recreational needs are met.

OS-3 Improve Pedestrian Connections between Open Space Parcels, and between Open Space and Residential Areas.

The Town should identify potential open space trail corridors which connect open space parcels and link residential areas to active and passive recreation areas. Trails should be considered a prime way to encourage bicycling and walking, as well as to provide access to beaches, villages and all types of recreation. These may require acquisition of land, easements, or use of existing public land.

OS-4 Beautify Pedestrian Walkways.

Street segments in villages, or linking neighborhoods that function as pedestrian corridors, should be landscaped with specimen trees (i.e. disease-resistant elm trees,) and improved with sidewalks to encourage walking.

OS-5 Encourage Conservation Restrictions and Easements.

There are additional options short of outright purchase of open space, but these frequently require more creativity and assistance from third parties. These options should be considered as part of the toolbox used by the Town to preserve additional open space while minimizing the expense to the Town. Among these strategies are the following:

- Negotiate conservation restrictions and easements with landowners. A tax benefit may be conferred upon any landowner that sets aside a restriction or easement for a given time period upon application to the Board of Assessors. Conservation restrictions, approved by the Division of Conservation Services, limit the use of property to conservation or open space purposes for an extended period of time (99 years or in perpetuity). Conservation easements allow the use of some portion of an owners land for similar purposes, thereby protecting it from development. Most are permanent and legally bind future landowners,

while term easements can be negotiated which expire after a certain period of time. On larger developments, all open space should be deeded to the town or placed under a permanent conservation restriction approved by the state.

In some cases, purchases can be facilitated through cooperative agreements between a variety of parties such as the Town, state, landowners, and private organizations including conservation groups and land trusts. This pooling of resources may better enable purchases in lieu of future development. The Town should provide guidelines on the process for donating these restrictions, including general information about the tax advantages.

- Encourage limited development scenarios where some development is allowed in order to help finance preservation of a larger area. Private land trusts and similar organizations can work with landowners to broker deals that allow for some development in conjunction with land purchase or conservation restrictions or easements so that there is some guarantee of open space preservation at the site. On large developments, all open space should be deeded to the Town or placed under a permanent conservation restriction approved by the state.

OS-6 Protect and Enhance Route 3A Greenway.

The Route 3A Greenway is considered to be one of the most important open space and visual assets of the Town. A significant contributing factor to the Greenway is the line of trees along the right-of-way. There are several urban forestry programs administered by the Department of Environmental Management (DEM) that can provide grants for the preservation of existing trees and the planting of new ones. These include the Mass ReLeaf program that fosters partnerships between business, government, citizens and non-profit groups for the planting and care of public trees and the Heritage Tree Care Grants program that offers competitive grants to communities wishing to protect and enhance large or unique "heritage trees" located on public property.

Additionally, design standards can be established regarding any development that occurs within the corridor even though there is a 100-foot setback from the right-of-way already in place. This may include landscaping requirements, natural buffers, and design standards for fencing. See also the recommendation below regarding scenic roadway bylaws.

Regulatory Strategies for Open Space Protection

Municipalities in Massachusetts and around the country have utilized a number of open space preservation regulatory approaches over the years. Scituate has had some experience with open space, or cluster, zoning, but has not adopted other strategies discussed below. The alternative regulatory tools and techniques are described conceptually, with some discussion of the pros and cons of incorporating them into Scituate's regulatory framework. With the exception of transfer of development rights, this plan recommends that these measures be adopted and implemented within the next two years in order to maximize the amount of open space that can be protected in a manner that does not impede development.

OS-7 Strengthen Open Space Zoning.

The Town has a variety of cluster development options, including a Residential Cluster District, or RCD (essentially comprised of the Goulston property,) an Open Space, Residential and Recreation subdistrict of its Planned Development District (largely built out,) Open Space Preservation Development (OSPD) provisions (Scituate Zoning Bylaw Section 520, with a minimum area of ten acres), and the Flexible Open

Space Development bylaw (Scituate Zoning Bylaw Section 550), which allows development to be concentrated in a small area within a large tract, with a minimum area requirement of four acres.

Below are several recommendations that can be made to improve upon the existing bylaw provisions.

- The Town should continue to make sure that the open space obtained for Flexible Open Space Development (FOSD) and other new developments contains the required amount of buildable upland and is not just non-buildable wetland and land with steep slopes.
- A properly designed open space residential project can preserve more than just open space. Scenic vistas, sensitive environmental resources, wildlife habitat, and steep slopes can be protected. These considerations can be added to the criteria listed for reviewing cluster projects. The Open Space Residential Development (OSRD) has specific design standards.
- The Planning Board should continue to work with developers to encourage use of the Flexible Open Space Development option wherever property proposed for development has significant sensitive resources, contains special features or is adjacent to protected land, in order to preserve these areas, create linkages with other open space, and encourage appropriate development.
- The Town may wish to investigate the Major Residential Development Bylaw as a tool which would provide options for the Town to consider on any development over a certain size. The bylaw would require developers to submit two plans for each development, and the Planning Board would evaluate these against a set of standard criteria. The development which best met the needs of the Town, as expressed in these criteria, would be approved.
- Finally, legislation has recently been enacted to allow cluster development by right, and some communities are considering this option. By leveling the playing field so that cluster projects do not need to go through a special permit process and are handled just like conventional subdivisions, developers may be more inclined to propose clusters since they may believe that it will not take longer to permit such a project. Revisions can be made to the existing procedural subsections of the bylaw and subdivision regulations to incorporate those changes.

OS-8 Consider a Transfer of Development Rights (TDR) Program.

TDR is a tool that allows municipalities to designate development rights to be transferred from one parcel or area of town to another. It is particularly useful when one portion of the Town has valuable resources such as open space or historic buildings, while other parts of town are suitable for new development. The development rights would be transferred from the sending zone (the area where development is to be discouraged) to the receiving zone (the area where growth is to be encouraged.) This transfer is essentially added to the existing right to develop, which can result in an increase in the density of the receiving area, although there would be no increase in overall density. This technique should only be used when there is substantial support from residents in both the sending and receiving zones for decreasing and increasing density, respectively.

OS-9 Consider a Viewshed Protection Bylaw.

Several towns have adopted a viewshed protection bylaw that seeks to limit development of parcels that either provide scenic vistas or that, if developed, would spoil a valued view from the road. Such a bylaw

may regulate building placement and landscaping and establish design standards in order to minimize or mitigate visual impacts.

Strategies to Improve Recreation Opportunities

OS-10 Improve Access to Beaches, Passive Recreation and Open Space.

In Scituate, beaches are essentially open only to Town residents because of a lack of parking, but they still receive heavy use. Some beaches have specific access points, others are more “informal”. It is sometimes unclear whether a beach is public or private. Signage has not been consistently provided to inform the public about the beaches.

Access is limited at several beaches due to a lack of parking or other means of transportation. The Town may want to install bike racks and improve pedestrian access to encourage alternatives to driving to the beach. In many cases, parking is on or near sensitive areas, and the Town may want to consider using gravel or another permeable surface when resurfacing is required.

There are numerous important open spaces and scenic vistas that should be made more accessible. The Glades is an example of one such place. It is privately owned and gated. The Town should look at its current inventory of open spaces, as well as undeveloped parcels that are privately owned, to determine what opportunities exist to increase public access. For private parcels, this may require negotiating conservation easements that allow the public to cross the property.

OS-11 Maintain and Improve Recreational Facilities.

The Recreation Commission has established a fairly ambitious program of facility improvements and expansion in order to address an acute need for more playing fields and playgrounds, especially within the neighborhoods. The Town should move forward with implementation of this program as soon as possible since this existing deficiency will only become more critical as the Town continues to grow as projected. Since the Town has a current approved OSRP, it qualifies for Urban Self-Help grants to offset some of the capital costs required to build new fields.

OS-12 Investigate the Possibility of Establishing Small Neighborhood Pocket Parks.

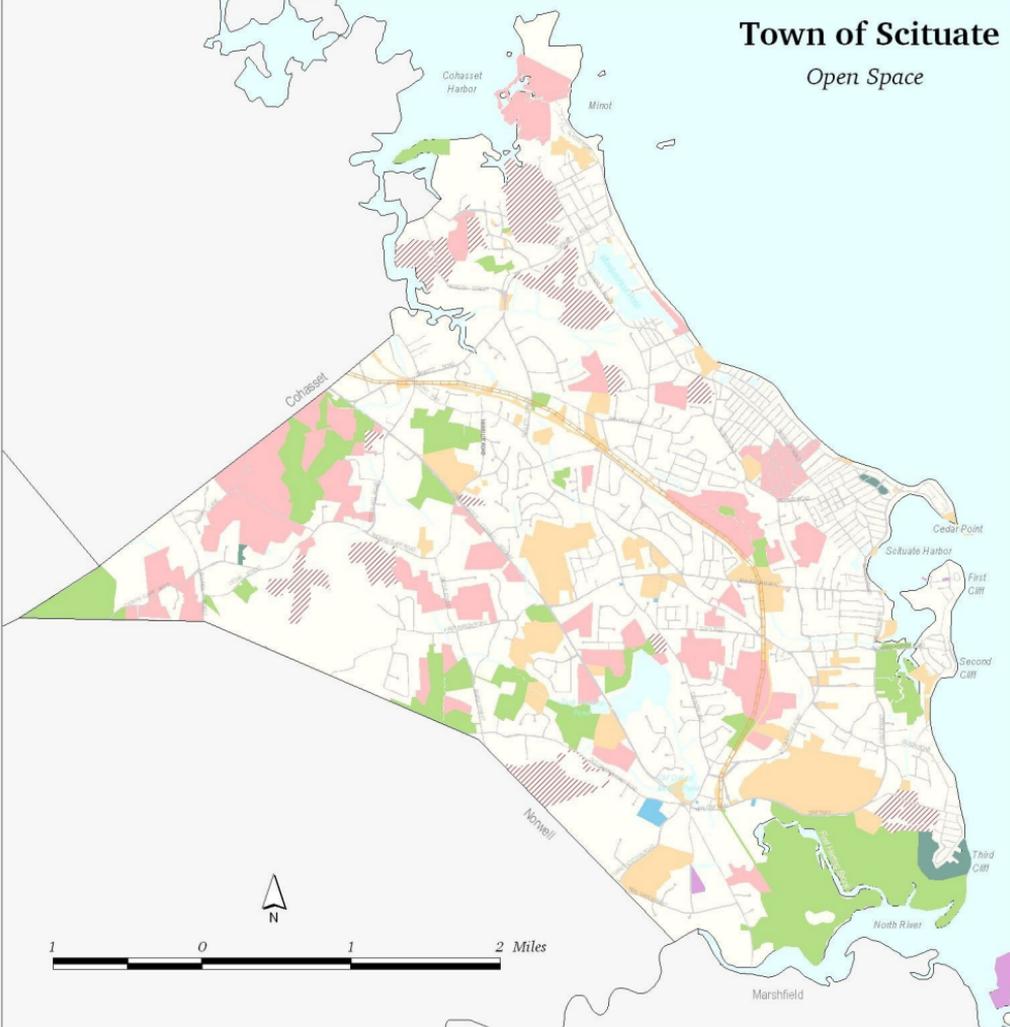
As mentioned earlier, there are a number of small, vacant parcels scattered throughout the Town that have the potential to be converted to neighborhood pocket parks. This can be done to provide for small gathering areas that are landscaped to enhance community character, especially within residential neighborhoods. Another option is to use these parcels for small playgrounds or tot lots.

OS-13 Rehabilitate Scituate’s Shellfishery.

Research should be conducted in coordination with the Division of Marine Fisheries to determine the cause of resource depletion. Steps should be taken to overcome the causes of depletion that are identified and rejuvenate the shellfishery.

Town of Scituate

Open Space

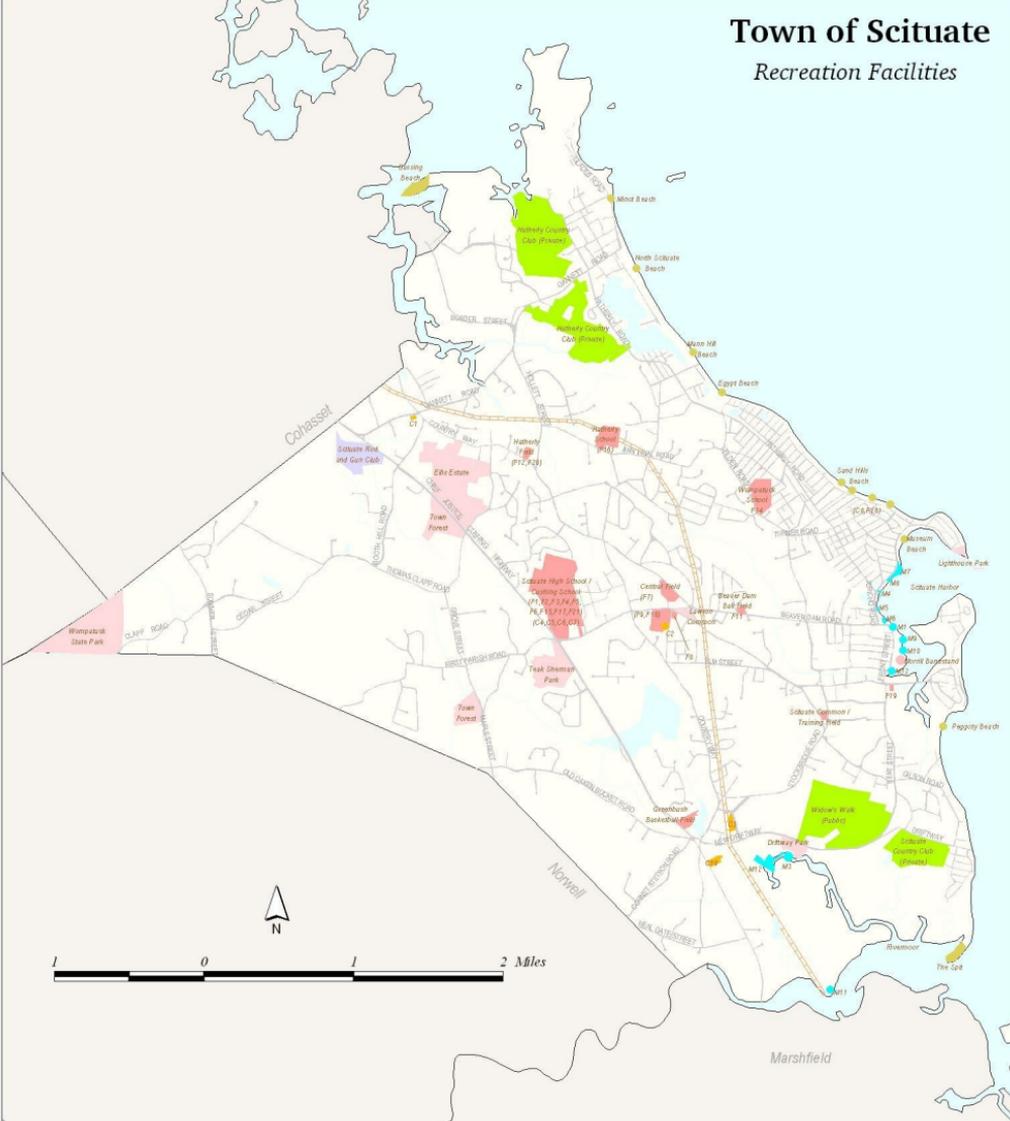


OPEN SPACE

-  Chapter 61
-  Conservation Land
-  Federal/State Land
-  Historic Society
-  Land Trust/Private Nonprofit
-  Municipal Land
-  Potential Acquisitions
-  Streams
-  Ponds
-  Roads
-  Proposed Commuter Rail

Data provided by
 Town of Scituate and EOE/MassGIS
 <<>>
 Map prepared by
 KRF: Technology Planning & Management Corporation
 August 2002

Town of Scituate Recreation Facilities



Data provided by
Town of Scituate
and EOE/MassGIS
<<<<<<
Map prepared by
KRE: Technology Planning
& Management Corporation
June 2002

RECREATION

- Beaches
- Fields, Tracks and Playgrounds
- Golf Courses
- Marinas, Boat Clubs and Public Boat Ramps
- Miscellaneous Recreation Areas
- Parks and Passive Recreation
- Tennis/Basketball Courts, Pools, Hockey Rinks and Skateboard Parks

Streams
Ponds
Roads
Proposed Commuter Rail



Roads, Wires, and Stone Revetment along Pegotty Beach

PUBLIC FACILITIES, INFRASTRUCTURE AND SERVICES

INTRODUCTION

The quality, extent, and cost of town services and the physical facilities through which town services are provided are important aspects of the town and, therefore, major elements of a master plan for the future of the town. The Town Meeting, through its budgetary powers, determines the allocation of taxes for various purposes, subject to the requirements of state laws, the legal and contractual obligations of the town and the need to maintain the physical plant in functioning conditions. The Town of Scituate Public Infrastructure consists of:

- Transportation including roads, sidewalks, storm drainage, bridges, and parking lots.
- Water including water treatment, ground water supply, surface water supply, water distribution and water storage.
- Wastewater including treatment, collection and disposal.
- Solid waste collection and disposal.
- Foreshore protection including seawalls, revetments, barrier mounds and jetties.

- Public grounds including parks, cemeteries, athletic fields and beaches.
- Public buildings including Town Hall, Police Station and Satellite Fire Station.

The Town of Scituate Department of Public Works is charged by the original Town Charter adopted in 1973 and amended in 1978 with the care and custody of the Town of Scituate Public Infrastructure. The Department of Public Work’s infrastructure care and custodial responsibilities include:

- Planning, engineering design and construction of all Infrastructure improvements.
- Maintenance and repair of all existing infrastructure.
- Vehicle and equipment maintenance and repair.
- Protection of groundwater and surface water supply.
- Operation of water treatment plant, water wells and pump stations.
- Operation of the wastewater treatment plant and pump stations.
- Operation of the Sanitary Landfill Transfer Station and Recycling Center.
- Water and Sewer billing.

The Department of Public Works Five Year Capital Improvement Program is prepared in accordance with the requirement of the Town Charter and is the Department of Public Works Master Plan for infrastructure improvement planning. The Capital Improvement Program includes all infrastructure components planned for improvements for the next five years and is updated annually. This updated program is submitted each year to the appointed Capital Planning Committee for review and recommendation for individual project approval and funding at annual Town Meetings.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Infrastructure:

To provide high quality and efficient government infrastructure and services and to provide Scituate residents with safe, convenient transportation routes while protecting the small town character of the community and the neighborhoods.

To achieve this goal, the Town has drafted the following Objectives:

- 1) To continue to update the Town Charter mandated DPW Capital Improvement Plan to ensure planned infrastructure improvements meet the ever changing needs of the Town.
- 2) To continue with the planned infiltration removal to provide for additional sewer services.
- 3) To continue with the planned expansion of the Sanitary Sewer System.
- 4) To continue with planned water supply improvements to ensure adequate water supply.
- 5) To continue with planned roadway, drainage and sidewalk improvements and new construction.
- 6) To continue with planned Foreshore Protection improvements.

Water Supply And Distribution System

The water supply and distribution system in the Town of Scituate consists of a water treatment plant, a reservoir, six public water supply wells, two water storage tanks, two water supply booster stations and 120 miles of water mains. The original Scituate Water Company was established in 1893 by a group of Cohasset businessmen. The first municipal water was provided by a dug well, west of the railroad track on the northerly side of Beaver Dam Road. The first water lines were laid to the summer colony at Sand Hills. Pressure was maintained by a standpipe at Scituate Center. Thomas Lawson built his famous tower around this standpipe.

In 1900 the Scituate Water Company was purchased by John Moore. In 1912, when the Beaver Dam wells began to lose volume, Moore purchased the water rights to Old Oaken Bucket Pond. In 1927 Moore acquired the land where our present reservoir is located. In 1928 he developed a group of wells in Webster's Meadow. In 1929 Moore sold his company to the Community Water Works of New York. In 1931 the town purchased this water company for \$750,000.00. The "Report of Selectmen" in the 1931 Town Report says the town was "driven to this action by constantly rising rates for water."

The newly formed Water Department embarked on a groundwater exploration program that was to continue through 1965. The first well developed was #12 at North Scituate in 1933. In 1935 the Kent Street well (#2) was developed. This well was used continuously until 1973 when it became contaminated. In 1936 another well (#6) was developed at Cedar Street. This well was only pumped for three months and abandoned. In 1938 a storage tank was built at Mann Lot Road. Exploration continued in the 1940's. In 1944 a large well was developed at Stearns Meadow (17). This well was the first of four large wells to be developed in the First Herring Brook Watershed. In 1949 a well (#18) was developed at the Boston Sand and Gravel property.

In 1955 the town conducted several seismic studies. These studies led to the development in 1956 of the Edison Well (#19). In 1958 the Fitts Well (#20) was developed. After five years of continuous use this well developed high iron content and was abandoned. In 1960 the Wagner's Meadow Well (#21) was developed. This was the third large well to be developed in the First Herring Brook Watershed. Unfortunately, this well soon developed high iron and manganese and was abandoned in 1969 when it was covered by water from the reservoir. In 1962 a second standpipe was built in the Town Forest at Pincin Hill. In 1963 seismic studies uncovered the fourth large well (#22) in the First Herring Brook Watershed. By 1965 the water supply was at a critical stage. The Fitts and Wagner wells were both high in iron. The Kent Street and Boston Sand and Gravel Wells were high in chlorides. All of this was due to over-pumping to meet the ever-increasing demand. Scituate was forced to turn to surface water which had last been used in 1938. In 1968 the town constructed a reservoir on the land acquired by John Moore in 1927, and a treatment plant at Old Oaken Bucket Pond.

The original Water Treatment Plant was constructed in 1969 and upgraded in 1989. It was constructed to treat water from the Old Oaken Bucket Pond and Reservoir. At that time the wells were the primary source of drinking water, and the Water Treatment Plant was used as a secondary supply to meet peak summer water demands. Because of the increasing importance of the surface water supply, it was now appropriate to upgrade and convert the Water Treatment Plant from a backup supply to primary supply, and provide greater assurance to Scituate that its water demands would be met. The plant modifications

modernized the treatment process to provide a superior quality water, and to meet upcoming Safe Drinking Water Act Regulations, including new standards for trihalomethanes.

The Town of Scituate surface water supply consists of a Reservoir, Tack Factory Pond and Old Oaken Bucket Pond, all located in the First Herring Brook Watershed. The maximum storage capacity of these three impoundment areas is 150 million gallons. The Water Treatment Plant draws raw water from the Old Oaken Bucket Pond located downstream from the reservoir and fed by the First Herring Brook. The available total safe yield from the surface water supply is 0.75 million gallons per day.

The Town of Scituate groundwater supply consists of six wells. Wells #17, #19, and #22 are located in the First Herring Brook Watershed. Wells #10 and #11 are located in the Webster Meadow Watershed. Well #18B is located off the Driftway. The total safe yield from the six wells is 1.65 million gallons per day. This safe yield is defined as the amount of water that can be withdrawn continuously 19 out of 20 years, based on a drought occurring an average of once every 20 years of such severity that safe yield could not be maintained without water use restrictions. The safe yields for each of the wells were calculated using the "Groundwater Reservoir Yield Method".

The total water supply safe yield including both surface water and ground water supplies is 2.35 million gallons per day. The system capacity assuming the largest well (# 19) is offline is 1.83 mgd. In 2000, water supply demand in Scituate was 1.66 mgd. on average, with a maximum day demand of nearly 3.32 mgd. During the summer months, population in Scituate increases to 1.4 to two times the winter population, which increases the seasonal demand on the system. Population projections indicate that the population in Scituate will rise to about 21,000 in winter and 28,000 in summer by 2020. The buildout population in Scituate is estimated to be about 25,700.

In Scituate, residential water use consists of 80-90% of the total demand. The Town of Scituate groundwater withdrawal is now within the permit limit established by the Water Management Act. (1.66 mgd) The system capacity of 1.83 mgd. With Well 19 offline meets average day demand in Scituate (1.66 mgd.) The Town of Scituate, DPW is implementing a number of conservation measures to reduce demand. However, the need to increase capacity still exists to meet both the summer demand and maximum day demand.

By the year 2020, maximum day demand is estimated at 4.25 mgd. At that level of demand, Scituate will have a water system deficit of about 2.4 mgd. Several projects are planned for implementation during the next 10 years to increase both groundwater and surface water supply to meet the projected 20 year supply deficit. In addition to the six active wells supplying potable water the Kent Street Well (#2) which was closed in 1973 because of contamination was reconstructed and reopened in 1995 to supply irrigation water only for the Widow's Walk Golf Course.

The Town has also developed a reserve groundwater supply in a location off Country Way south of Hollett Street. This reserve groundwater supply has been designated as the "Dolan Well Site." Based upon pumping tests it was determined that the estimated safe yield of this potential ground water supply is 0.3 million gallons per day. Water quality analysis indicated that water from this well is acceptable for public consumption without treatment. The Town of Scituate has purchased both the proposed well site property and all property within 400 foot radius around the proposed well site.

The Town of Scituate water distribution system includes the following:

- 54 miles of transit water mains
- 48 miles of cast iron water mains
- 10 miles of PVC water mains
- 1 mile of ductile iron water mains
- 6 miles of 2” diameter or smaller water mains
- 747 fire hydrants
- Mann Lot Road Water Supply Booster Station
- Mann Lot Road elevated water storage tank with total storage volume of 1.244 million gallons and overflow elevation of 200 feet
- Pincin Hill elevated water storage tank with total storage volume of 1.280 million gallons and overflow elevation of 197.5 feet.

The current water distribution system is able to adequately handle the flows from average day demands. The system however cannot maintain adequate water pressure during the maximum day and peak hour demands. This is primarily due to the lack of large-sized transmission mains connecting the water storage tanks and supply sources with the remainder of the system.

Unlined water mains make up 28 percent of the water mains in the system and account for the several of the vital, large-sized mains. The inside diameter of these mains has been reduced from tuberculation, or iron deposits coating the inside of the pipes. This leads to reduced flow availability, reduced water pressure and poor water quality. The existing storage tanks are sufficient to supply adequate fire flow volume, but the hydraulic capacity of the distribution system must be increased to maintain recommended fire flow to all homes.

Recommendations – Water Supply and Distribution System

Several major water supply and distribution improvement projects are planned for development in the next ten years. All major improvement projects will come from the annual updated DPW Five Year Capital Improvement Program. Upgrades of water mains and feeders may also be included as conditions of subdivision approval. Although the current water supply meets current average day demand, an increase of capacity is required to meet the maximum day demand and projected maximum day demand for the year 2020. The following projects are planned to increase the current water supply:

- Redrill Wells #10 and #11. These two wells are both beyond their design life. Pumpage from both wells combined is only about 200gpm. Pump tests should be conducted to determine if moving the wells will result in greater capacity.
- Evaluate Operational Schedule: Conduct a study for increasing usage of the surface water source during the winter and spring months when the water level is high. The water treatment plant is capable of treating more water than is currently being pumped.
- Waterfowl Management: Implement a plan to reduce/eliminate Old Oaken Bucket Pond of waterfowl.
- Restrict Use of In-Ground Sprinkler Systems: The Town should consider developing a mechanism such as a permitting system to limit or eliminate new residential underground lawn sprinkler systems.
- Sediment dredging: Dredge the Reservoir and Old Oaken Bucket Pond. The increased storage can allow Scituate up to 100 extra days of pumping at the average use of 0.7 mgd if no water is spilled at Old Oaken Bucket Pond.
- Dolan Well Site: Develop the Dolan Well Site. DEP requires pump tests and water quality analyses to ensure that changes in land use over the past 10 years have not influenced either the capacity of this area

to supply water or the water quality. A Water Management Act Permit Application is required for additional withdrawal (if over 100,000 gallons per day).

- **Divert South Swamp:** There is the potential to divert the flow of South Swamp to extend the watershed, thereby increasing storage. This option would require extensive permitting including an Environmental Impact Report and an Interbasin Transfer. While permitting costs for this option are high, the actual construction of the diversion structure is relatively simple. A preliminary feasibility analysis, including meetings with the involved permitting agencies, is recommended as the next step before committing to this project.
- **Evaluate the Potential of Satuit Meadow for Additional Well Sites:** There is some evidence, based on historic studies, that indicate a potentially productive aquifer in the Satuit Meadow area. A hydrogeologic study is recommended to determine if the potential yield from this area is worth pursuing. Scituate currently does not own any land in this area and therefore land acquisition would be required.
- A multi-year construction improvement program is planned to improve the quantity and quality of water that will meet current and future water demands. Implementing these improvements will require a phased construction program.

Phase A includes specific improvements to be completed within the first nine years that are designed to eliminate or significantly reduce existing deficient fire flows and transmission main deficiencies. This will strengthen the transmission system by cleaning and lining existing mains, and constructing new 12-inch mains that serve some of the hydraulically remote and/or deficient areas of town.

Phase B consists of the improvements associated with increasing the High Service system to include several areas of higher elevation that currently see pressure deficiencies. Phase B eliminates the pressure deficiencies to those customers located at higher elevations within the Main Service System.

Phase A Improvements

- Cleaning and cement lining of 10-inch main on Country Way from Captain Pierce Road to First Parish Road.
- Cleaning and cement lining of 12-inch main on First Parish Road and Beaver Dam Road from Country Way to Tilden Road.
- Cleaning and cement lining of 10-inch main on Beaver Dam Road from Tilden Road to Front Street. Replacement of 6 inch main on Hollett Street with 12-inch main from Country Way to Ann Vinal Road.
- Replacement of 8-inch main on Ann Vinal Road with 12-inch main.
- Replacement of 6- and 8-inch main on Tilden Road with 12-inch main from Ann Vinal Road to Egypt Beach Road.
- Replacement of 8-inch main on Tilden Road with 12-inch main from Egypt Beach Road to Turner Road.
- Replacement of 6-inch main on Tilden Road with 12-inch main from Turner Road to Beaver Dam Road. Replacement of 6-inch main on Turner to existing 12-inch.
- Replacement of 8-inch main on Hatherly Road with 12-inch main from 10-inch main to Egypt Beach Road.

Phase B Improvements

- Replacement of 6-inch main on First Parish Road with 12-inch main from Grove Street to Pineview Drive.
- Construct 12-inch transmission main on First Parish from Pineview Drive to Cedarwood Road. Replacement of 8-inch main on First Parish Road with 12-inch main from Cedarwood Road to Country Way.
- Replacement of 8-inch main on Thomas Clapp Road with 12-inch main from Booth Hill Road to Bates Lane.
- Construct/Replacement 12-inch main from Bates Lane to High Service storage tank location.
- Construct High Service storage tank.

After the completion of Phase A and Phase B improvements, all remaining unlined water mains throughout the system will be replaced eliminating dead-end water mains, and looping areas with new water main. The presence of unlined water mains is the cause of many of the existing deficiencies throughout the distribution system. As the system ages, the magnitude and frequency of these deficiencies will increase. The remaining improvements should be performed after the Main Service system pressure deficiencies are addressed through the Phase B improvements.

Transportation Infrastructure

The Town of Scituate Transportation Infrastructure includes the following major components:

- Roadways
- Sidewalks
- Storm Drainage
- Bridges

Roads

An adequate roadway system is a prime requisite of a modern community. The purpose of the roadway system is to service the traffic needs of the highly mobile nature of most communities and to provide a location for all other public utilities required to meet the needs of the community. The roads in Scituate are typical in nature and condition for a New England community of the size and population of Scituate. The Town of Scituate roadway system consists of the following:

- 309 public and accepted streets for a total of 96 miles.
- 157 private and unaccepted streets for a total of 13 miles.
- One (1) State Highway measuring 5 miles.
- 15 private common driveways serving two (2) or more homes.
- 5 Town traffic controlled intersections:
 - Beaver Dam and Tilden Roads
 - Beaver Dam and Jericho Road
 - Hatherly and Turner Roads
 - Hatherly and Gannett Roads
 - Gannett and Country Way

- 2 State Highway traffic controlled intersections.
Route 3A and First Parish Road
Route 3A and Cornet Stetson Road

The majority of the public accepted roadways in Scituate are of standard width with bituminous concrete surfaces. Some public roadways include shoulders with either concrete or bituminous concrete curbing. The private unaccepted roads are of gravel surface roadways with no shoulders or curbing.

The DPW has developed and implemented a Comprehensive Roadway Management System (September, 2001) to identify and prioritize improvements to the roadways, storm drainage and sidewalks. This plan includes:

- An inventory and network identification of the Town's roadways to establish management section termini, lengths, widths, and descriptive roadway attributes.
- Distress survey assessment of pavement surface conditions.
- Drainage and utility features inventory. This includes an inventory and assessment of curbing, catch basins, cross-culverts, poor grades, problem cross slopes, water gates, major channels, miscellaneous drainage structures, and localized undrained areas visible during the survey.
- Sidewalk inventory and assessment including an inventory of all sidewalks for length, average width, type and location by station and side of street. Added to the inventory is a general condition assessment of each sidewalk type based on a street management section average basis. Also included in the inventory is the location by station, side of street, and type of each pedestrian ramp.
- A computer based roadway management plan with the ability to analyze the entire roadway network.
- Data entry, data verification, and quality assurance for the network identification, pavement surface condition distress surveys, and drainage inventory.
- Identification and prioritization of pavement improvement options focusing on cost effective roadway maintenance/rehabilitation techniques.
- A plan to identify possible funding sources, and development of a capital budgeting strategy.
- A final report which will present the specifics of the Scituate Roadway Management System.

Sidewalks

Sidewalks are an important component of a roadway system and are essential for both business and commercial streets. Sidewalks are also desirable on residential street to provide a safe route for school children going to school or waiting at school bus stops. Sidewalks are not normally provided on arterial roadways but are provided on collector streets for safe pedestrian passage between neighborhoods and to businesses or commercial areas. All new and existing sidewalk construction requires compliance with both Federal Americans with Disabilities Act (ADA) and State Architectural Access Board (AAB) standards.

The Town of Scituate sidewalk system consists of 13.5 miles of sidewalks along collector streets, 11.5 miles of sidewalks along residential streets, .87 miles of sidewalks around public schools and .58 miles of sidewalks around municipal buildings. The majority of sidewalks are bituminous concrete surface with bituminous curbing. Some sidewalks are concrete surface with granite curbing.

Storm Drainage

A street storm drainage system is an integral component of any roadway system. Storm drainage systems are designed and constructed to handle major runoff from various precipitation events. Major components of a street storm drainage system include catch basins, manholes, curbing, drainage pipes and

various types of outlet structures. Street storm drainage systems are essential to prevent roadway flooding and potential safety hazard for both vehicles and pedestrians. Flooding of private property abutting a roadway will also be prevented with a properly designed and constructed storm drainage system. In addition to preventing of flooding storm drainage systems also protect the environment from runoff pollution and land erosion.

The existing storm drainage system in Scituate consists of approximately 107,500 feet or 20.4 miles of reinforced concrete pipe ranging in size from 8" to 36" diameter. It contains approximately 10,000 catch basins and manholes, and 90 culverts and other outlet structures. The majority of the existing storm drainage systems on collector category roads in Scituate were constructed over 40 years ago and are both undersized and do not meet current runoff water quality standards. Population increases over the years have in turn led to increases in the "impervious" areas of the drainage watersheds. Impervious areas consist of paved drives, roadways and the roofs of homes and buildings.

As development of subdivisions takes place, the runoff from these watersheds reaches drainage structures at a much quicker rate than the previously undeveloped areas. In order to adequately handle these flows at "peak" level, the drainage system must be sized accordingly. Since the Town's system was designed and built in the 1940's, it tends to be undersized. This is evidenced by the surcharging storm drains observed during storm events. Design standards have changed as well over the years. Good engineering practice dictates that drainage systems for public ways be designed with a minimum diameter of 12" pipe. Much of the Scituate system is 8" and 10" pipes which fill up quickly and cause catch basins and manholes to surcharge. An increased diameter would increase capacity and help prevent blockages and breaks.

Bridges

Bridges are also a major component of a roadway system providing necessary access over water bodies, roadways or railroads for vehicles and pedestrians. There are five (5) Town owned bridges in Scituate and one (1) State owned bridge.

The five (5) Town owned bridges consist of the following:

- Julian Street Bridge over the South River
This bridge was originally built in 1942 and has been modified and repaired over the years. The bridge length is approximately 194 feet with 13 spans of timber framing around 15 feet each. This bridge is currently in the planning stage for total reconstruction under the Massachusetts Highway Department Bridge R & R Footprint Program.
- Sea Street Bridge over the South River
This bridge was originally constructed in 1952 and generally consists of a reinforced concrete slab with 18 spans of approximately 20 feet and a 35 foot span over the channel. This bridge is also currently in the planning stage for total reconstruction under the Massachusetts Highway Department Bridge R & R Footprint Program.
- Mordecai Lincoln Road Bridge over Bound Brook
This bridge, originally constructed in the mid-nineteenth century, has been assigned a 10 ton capacity rating by the Commonwealth of Massachusetts Department of Public Works.
- Edward Foster Road Bridge over a tidal inlet to Scituate Harbor.
This bridge originally constructed in the early 1930's was designed for H10 loading and generally consists of simple span reinforced concrete T-beams with cantilevered end spans.

- Stockbridge Road Bridge over abandoned railroad right-of-way
The original Stockbridge Road Bridge constructed in 1899 was totally replaced in 1993 with a pre-engineered superstructure steel beam bridge.

The one (1) State owned bridge consists of:

- Route 3A bridge over the North River
The original draw bridge constructed in 1933 was replaced in 2002 by the Massachusetts Highway Department under the National Highway System Funding Program. This new bridge is 2,650 feet long including the new 550 foot, four-span, fixed steel plate girder structure supported by shaft caisson piers and concrete abutments. This new bridge is 53 feet wide out-to-out consisting of two 12-foot lanes, two 10-foot outer shoulders and a 6-foot wide sidewalk on the upstream side of the bridge.

Recommendations – Transportation Infrastructure

Major roadway, storm drainage and sidewalk reconstruction projects are planned for implementation each fiscal year. Many major road reconstruction projects will come from the Comprehensive Roadway Management System Report. All road construction projects should be consistent with the Master Plan. Long term roadway improvements should be planned to serve the town's long range land use needs. Projects are considered for funding and implementation through the annual updated DPW Five Year Capital Improvement Program. Several major roadway reconstruction projects have been identified for implementation and funding as part of the MBTA Old Colony Railroad rehabilitation project. These projects include:

- Country Way at Gannett, Henry Turner-Bailey and Booth Hill Road
- Route 3A at Henry Turner-Bailey Road
- Route 3A at Booth Hill Road
- Route 3A at Route 123, Old Oaken Bucket Road, Country Way and Driftway

The proposed Greenbush rail line follows an abandoned railroad right-of-way through the central portion of Scituate. The proposed Greenbush rail line creates a number of at-grade crossings with local roads and streets. The four at-grade crossings proposed between North Scituate Station and the Driftway Station are:

- Hollett Street
- Captain Pierce Road
- Beaver Dam Road
- First Parish Road

Sewer

The wastewater treatment and collection system in the Town of Scituate consists of a wastewater treatment plant, three wastewater pump stations and 24 miles of sanitary sewer collection system. The original wastewater treatment plant was constructed in 1967 upgraded in 1984 and again upgraded and expanded in 2002.

The Scituate, Massachusetts Sewerage Project started in 1938 with a report prepared by the late Howard Bailey. However, with a year-round population of about 4,000, a summer population of about 18,000 and the country emerging from the great depression of the 30's, the town took no further action. The report was accepted, filed, and the Board of Health returned to its normal duties. Finally, with the passing of World War II, a big increase in population, the townspeople in 1956 voted to have another comprehensive report prepared upon a proposed sewerage plan for the whole town. Then in 1963 a report was prepared to

update the 1956 report and included a study on small, prefabricated plants in several sections of the town, in place of the two plants we had recommended.

A Town Meeting in 1964 voted down the idea of small, prefabricated plants and authorized a 2.5 million dollar bond issue for the start of a construction program including a Water Pollution Control Plant located near the North River. At last the design of a sewerage system was underway, with the only significant change from the 1956 plan being secondary treatment instead of primary, which had previously been approved. The outfall discharged into the North River.

Due to concerns about degradation to water quality, the town held several public meetings, discussions and hearings which included testimony by scientists and others with relevant expertise. After a year, the outfall location was still unresolved. As a compromise, the State Department of Health, decided we should discharge the effluent onto sand areas with no further outlet except into the ground. However, the town obtained a Federal Grant of \$600,000, which offset a \$125,000 increase in the treatment plant project. These funds were used to construct a plant with secondary treatment. This plant was eventually upgraded to include tertiary treatment, but many components of the original are still in operation today.

The plant was designed to treat sewage from 10,000 people, with an average flow of 1.0 mgd and a peak hourly flow of 2.5 mgd. The organic loadings used were 0.2lb/day of BOD and SS per person. Ultimately the plant would be expanded to serve 20,000 people. No industrial wastes were expected.¹ In 1984 the original Wastewater Treatment Plant was upgraded to improve plant performance and eliminate operational deficiencies. The existing sludge drying beds had been a source of operational difficulties because of the inability to mechanically remove dewatered sludge from the beds in a timely fashion. A continuous belt-type filter press was installed to replace the use of open sludge drying beds.

The original plant design was provided with a holding chamber attached to the aerated grit chamber to contain the septic wastes so that they could be slowly fed into the plant process. Because of the small dilution initially available, septic waste was not immediately received at the plant. After plant flows increased, septic wastes were received at the plant for a time; but due to the increased buildup of solids within the system, the septic waste was no longer allowed into the plant; after which, open pits were excavated on top of a hill adjacent to the treatment plant and the septic waste was discharged into the pits.

The pits soon became clogged and filled with solids. A new septage receiving and treatment process was constructed to eliminate the open septage. The purpose of this facility was to render the septage wastes amenable to treatment and to control its discharge through the available facilities so that they are not loaded beyond their design capacity.

In 1998 a second upgrade of the Wastewater Treatment Plant was started. This upgrade, completed in 2002, was required to comply with the 1972 Clean Water Act. It allowed expansion of the service area and increased the protection of water quality in the watershed. The plant expansion provides Scituate with the means to expand nonsewered areas in the town. With the toughening of Title 5 septic regulations in 1995, the plant's expansion is critical to increasing disposal options for Scituate residents.

The new plant is an advanced wastewater treatment plant capable of nitrogen removal. This upgraded treatment process of denitrification/infiltration, and ultraviolet disinfection is the first of its kind in New England. It is designated to meet a strict limit of 3 milligrams per liter (mg/l) of nitrogen in the effluent concentration. The strict limit of reduced nitrogen has resulted in improved water quality in the Herring Brook and North River watersheds. Another component of the treatment process is the use of ultraviolet disinfection versus chlorination. With chlorination the residual chlorine discharge to the stream is generally toxic to freshwater organisms. This does not occur with the use of ultraviolet disinfection.

¹ Information on the history of Scituate's sewer system is taken from Obert, Francis A. and Chalas, John G., Water Pollution Control Facilities, Scituate, Mass. Yesterday, Today - Tomorrow

The current discharge permit for the upgraded and expanded treatment facility allows a total flow of 1.6 mgd as the 12-month moving average limit. The 12 months moving average limit is the arithmetic mean of the monthly flow totals for the proceeding 12-month period. The plant was designed to treat a maximum day flow of 2.36 mgd and a peak hour flow of 4.34 mgd. The last five years of wastewater treatment facility flow data (January 1995 through July 2000) were evaluated to determine current treatment plant flows and the available capacity for expansion of the sewer service area, given current discharge permit limits. The 12-month moving average flow rate over the period from January 1995 through July 2000 was approximately 1.1 mgd, with a range of approximately 0.9 to 1.4 mgd.

Of this 1.1 mgd average flow rate it has been determined that approximately 0.6 mgd is due to system infiltration and inflow (I/I.) The result has been that the capacity for the expanded treatment facility to accept additional flows is dramatically limited. Based on the 1995-2000 average flows, the 1.6 mgd upgraded and expanded facility in Scituate has the capacity for only an additional 0.5 mgd, assuming I/I remains constant over time. The key to maximizing sewer system expansion in Scituate is the reduction of infiltration and inflow.

The Town of Scituate Sanitary Sewer collection system consists of approximately 24 miles of gravity sewers and force mains and three pumping stations. This collection system serves 2030 homes. The existing sanitary sewer collection system was constructed between 1966 and 1996 and consists of vitrified clay, reinforced concrete or ductile iron sewer pipes ranging in size from 8" to 36" in diameter.

The Wastewater Treatment Plant is currently experiencing extraneous flows that are reducing the treatment plant efficiency during wet weather periods and/or periods of high ground water. These extraneous flows are caused by infiltration/inflow and are the result of water entering the sewer systems through defective pipes and manholes as well as through drains, roof leaders and sump pumps. This infiltration and inflow occupies space in a sewer that otherwise could be taken up by wastewater, thereby reducing the effective capacity of a sewer. This infiltration and inflow also causes the system pumping and treatment facilities to be used more often than if the system were transporting wastewater only. Resulting benefits in reducing infiltration and inflow are many. Such benefits include reduction in system failures and malfunctions, reduction in energy use, reduction in system backups and/or overflows, increase in system capacity for future growth, and reduction in the overall cost of wastewater collection and treatment.

Infiltration/inflow analysis and Sewer System Evaluation Surveys conducted during the past several years have identified peak infiltration rates of approximately 545,000 gallons per day. Flow monitoring results indicate that approximately 291,000 gpd of infiltration has been removed from the existing sanitary sewer system to date by the sealing and lining of 12,000 feet of sewer mains, 50 manholes and 220 service connections.

Based upon the goal of 50% removal of infiltration and inflow in the existing sanitary sewer system, and allowing for no more than 500 gallons per day per inch mile of infiltration and inflow for new sewer mains it has been determined that adequate wastewater treatment capacity exists for sewerage of the top thirteen priority sewer districts.

Sewer needs have been evaluated by the town a number of times since the original 1977 Sewer Study Committee Report. The 37 sewer districts established by the sewer committee, which were based on proposed sewer lines and pumping station locations have essentially remained intact over the years. An updated evaluation of sewer needs was conducted in 2000. This evaluation maintains the sewer districts previously established but has fine-tuned the areas based on the recently available electronic mapping of assessor's information. Actual lot lines form the boundaries of the districts and the database of information pertaining to each lot have been used to establish developed and developable lots within each district.

The focus of this evaluation is to assess each district's ability to operate and maintain an on-site septic system in accordance with Title 5 regulations. The three criteria that most impact a specific lot's ability to meet Title 5 regulations are as follows:

- lot size
- soil suitability, and
- groundwater elevation.

This methodology used in ranking each district is as follows. Each of the three criteria above is equally weighed with values ranging from zero to one, one being the highest. Each district is given a decimal percent for the above criteria based on actual data and mapping. Next, a fourth criteria, previous report recommendations, based on the recommendations of the 1995 FP/EIR, is added to the first three criteria, giving a total value for each district. The final results were ranked in ascending order to determine top priority districts. A sensitivity analysis was also performed using recent Board of Health data (1998-1999), specifically, septic systems pumped more than two times per year and septic systems requiring significant modifications over the last two years, to determine the impact of these criteria on the ultimate recommendation.

Once identified, priority districts were evaluated based on wastewater flow, cost and accessibility to the existing sewer to determine the most appropriate means to phase sewer expansion. The top thirteen study districts identified in this analysis can be grouped into the following six general areas. The groupings also represent the proposed phasing of sewer extension.

- Greenbush/Reservoir Area (Districts 23 and 28))
- The Cliffs (Districts 30,31,32, and 33)
- Musquashcut Pond (District 1A)
- Front Street (Districts 24 and 25)
- North Scituate (Districts 3,6, and 10)
- Minot (District 1)

Recommendations – Sewer System

Several major wastewater treatment and sewer collection system projects are planned for implementation within the next 10 years. All major projects will come from the annual updated DPW Capital Improvement Program.

- Continue with annual program of sealing and lining all existing sewer mains, service connections and manholes to eliminate excessive extraneous infiltration and inflow to the Wastewater Treatment Plant and thereby provide increased treatment plant capacity to sewer areas of critical need.
- Construct storm drainage systems along streets identified as having sump pumps connected to the sewer system and contributing extraneous inflow to the Wastewater Treatment Plant. This new storm drainage system would provide a means for connection of sump pumps to this system instead of the sewer systems and thereby increasing the treatment plant capacity to sewer areas of critical need.
- Update the Wastewater Management Plan. The upgraded Wastewater Treatment Plant will not have sufficient treatment capacity to satisfy the sewer needs of the entire town and other alternatives must be explored. Among the alternatives to be considered are modifying the town’s Water Pollution Control Plant, such as flow equalization and enhanced nutrient removal, innovative effluent disposal methods such as seasonal water reuse or groundwater recharge, decentralized wastewater treatment and disposal facilities, and the construction and operation of a satellite advanced wastewater treatment facility in the western or northern portion of the town.
- Continue with a program of constructing, gravity, and force main interceptors and sewer laterals that is consistent with the land use recommendations of the Master Plan.

Solid Waste Disposal

Solid waste disposal in the Town of Scituate consists of a Transfer Station and a Recycling Center. The transfer station consists of an engineered steel frame building with corrugated metal siding measuring 110'x76' with six windows along one side for disposal of bagged household refuse by residents. The bags are collected in two 100 cubic yard trailers parked in an open top tunnel below floor level. The enclosed area in the building is used by backhoes for compaction of refuse in trailers. Refuse collected in the trailers is hauled off site for contract refuse disposal.

The Recycling Center consists of a pre-engineered steel frame building with corrugated metal sides measuring 122 ft. x 53 ft. with six open top tunnels below floor level for deposit of recycled materials by residents into roll-off containers parked in their tunnels. Materials collected at this facility include newspaper, cardboard, cans, bottles, plastic containers and waste oil. Other outside and covered facilities are provided for the collection of tires, scrap metal, appliances, propane tanks, cathode ray tubes, used oil filters, used anti-freeze, leaves, brush, used clothing and household bulky waste. A swap shop is also provided for the collection and exchange of useable items.

Transfer Station records indicate an average of 6,000 Scituate residents use the Transfer Station per year and deposit an average of 3,600 tons of household refuse a year. Municipal waste consisting of refuse collected from beaches, trash containers along Front Street and North Scituate business district, Scituate Housing Authority, Town Pier, all public buildings and street sweepings averages 5,000 tons per year.

Recycling records indicate that Scituate residents deposit an average of 1,100 tons of mixed paper products, 710 tons cardboard, 250 tons of scrap metal, 500 tons of commingled plastics, cans and bottles, 55 tons of white goods, 4500 gallons of waste oil, 1300 tires, 100 propane tanks, 760 units of cathode ray tubes, 20 drums of used oil filters and 850 gallons of used anti-freeze per year at the Recycling Center. The outside Recycling Center also processed an average of 1600 tons of bulky waste and 1800 tons of leaves and brush per year.

The landfill site was originally part of a ridge referred to as Coleman Hills. In the 19th century, a hotel was operated at the top of the ridge. From the turn of the century until the 1960's, Boston Sand and Gravel Company ran a large scale gravel and sand mining operation and removed the majority of the ridge in the course of their operations. The Driftway Sanitary Landfill has been operated by the Town of Scituate as a municipal landfill on this site since 1975.

Several pre- and post-development studies were conducted to ensure protection of adjacent Water Well No. 18 and other surrounding environmentally sensitive areas from any potential landfill leachate contamination. A preliminary hydrogeologic study of the abandoned Boston Sand & Gravel property was conducted in 1974 to evaluate the feasibility of siting a landfill near the municipal water supply Well # 18A. This study area included the existing landfill site and extended east to Well #18A. The study found that groundwater east of the current landfill flowed toward Well # 18A, and groundwater in the area of the current landfill flowed toward the south.

To guard against flow change under high water conditions, a leachate control system was recommended to protect the well from leachate-contaminated groundwater. Several alternatives were offered, the most efficient of which was a clay slurry wall. Based on permeability testing of soils, the trench had to be extended to the underlying impermeable till. The trench construction was by clay-slurry technique.

An additional study was conducted in 1992 to determine if leachate contaminated groundwater was impacting water quality in Herring River. Results of this investigation showed that the only indicators of landfill impact on groundwater discharging to Herring River were high iron and manganese concentrations. The impact of the landfill on the marsh/river system was considered insignificant, given the types and

concentrations of contaminants attributable to the landfill and the anticipated dilution of these concentrations on entering the river system.

Groundwater monitoring wells were installed around the perimeter of the landfill in 1988 to monitor leachate impact on groundwater. Five monitoring wells were installed. Results of total coliform, fecal coliform and fecal strep analyses showed no bacterial contamination. Eight landfill gas monitoring wells were installed around the perimeter of the landfill in 1993 to monitor landfill gas production. Gas monitoring indicated that no VOC's were being produced within the landfill, which was further confirmed by the absence of VOC's in the leachate for which collection and testing has been conducted previously.

In 1993 the Commonwealth of Massachusetts passed an Amendment to Chapter 111 S. 150A revising the statutory and regulatory approach to continuing operations at unlined municipally owned or operated solid waste landfills. The 1993 amendment provided a process under which the Department classified qualifying municipal landfills into four categories based on scientific information: significant threat, potential threat, no present discernable threat and inconclusive data.

The Town of Scituate Sanitary Landfill was classified under this statutory regulation as a potential threat landfill. The potential threat criteria used for this classification was the location of the landfill in a potential productive aquifer with potential to impact water quality in the groundwater and cause off-site ecological damage. In order to operate the Sanitary Landfill beyond the statutory closure date of 1 January 1997 we were required to demonstrate on a site specific basis that continued use of our unlined landfill would not pose a threat to public health, safety and the environment. The mechanism required to make this demonstration was a landfill assessment consisting of a three phase study.

The Town of Scituate completed the Three Phase Landfill Assessment requirement and negotiated a Consent Order with the DEP for sanitary closure and capping in March, 1997. This 1997 Consent Order required that we cease accepting refuse at the landfill on 31 December 1998 and complete capping and closure of the landfill by 15 November, 1999. This 1997 Consent Order was amended on 26 May, 1998. This Consent Order amendment required that we cease accepting refuse at the landfill on 7 July 1999 and complete closure and capping by 30 November 2000.

The landfill will be closed and capped by November 30, 2000. The closed and capped landfill includes a multi-layered cap consisting of subgrade/gas vent layer, a flexible membrane liner, a drainage layer, a filter fabric layer, a vegetative support layer and a top soil layer. Landfill gas production is collected and vented using a passive gas system.

Recommendations – Solid Waste Disposal

Upon completion of the construction of both the Transfer Station and Recycling Center and the closing and capping of the landfill no further projects are currently planned for solid waste collection and disposal in the Town of Scituate.

Foreshore Protection

Foreshore protection structures in the Town of Scituate consist of concrete seawalls, stone revetments, dumped stone masonry seawalls, breakwaters and dunes extending from Minot in the north to the end of Humarock in the south for a distance of 20 miles. These foreshore protection structures protect both public infrastructure and private property.

Foreshore protection along the coastline of Scituate has been grouped into 15 areas for inventory and inspection purposes. These 15 groups with historical background and type of foreshore protection structures are outlined below:

Area 1 – Minot Beach consists of a combination of stone revetment, concrete seawall and stone breakwater extending from the Glades in the north to Baileys Causeway in the south. The concrete seawalls are approximately 1,700 feet in length with the top of the wall at elevation 20.1 (MLW).

Area 2 – North Scituate Beach consists of a combination of concrete seawalls and stone revetment extending from Baileys Causeway in the north to Gannett Road in the south. The concrete seawalls are approximately 1,500 feet in length with top of wall at elevation 21.0 (MLW).

Area 3 – Surfside Road consists of combination of concrete seawalls and stone revetment extending from Gannett Road in the north to Seagate Circle in the south. The concrete seawalls are approximately 1,500 feet in length with top of wall at elevation 19.0 (MLW).

Area 4 – Musquashicut Pond barrier mound consists of a natural barrier mound extending approximately 2,000 feet from Seagate Circle to Mann Hill Road. This northeast-facing barrier is composed primarily of coarse gravel, except for a small accumulation of sand typically exposed at the lower foreshore. All upper intertidal and supratidal portions of the barrier are gravel.

Area 5 – Egypt Beach consists of private property seawalls which are not a responsibility of the Town of Scituate.

Area 6 – Shore Acres consists of a combination of concrete seawalls and stone revetment extending from Seaside Ave. in the north to Wampatuck Ave. in the south. The concrete seawalls are approximately 4,400 feet in length with top elevation at 20.0 (MLW).

Area 7 – Sand Hills consists of combination of concrete seawalls and stone revetment extending from Wampatuck Ave. in the north to Rebecca Rd. to the south. The concrete seawalls are approximately 2,280 feet in length with top elevation at 18.5 (MLW).

Area 8 – Rebecca Road consists of a combination of concrete seawalls, stone revetment and stone jetty and stone groin extending from the end of Rebecca Road in the north to the end of the Scituate Harbor jetty in the south. The concrete seawalls are approximately 950 feet in length with top elevation at 18.5 (MLW).

Area 9 – Scituate Harbor consists of a combination of precast concrete walls, revetment, Town Pier, concrete seawalls and stone revetment extending from Jericho Road to Edward Foster Road.

Area 10 – First Cliff consists of a combination of concrete seawall, stone revetment and stone jetty extending from Scituate Harbor in the north to Edward Foster Road in the south. The concrete seawalls are approximately 1,001 feet in length with top elevation at 21.0 (MLW).

Area 11 – Second Cliff consists of stone revetment extending from Edward Foster Road in the north to Peggotty Beach in the south. The stone revetment is comprised of a stone dike with the landward side filled up into the existing embankment. The northern approximate 400 feet is generally lower than the top of the dike, with the remaining northern section sloping upward along the embankment. The crest of the revetment is approximately 5 feet wide and the waterside slope is 1.5 to 1. The crest of the revetment is at elevation 22.0 MLW.

Area 12 – Peggotty Beach extends from the 90 degree turn in Peggotty Beach Road, and proceeds south to the northern end of Third Cliff. There are no formal foreshore structures along the beach.

Area 13 – Third Cliff consists of stone revetment extending from Town Way in the north to Collier Road in the south.

Area 14 – Fourth Cliff consists of stone revetment extending from the mouth of the North River in the north to the intersection of Cliff and River Road in the south.

Area 15 – Humarock consists of sections of concrete seawalls extending from Newell Street in the north to the Marshfield-Scituate town line in the south.

Recommendations – Foreshore Protection

Major foreshore reconstruction projects are planned for implementation each fiscal year. All proposed major reconstruction projects will come from the Foreshore Protection Structures Inspection and Inventory Report completed in 1999 and updated annually. These projects will be presented for consideration for funding and implementation through the annual updated DPW Five Year Capital Improvement Program.

Public Grounds

Public Grounds in the Town of Scituate consist of public parks, athletic fields, town forests, cemeteries and beaches.

Parks

- The three public parks consist of Lawson Common located between First Parish Road and Beaver Dam Road, Driftway Park located on the Driftway and Teak Sherman Park located on Route 3A.
- The Driftway Park was constructed under a grant awarded to the Conservation Commission and is under the care and control of the Commission. The DPW assists in the maintenance and repair of this park. This park contains a boat launching ramp, a picnic area and fishing pier. A portion of this park was recently reconstructed as a memorial park by a group of citizen volunteers. Lawson Common is constructed on land donated by “Copper King” Thomas Lawson. This park is the Town of Scituate’s most important park in terms of its size and central location. It contains memorials to veterans of the Civil War, World War I, World War II, Korean War and Vietnam War. This park also contains the famous “Thomas Lawson” elephants and fountain.
- The Teak Sherman Park is a nature park dedicated to Teak Sherman, former Water Commissioner. This park was recently reconstructed as an Eagle Scout project.

Athletic Fields

- Town of Scituate athletic fields consist of High School tennis courts, football fields, baseball fields, field hockey field, skateboard court, track, softball field and skating rink; Gates Intermediate School track, baseball field, soccer field and tennis courts; Wampatuck Elementary School softball field, playgrounds and soccer field; Cushing Elementary School baseball field, soccer field and playground; Hatherly Elementary School baseball field, basketball courts and playground; Branch Street baseball field and soccer field; Beaver Dam Road baseball field; Country Way baseball field and playground; North Scituate two tennis courts. Although the Greenbush Little League baseball field is on town property, this field is under the care and custody of the Little League Association.

Beaches

- Town of Scituate beaches consist of Minot Beach, North Scituate Beach, Egypt Beach, Sand Hills Beach, Jericho Road Beach, Peggotty Beach and Humarock Beach.

Town Forests

- Town of Scituate Town Forests consist of Route 3A Town Forest, Maple Street Town Forest and Ellis Trail.

Cemeteries

- The Town of Scituate public cemeteries consist of the Cudworth Veterans Cemetery located on Cudworth Road, Union Cemetery located on Stockbridge Road and the Meetinghouse Lane Cemetery located on Meetinghouse Lane. Available cemetery lots in these public cemeteries are: 337 in Cudworth Cemetery, 107 in Union Cemetery and none in Meetinghouse Lane Cemetery.

The Department of Public Works is solely responsible for the care and custody of all beaches and cemeteries. The DPW is responsible for the maintenance and repair and major improvements for all athletic fields and shares the planning for major improvements with both the Town of Scituate Recreation Committee and School Department.

Recommendations – Public Grounds

Several major Public Grounds improvements are planned for implementation within the next ten years. All major reconstruction projects come from the annual updated DPW Five Year Capital Improvement Program.

Public Buildings

The publicly owned buildings in the Town of Scituate consist of:

- Town Hall
- Police Station
- Fire Station
- Central Fire Station
- Humarock Fire Station
- Minot Fire Station
- Harbormaster Building
- Central Library
- Senior Center
- DPW Water Treatment Plant Office and Garage
- DPW Wastewater Treatment Plant Complex
- DPW Sanitary Landfill Maintenance Building
- DPW Transfer Station Building
- DPW Recycling Building
- DPW Highway Garage and Storage Buildings
- DPW Public Grounds Storage Buildings on Beaver Dam Rd.
- DPW Water Well Buildings No. 10,11,17,18,19 and 22
- Kent Street Well Building
- DPW Water Booster Station on Mann Lot Road

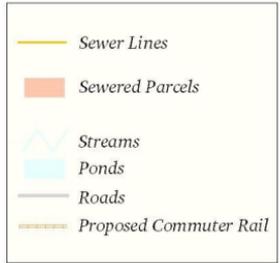
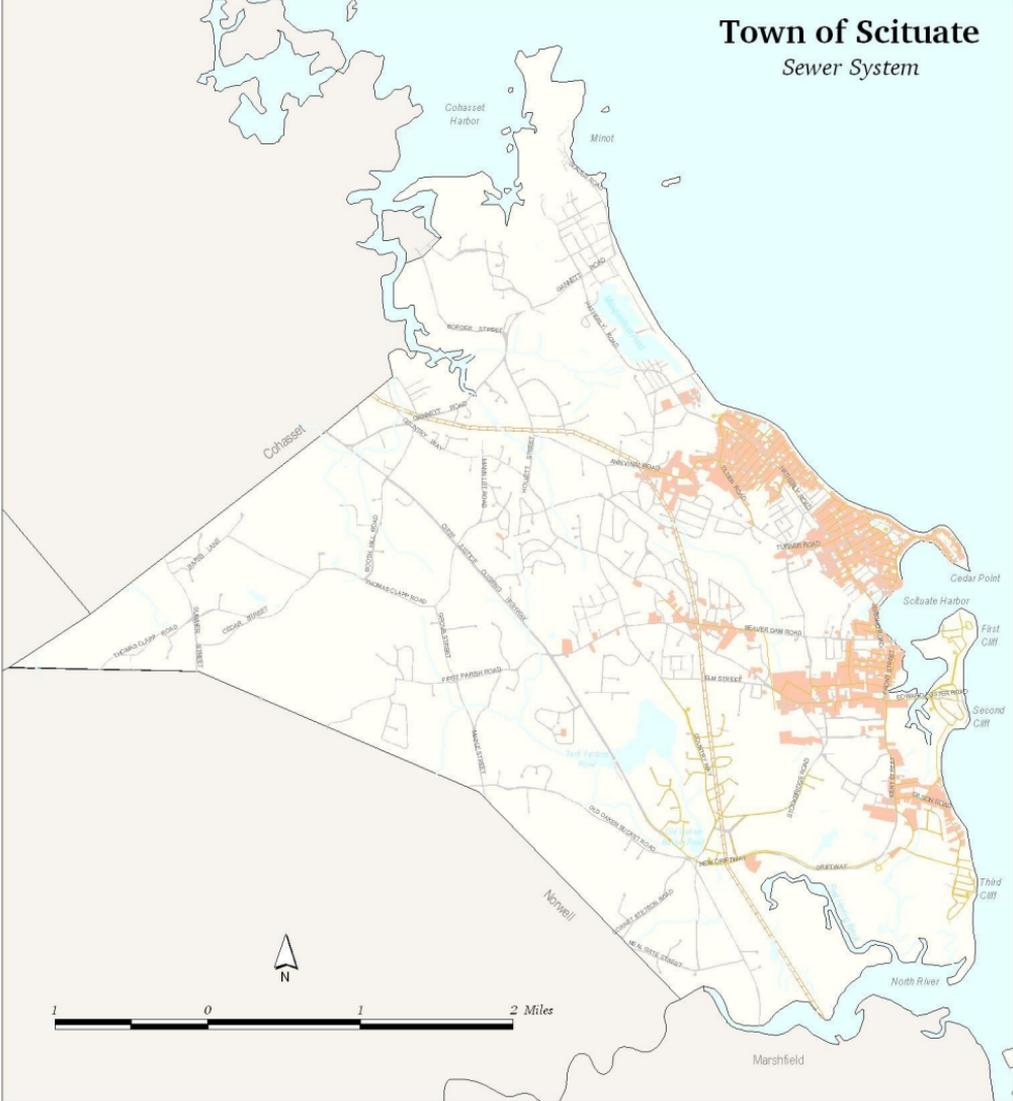
- DPW Water Booster Station, Walnut Tree Hill
- DPW Sewer Pump Stations in Sandhills, Egypt Beach and First Parish Road
- Bandstand on Cole Parkway
- Animal Shelter
- High School Complex
- Gates Intermediate School
- Hatherly Elementary School
- Wampatuck Elementary School
- Cushing Elementary School
- Jenkins School
- Historical Society Center
- Cudworth House
- Mann Home
- Lighthouse
- G.A.R. Hall
- Grist Mill
- Lawson Tower
- Ellis House
- Maritime Museum
- WPA Building – North Scituate
- Scituate Etrusco Building
- Widows Walk Club House
- Widows Walk Maintenance Building
- Mt. Hope Improvement Society Building
- Lincoln Park Housing
- Wheeler Park Housing
- Central Park Housing

The user agencies are responsible for the maintenance and repair of their buildings. The Department of Public Works maintenance, repair and major improvement responsibilities for Public Buildings are limited to the DPW buildings listed, the Town Hall, and the Cole Parkway Band Stand. The DPW provides maintenance assistance and custodial services for the Town Hall, Police Station, Senior Center and Library.

Recommendations – Public Buildings

It is recommended that all user agencies conduct condition surveys of all buildings under their control and develop a five year capital improvement plan for required upgrade, reconstruction, or expansion.

Town of Scituate Sewer System



Data provided by
Town of Scituate and EOE/MassGIS
<<<>>
Map prepared by
KRF: Technology Planning & Management Corporation
August 2002



Central Avenue in Hummarock

TRANSPORTATION

INTRODUCTION

Transportation planning is not simply a matter of forecasting traffic volumes and describing improvements for signalization timing and intersection improvements. When viewed comprehensively, the transportation element of a Master Plan reflects a community's underlying values on questions of community character: are we designing places for cars, or for people? Transportation planning needs to address all the transportation needs of the community, including automobile, pedestrian, and bicycle needs, as well as issues of overall accessibility. At the same time, plans must be in place to address and mitigate the manifold impacts related to future development to build out. This transportation element encompasses the evaluation of long-range alternatives and the recommended transportation plan for the community. The primary focus of this effort was to evaluate the existing transportation system, develop goals and objectives, evaluate the potential solutions for each particular area, and develop comprehensive and implementable transportation recommendations.

An assessment of existing conditions was prepared through background research, data collection and analysis, as well as contributions from Traffic Rules and Regulation Committee members and public

workshops. These earlier phases have shaped the objectives of this long-range plan and have better defined the key problem areas to be studied. The long-range focus areas identified for attention are listed below:

- Preparing for and mitigating the transportation impacts of the MBTA Greenbush commuter rail restoration through Greenbush.
- Providing adequate parking areas for the schools and Front Street business area, Greenbush business area, Minot, and North Scituate business area.
- Providing curbs and sidewalks on collector streets and safe pedestrian access across Chief Justice Cushing Highway (Route 3A).
- Providing sidewalks on streets adjacent to Jenkins and other elementary schools as needed.
- Creating a comprehensive, connected, and safe network of pedestrian and bicycle facilities throughout town to include sidewalks, multi-use trails, bike lanes, and pathways to serve the entire community and assure non-motorized access to residential areas, commercial centers, schools, civic institutions, and recreational areas.
- Mitigating peak hour congestion on the Driftway and Clapp Road, and within Scituate's villages, on Gannet Road and Front Street.
- Addressing safety issues at specific intersections.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Transportation:

To provide Scituate residents with safe, convenient transportation routes while protecting the small town character of the community and the neighborhoods.

To achieve this Goal, the Town has drafted the following Objectives:

- 1) To provide safe public ways, sidewalks, pedestrian paths and bicycle trails while protecting Scituate's small town character.
- 2) To provide better alternatives to congested traffic such as better accessibility and safety for bicycles and pedestrians.
- 3) To ensure proper mitigation and coordination of construction and development activities associated with the Greenbush line.
- 4) To maintain smooth traffic flows, pedestrian safety and customer convenience within business areas and insure adequate parking to support local businesses, especially in the village centers.

- 5) To take an active role in regional efforts to manage traffic.
- 6) To provide public transportation throughout Scituate as a viable alternative to the automobile.
- 7) To provide better infrastructure and transportation services for the senior population.
- 8) To provide continuous maintenance of all transportation infrastructure facilities.

INTRODUCTION

Long-range needs were identified as a result of technical analyses and public workshops in the long range planning process. The improvement alternatives included location-specific actions and area-wide improvements. These include short-term and long-term actions and improvements. Alternatives include not only roadway capacity improvements, but also pedestrian/bicyclist and transit actions. The ultimate set of recommendations is a combination of all strategies. Table T-1 lists the recommended actions designed to alleviate the existing traffic flow constraints and accommodate future travel conditions while preserving and enhancing the community's character.

As can be seen in Table T-1, each of the long-range plan elements has been summarized in terms of proposed action, implementation timeframe, cost estimate, and implementation process. The proposed actions are to be implemented primarily over the long term with the notable exception of the "Transportation Safety Management" improvements that can be implemented in a shorter timeframe. Although some of the long-term actions can be divided into separate phases, the whole plan is expected to be implemented within the long term (20 years). Costs were estimated as *Low* (less than \$10,000), *Medium* (\$10,000 to \$50,000), and *High* (greater than \$50,000). Costs for local and regional transit plans are difficult to estimate; yet these items may be fundable through a local Transportation Management Association (TMA), the MBTA, and other private employer programs.

Table T-1: Summary of Recommended Plan

Recommended Action	Implementation Time Frame	Cost Estimate	First Step Toward Implementation
TRANSPORTATION DEMAND MANAGEMENT			
Concentrated Development			
Promote campus-style clusters	Long Term	Low	Zoning By-law Change
Promote mixed-use developments	Long Term	Low	Zoning By-law Change
Local and Regional Transit Plan			
Proposed local circulator bus	Long Term	Varies	Feasibility Study
Proposed shuttles to rail stations	Short Term	Medium	Local Coordination
Network of Bikeways/Walkways Throughout Town			
Recreational/Commuter Network in Agreement with Local Plans	Long Term	Medium	Create Bicycle/ Pedestrian Plan Local Approvals Preliminary Engineering
TRANSPORTATION SAFETY MANAGEMENT			
Isolated Intersections			
Upgrade safety	Short Term	Medium-High	Coordination of Agencies
Improve traffic flow	Short Term	Medium-High	Preliminary Engineering
Access Management			
Curb-cut guidelines	Short Term	Low	Zoning By-law Change
Roadway design guidelines	Short Term	Low	Subdivision Regulation Change
Subdivision traffic studies	Short Term	Varies	Zoning By-law Change

EXISTING CONDITIONS

The first phase of work was background research, including a review of the Town's Zoning By-law, the Massachusetts Highway Department (MHD) traffic counts for the Town, and the MBTA's Greenbush Commuter Rail Plan. In addition, discussions were held with local Police and Public Works Departments. The second phase was data collection and analysis, including accident data and detailed roadway information (obtained from MHD and Scituate Police Department), site reconnaissance (including evaluations of pavement conditions, intersection operations, and roadway safety). Key issues were identified and goals developed with the aid of public meetings, transportation subcommittee meetings, and the data collection process. Land use projections, based on current zoning practices, were converted to traffic volume projections for both the year 2020 and full buildout for Scituate. These hypothetical traffic volumes were added to the existing traffic on the network and then the roadways were evaluated for both safety and operational constraints. In addition, the needs of pedestrians and bicyclists were examined in terms of facilities required for their use.

Table T-2: General Characteristics of Major Town Roadways

Roadway	Jurisdiction	Paved Width	# of Lanes	Sidewalks	Struct Cond.
Beaver Dam Rd.	Town	24'	Two	Limited Area/1-side	Good
Booth Hill Road	Town	20'	Two	Limited Area/1-side	Good
Chief Justice Cushing Highway (Rte 3A)	State	36'	Two	No	Good
Clapp Road	Town	24'	Two	No	Good
Country Way	Town	24'	Two	Limited Area/1-side	Good
Driftway	Town	36'	Two	Limited Area/1-side	Good
First Parish Road	Town	22'	Two	Limited Area/1-side	Good
Front Street	Town	26' + 8' parking spaces	Two	Both	Good
Gannett Road	Town	30	Two	Limited Area/1-side	Good
Mann Lot Road	Town	20	Two	No	Good
Old Oaken Bucket Road	Town	20	Two	No	Poor

Major Roadways

Effective evaluation of the transportation impacts associated with Scituate’s potential development first requires a thorough understanding of the existing transportation system in the Town. Significant research and field visits to Scituate have been conducted to assess the primary routes. The following is a description of the study area roadways. Table T-2 summarizes characteristics of the roadways serving the Town. The roadways examined were either selected due to function or were identified by the subcommittee members as issues of local concern.



Route 3A Greenway looking North

Route 3A (Chief Justice Cushing Highway)

Chief Justice Cushing Highway is State Route 3A and a major thoroughfare that follows a northwest-southeast alignment passing through the Cohasset Town Line into Marshfield. Route 3A generally has 10- to 13-foot-wide travel lanes. Horizontal and vertical alignments generally contain mild curves and gentle grades. No weight restrictions are posted along Route 3A and no lateral or vertical clearances were noted that would impede traffic significantly. Pavement conditions were observed to be fair-to-good. The primary land use along Route 3A in Scituate is open space, but this has the potential to be impacted from future development. There is a 100-foot buffer requirement that will create a setback for any new development along the right-of-way. Route 3A does not have sidewalks.

Other Roadways

In general, the other roadways included in the analysis are two-lane bi-directional roadways and either function as minor arterials or collector roadways. There is limited traffic control along most of these roadways. While capacity constraints appear minimal, there are geometric or safety-related issues in some instances.

Traffic Volumes

In developing the traffic flow networks for analysis, existing traffic volumes were obtained from the Massachusetts Highway Department for the Town of Scituate, as well as other recent studies. These counts were completed during 1995, 1996, and 1997. Average daily traffic counts were available for three locations. The average daily traffic flows summarized in Table T-3.

Table T-3: Average Daily Traffic Volumes

Station	Route/Street	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
7015	Beaver Dam Road west of Branch Street		4,800			5,600			5,600		
7010	Country Way at Cohasset Town Line	3,200			3,500			5,200			4,800
7014	First Parish south of Beaver Dam Road			4,300			7,500			4,300	
7012	First Parish west of Kent Street			4,000			3,800			3,100	
7013	Jericho Road north of Beaver Dam Road				6,800			6,300			6,300
7011	Route 3A and Chief Justice Cushing Highway south of Cornet Stetson		8,100			11,000			11,300		

Safety Analysis

In addition to the capacity analysis, safety considerations were also investigated. This was accomplished by reviewing accident history and driving each study roadway to conduct a general review of geometry and sight distances. A review of recent accident history along study area intersections was provided by the Scituate Police Department, focusing on intersections of particular concern. The data collected included both “injury” and “property damage” accidents. As can be seen from the data in Table T-4, these intersections account for multiple accidents of each type. On Route 3A, these three intersections accounted for over 35 accidents and 12 injuries.

In conclusion, the Town of Scituate’s roadways have some safety deficiencies that should be addressed. Key intersections currently have high numbers of accidents that would potentially worsen as growth in the Town continues. In addition, several intersections also have geometric and/or traffic control problems that should also be addressed to improve the safety of the Town’s transportation system.

Table T-4: Accident History

Intersection	Accident w/Personal Injury	Accident w/Property Damage
Beaver Dam/Branch/Lawson	4	8
Rt. 3A/Mann Lot	3	16
Rt. 3A/Booth Hill	2	5
Rt. 3A/Driftway	7	17

Locations with Operational Problems

Based on observations and a review of the available data/previous studies, there are locations where existing conditions could cause difficult or poor operations. These include:

- Beaver Dam Road at the MBTA Commuter Rail Crossing: Railroad crossing at base of hill may cause stopping issues in inclement weather.
- Booth Hill Road (from Chief Justice Cushing Highway to Country Way): Narrow road with significant sight distance concerns because of layout bends and grade changes.
- Chief Justice Cushing Highway (3A)/ Henry Turner Bailey: Intersection configuration provides difficult sight lines and turning lanes.
- Clapp Road (from Chief Justice Cushing Highway to Norwell Town Line): Narrow road with significant sight distance concerns because layout bends and grade changes.
- Country Way: Sidewalks are needed, road serves as significant thoroughfare for pedestrians.
- First Parish Rd. (east of Elm St.): Increased auto congestion and pedestrian traffic at peak hours with opening of Jenkins School.
- Front St./First Parish Rd./Kent St./Edward Foster Rd.: Increased auto congestion and pedestrian traffic with opening of Jenkins School and increased development of Scituate Harbor.
- Front St./Brook St./Cole Parkway: Increased auto congestion and pedestrian traffic with opening of Jenkins School and increased development of Scituate Harbor.
- Gannet Road: New development has increased pedestrian/bicyclist use on roadway shoulders.
- Stockbridge Rd.: Increased auto congestion and pedestrian traffic with opening of Jenkins School and expected increased local development.
- Tilden Road at the Wampatuck School: Sidewalks are needed in area where bussing is not provided.
- Vinal Ave.: Increased auto congestion and pedestrian traffic at peak hours with opening of Jenkins School.

Public Transit

Currently, the Town has limited local transit facilities or service in place. The following summarizes the existing transit service:

Dial-A-Ride

Service is provided for the elderly and physically challenged. Residents must call ahead of time to schedule a pickup. Medical appointments/needs take priority for service. In discussions with Scituate's Council on Aging, it was identified that seniors are having a difficult time gaining transportation to the Town's Senior Center. The Director of the Center reported that many seniors are not able to call ahead of time and/or the Dial-A-Ride service is not able to meet some seniors' needs.

Commuter Rail

The MBTA is proposing to extend commuter rail service to Scituate that will terminate at Greenbush, with a stop at North Scituate. This proposal offers tremendous potential to link Scituate with Boston and other employment and commercial centers along the corridor, and will surely result in increased commercial and residential development in town. At the same time, the proposal has raised significant concerns related to the impacts of increased development, fiscal impacts, traffic, grade crossings, parking deficiencies, noise, wetlands and habitat protection, and a host of other local concerns. The MBTA and Scituate Board of Selectmen continue to evaluate the impacts and proposed mitigation measures.

Pedestrians and Bicyclists

The most noticeable issue in terms of pedestrians and bicyclists is the need for developing a system of continuous facilities including different types of walking and bicycle facilities. An inventory of the Town's sidewalks indicated many locations where sidewalks do not exist (limited sidewalks are found almost exclusively in the existing commercial areas). At this time, there are virtually no bicycle facilities or emphasis on bicycle travel in the community.

Parking Facilities

Many residents believe the Town has inadequate parking facilities at the schools, the Front Street business area, Greenbush business area, and the North Scituate business area. Local officials report inadequate parking at the schools on a continued basis because of the large percentage of parental involvement in school activities and the large number of older students who drive to school.

Parking in the business areas is perceived as difficult during seasonal and weekly peak shopping times. Many small businesses do not have adequate private parking available. If the MBTA plans to extend the commuter rail are completed without proper mitigation, including adequate parking for commuters, these parking problems may be exacerbated. However, judicious use of MBTA commuter lots, with appropriate shuttle service as required, may help to alleviate some issues, particularly on evenings and weekends.

Projected Buildout and Its Implications

In analyzing the transportation impacts of potential development in Scituate, it was necessary to estimate the amount of traffic that various land uses can be expected to generate. If developed to its full potential under current zoning, the Town of Scituate is expected to grow by 2,890 dwelling units bringing approximately 6,700 additional residents. In addition, buildout may mean as much as 320,850 square feet of new commercial and industrial space in the Town, with associated employment and commercial traffic. These projections could yield up to 41 new miles of roadway in Scituate. The following sections summarize the procedures used in estimating the traffic to be generated by the potential development of Scituate and the expected distribution of this traffic on study area roadways.

Table T-5: Total Additional Trips at Buildout

Use	# Units	ITE Averages	New Trips
Single-family residential	2,890	9.57 trips/unit	27,657
Two-family residential	271	6.63 trips/unit	1,796
Commercial/industrial sq. ft.	320,850	65 trips/1,000 sq. ft.	20,855
TOTAL			50,308

Trip Generation

Traffic generated by various land uses normally follows well-established patterns with respect to magnitude, duration, and temporal distribution. Measurements of numerous examples of different types of developments have been conducted by various organizations, including the Institute of Transportation Engineers (ITE.) These have established trip generation rates that have been compiled and used for guidelines for transportation analysis. For many land uses, measurements by ITE have been compiled for analysis purposes and provide planners and engineers with guidelines in forecasting travel associated with new land uses. The trip generation forecasts for Scituate’s potential increases in development were based on the ITE *Trip Generation Manual*. These forecasts were completed for average season conditions for both year 2020 and full development as described below.

As Table T-5 indicates, if Scituate is developed to its full potential, then approximately 50,000 new trips per day could occur town-wide. Using the “phased buildout” figures discussed in the Land Use section of this plan, we can also project trip generation figures for the year 2020. Within this 20-year timeframe, based on historical development patterns, it is projected that approximately 1,400 new units would be constructed and one-fifth of the total commercial/industrial buildout would occur, resulting in approximately 17,191 new trips per day town-wide by the year 2020 (Table T-6).

Table T-6: Trip Generation Estimates for 2020

Use	Units	ITE Averages (Trips/Day)	New Trips per Day
Single-family residential	1,269	9.57 trips/unit	12,144
Two-family residential	132	6.63 trips/unit	875
Commercial/industrial	64,170 sq. ft.	65 trips/1,000 sq. ft.	4,171
TOTAL			17,191

The forecasted traffic is the total number of trips that could be added to Scituate’s transportation network over and above the current traffic levels. Although these numbers may seem quite high, it should be stressed that they represent the worst case scenario of developing all currently developable land to the highest degree possible according to the current zoning regulations. Several factors may reduce these traffic projects:

- Full buildout may not occur as quickly as projected, or ever.
- Remaining developable land may be developed at lower densities than the maximum allowable by the current zoning regulations.
- The current zoning regulations may be substantially changed.

- Several types of development, such as fast food establishments and gas stations gain most of their customers from traffic already on the roads and happening to pass by the facilities. Hence, the more “pass-by” trips, the fewer new trips.
- Alternative modes of travel will potentially be increased by the addition of bus service, commuter rail, bikeways, and walkways, thereby reducing driving trips.
- An increase in the employment base of Scituate linked with development of appropriate housing types can reduce the amount and length of several work trips by increasing the number of people who both live and work in town.

RECOMMENDATIONS

These recommendations have been divided into two primary sections for discussion. In the first section, “Transportation Demand Management” (TDM) elements are discussed. TDM describes a system of actions whose purpose is to alleviate traffic problems through improved management of vehicle trip demand. The purpose of TDM is to maximize the mobility of people, not simply vehicles. In the second section, “Transportation Safety Management” (TSM) elements are discussed. TSM elements are primarily traffic engineering methods, such as efficient signal operations and coordination, providing turn lanes or modifying circulation patterns, used to improve the safety and operation of the roadway system.

Transportation Demand Management

TR-1 Encourage Concentrated Development in Village Centers.

It is recommended that new development be concentrated in village centers to heighten the potential for alternate mode usage. Allowing mixed-use development in a single area or zone enables people to live, work, and shop in that zone. Trip lengths are diminished. As trips shorten, the likelihood of switching to a mode other than a single occupant vehicle is increased—more people begin to walk and bicycle to satisfy their travel needs. Concentrated development is also encouraged to sustain a transit system, as well as to promote less consumption of open land than under current zoning regulations.

Any plans for the North Scituate and Greenbush areas, including MBTA land takings, facility design, and mitigation, as well any other public and private development proposals for these areas, should further this goal of concentrating uses. See Recommendations of the Economic Development and Land Use Elements for more details regarding development in the village centers.

TR-2 Encourage Alternative Modes of Transportation.

The development of transit alternatives would enhance the use of mass transit and reduce vehicular dependency and travel. Three transit alternatives may be appropriate in the Town of Scituate.

- A local circulator bus that serves the residents and makes it more desirable to leave the car at home,
- A shuttle bus serving nearby MBTA commuter rail stations, and

- An improved Dial-A-Ride service for the elderly and physically challenged.

To be successful, a local circulator bus and shuttle system should limit walking distance for any resident to less than a quarter of a mile and should connect to proposed MBTA commuter rail stations. A local circulator can reasonably cover the Town of Scituate with one route that travels on some of the major roadways but is also within the quarter-mile maximum for most potential passengers. The local circulator could be subsidized by participating local employers whose employees would benefit from this service; this would work well with the Housing goal of creating more housing in Scituate for people working in the Town. Several key land uses within the Town that ought to be considered for servicing by the proposed route are defined as “Community Land Uses.” In addition to the locations suggested for servicing, major employers and major shopping areas should be accessible by the route.

TR-3 Create and Support a Network of Walkways.

The most noticeable need in terms of pedestrians is the need for developing a system of continuous facilities for walking in the Town. Some actions to improve conditions would be to close the gaps and provide sidewalks (one or two sides) along all major roadways in the community.

Footpaths, trails, and other walking facilities should be provided to access the recreation and conservation areas in town. In addition, walking facilities are recommended along roadways that pass historic sites. A potential priority system for addressing the sidewalk deficiencies in Scituate is presented in Table T-7.

This priority plan can be used to assist in scheduling the construction of new sidewalks as funds become available, while the recommended guidelines described in Table T-8 provide some design specification and standards to be followed during construction. These guidelines for replacement and installation of sidewalks were developed with the aid of publications from the Transportation Research Board and the Department of Transportation’s Federal Highway Administration. To supplement the information in the table, the following set of standards has been developed to assist in the decision-making process and provide some general design guidelines to be followed during construction:

- 1) Any local street within the walking radius of a school, as defined by school policy (currently $\frac{3}{4}$ of a mile,) should have a sidewalk on at least one side.
- 2) Sidewalks may be omitted on one side of new streets where that side clearly cannot be developed and where there are no existing or anticipated uses that would generate pedestrian trips on that side.
- 3) Where there are service roads, the sidewalk adjacent to the main road may be eliminated and replaced by a sidewalk adjacent to the service road on the side away from the main road.
- 4) All new sidewalks should be at least 5 feet wide and must comply with the access requirements/ standards detailed in the Americans with Disabilities Act and Amendments.
- 5) Where the right-of-way exists, there should be a buffer of at least 3 or 4 feet between the edge of roadway and the edge of the sidewalk.
- 6) Vertical granite curbs are desired to provide a barrier between motor vehicles and pedestrians when the sidewalk is within 10 feet of the traveled way. When the sidewalk is adjacent to the roadway, the granite curb should be of 6” (six inches) height minimum.

- 7) There are extensive opportunities for informal pathways or “paper streets” to be utilized as pedestrian and bicycle connectors. These should be inventoried and developed when feasible.
- 8) Town boards should strongly encourage well-designed bicycle and pedestrian connections in new residential and commercial development proposals.

Table T-7: Construction Priority For New Sidewalks*

Uses to Connect	Roadway Classification Type		
	Arterial	Collector	Local
Schools	1	2	3
Churches	1	2	3
Parks/Recreation Areas	2	3	4
Shopping	3	4	5

**Priority ratings range from 1 for the highest and 5 for the lowest*

Table T-8: Recommended Guidelines For Sidewalk Installation

Land Use/Roadway Classification	New Urban and Suburban Streets	Existing Urban and Suburban Streets
Commercial and Industrial / All Streets	Both sides	Both sides Every effort should be made to add sidewalks where they do not exist
Residential / Major Arterials	Both sides	Same as above
Residential / Collectors	Both sides	Multi-family - both sides; single family dwellings - prefer both sides, require at least one side
Residential / Local Streets - More than 4 units/acre	Both sides	Prefer both sides, require at least one side
1 to 4 units/acre	Prefer both sides; require at least one side	One side preferred
Less than 1 unit/acre	One side preferred; require shoulder both sides	Require at least 4-foot shoulder on both sides.

TR-4 Develop and Enhance Bicycle Facilities.

The Master Plan process has indicated that the Town has an active and eager bicycle constituency. Alternatives for improving bicycle facilities in Scituate include designating bicycle routes, designing bicycle paths, installing bicycle storage facilities in key locations (i.e., employment and shopping centers, Town buildings, transit stops), and disseminating the information to the community through mapping and signage.

An ambitious approach to improving bicycle facilities would include the development of an integrated network of bike paths, connecting as a large loop paralleling the Route 3A greenway on one side and the waterfront on the other. Two hypothetical loop trails, explored by members of the community at one of the Master Plan public forums, are depicted in Figure T-1. Specifically, feasibility of a spine multi-use non-motorized trail along the former rail corridor from North Scituate to Greenbush should be explored. If feasible, this central trail corridor should be actively developed, as it would act as a central bike/pedestrian

pathway, with proximity to two business centers, dense residential areas, and numerous community institutions.

Although this “vision plan” for a network of bike trails is preliminary and conceptual at best, it does serve to illustrate the exciting potential to connect existing commercial areas, recreational sites, and residential neighborhoods using existing roads and/or rail corridors.

Transportation Safety Management

The transportation system in Scituate will experience significant increases in traffic flows over the next twenty years and beyond. It is crucial that the road system be able to safely accommodate the demand. The following recommendations suggest safety improvements for several major intersections throughout the Town and outline potential access management criteria.

TR-5 Upgrade Specific Isolated Intersections.

The intersections included below are currently experiencing congestion deficiencies, high accident experience, or have geometric-related characteristics that could be improved. Each location is briefly discussed.

- The Beaver Dam Road/Branch Street/Lawson Road Intersection is a five-way intersection with difficult sight lines.
- Booth Hill Road (from Chief Justice Cushing Highway to Country Way) is a narrow road with significant sight distance concerns because of layout bends and grade changes.
- Chief Justice Cushing Highway (3A)/Booth Hill Road is a four-way intersection on a major road with difficult sight lines.
- Chief Justice Cushing Highway (3A)/Driftway is an unorthodox rotary with difficult sight lines, poor queuing lanes, and multiple roadways.
- Chief Justice Cushing Highway (3A)/Henry Turner Bailey Intersection configuration provides difficult sight lines and turning lanes.
- Chief Justice Cushing Highway (3A)/Mann Lot Road is a four-way intersection on a major road with difficult sight lines.
- Clapp Road (from Chief Justice Cushing Highway to the Norwell Town Line) is a narrow road with significant sight distance concerns because of layout bends and grade changes.
- Front St./First Parish Rd./Kent St./Edward Foster Rd. is a four-way intersection with a three-way stop which is confusing to motorists. It is expected to be impacted by the new Jenkins School as well as new residential development.
- Front St./Brook St./Cole Parkway is a busy intersection which is congested at peak hours, and is expected to be impacted by the new Jenkins School as well as new residential development.

TR-6 Upgrade Pedestrian and Bicycle Accommodation on Specific Roadways.

- Beaver Dam Road. Sidewalks needed from Tilden Rd. to Clifton (near the ballfield).
- Branch Street. Sidewalk needed from the five corners to the library.
- Country Way. Create or improve sidewalks along the full length of this primary north-south corridor.
- Elm Street. Sidewalks and crosswalks needed for children walking to Jenkins School.
- Gannet Road. Sidewalks and bike lanes are needed on this key connector between N. Scituate and Minot.
- Hatherly Road. A major north-south connector, requiring sidewalks from Egypt beach to Minot.
- Hazel Ave. Sidewalk needed for children walking to Jenkins School.
- Kent Street/Driftway. This major connector between the Harbor and Greenbush business districts has plentiful residential and recreational activity, and requires quality pedestrian and bicycle accommodation.
- Stockbridge Road. Sidewalks required both for children walking to Jenkins School, and for pedestrian traffic to Greenbush center (and possible rail station).
- Tilden Road. Sidewalks are required along all areas in which children could walk to school, both Wampatuck and Jenkins.

TR-7 Implement an Access Management Program.

In addition to improving the safety at existing intersections, safety should also be managed on a system-wide basis. The following recommendations are made to improve roadway access management while still providing for anticipated new development.

- Develop specific curb-cut design and management guidelines to limit the number and frequency of curb-cuts along different types of roads.
- Improve road surfaces, especially drainage design. Guidelines for proposed roadways should be adjusted to alleviate existing drainage problems.
- Improve roadway and walkway lighting. Classification of proposed future roads is recommended to determine the level of lighting required by the Town to be installed by the developer.
- Adopt roadway design standards to include pedestrian, bicycles, and bus stop facilities.

TR-8 Develop Additional Parking Facilities and Manage Existing Facilities Better.

The following recommendations are made to improve the Town's parking facilities:

- Construct additional parking spaces at the elementary and junior high schools. There appears to be adequate area for additional parking at the Cushing School, Jenkins School, Hatherly School, and Gates School. Additional land acquisition may be needed for parking at the Wampatuck School.
- Restrict student parking privileges at the high school to ensure adequate spaces are available for staff and visitors, as well as safe and adequate access for buses and emergency vehicles.
- Investigate purchasing private land along Front Street (at Harbor Heights Road) to provide additional public parking.
- Explore multi-use green space and seasonal/event parking along Cole Parkway.
- Revise the Zoning Bylaw to reflect current standards for parking for all land uses and enforce these standards with new and redevelopment. Look for opportunities for shared parking, especially in the village center areas. See Recommendations of the Land Use element for ways to encourage compact development in the village centers.
- If Greenbush rail service is re-instated, explore negotiating municipal access to commuter lots for evenings, weekends, and special events in N. Scituate, Greenbush, and for Front Street business districts (the latter requiring shuttle service).



Lawson Tower

HISTORIC AND CULTURAL RESOURCES

INTRODUCTION

Scituate's historic resources are the very foundation of the community's character. It is important to preserve and even enhance these resources wherever possible. The Town's history provides a rich context to the civic and communal life of the Town that should be shared, explored, and celebrated. In addition, economic development in the Town and the stability of the future housing market depend largely on the Town's ability to accommodate growth while preserving the vital elements of its historic character.

GOALS AND OBJECTIVES

As part of the Master Plan process, the Town has adopted the following overall Goal for Historic and Cultural Resources:

To ensure that Scituate's cultural environment is protected and enhanced for future generations.

To achieve this Goal, the Town has drafted the following Objectives:

- To identify, preserve, and protect the Town's historic and scenic assets.
- To ensure that development, including the MBTA Greenbush project, is not disruptive of the special cultural and historic features of Scituate.
- To create incentives and provide resources for the rehabilitation, maintenance, and preservation of the Town's historic and cultural resources.
- To integrate historic preservation with rural landscape protection and development planning throughout the Town.
- To strengthen the ties between historic protection and zoning.

EXISTING CONDITIONS

Scituate's Historic Past

Scituate was one of the first settlements in the United States, founded in 1636 by a group of men from Kent, England, who became known as the "Men of Kent." The name Scituate is taken from the Satuit Brook (Wampanoag for "cold brook,") which runs through the Town.

Through different periods in its history Scituate has been a farming community, a home to industrial workers and tradesmen, a fishing community, a wealthy person's summer vacation home, an immigrant's doorway to a new country, and at times all of these. Early Scituate was much larger geographically than it is today and at its largest included a total of 52 square miles. All of the Town of Norwell, Union St. in Marshfield, parts of Hanover and Government Island in Cohasset were within the Town's original boundaries. Today the area of the Town is 17 square miles.

A long stretch of the North River was located within the original boundaries of Scituate, providing many famous shipbuilders space to set up their yards. Scituate has always been a fishing community, and remains so today, although at a lesser level of intensity than in prior years. The Scituate Lighthouse, built in 1811, guided ships safely into the harbor for many years. During the War of 1812, according to local legend, two daughters of the fishing captain living there played "Yankee Doodle" on a fife and drum to scare away barges full of redcoats, and saved the Town from attack.

The Old Oaken Bucket Farmhouse, the Mann Farmhouse, and the Cudworth House are three early farming homesteads that have been preserved by the Scituate Historical Society and contain many original furnishings used in the 1600's and 1700's. In addition to the usual types of farming, through the 19th and mid-20th centuries a number of Scituate residents harvested Irish moss, a type of seaweed with commercial uses. In the 1997 street list, one resident still listed his occupation as "Irish mosser."

Scituate has always been a community with many summer residents who were attracted by its pleasant oceanfront location. In earlier days, only wealthier people could afford to journey from a larger city to the ocean for the summer. Some formed beach clubs such as the Glades Club, founded in the 1850s, the Boston Recreational Club, and the North Scituate Beach Improvement Association, originally gathered in 1897. These helped bring many well-educated residents who later became famous authors, poets, and scholars.

Scituate was a leader in the initial use of mechanical power. In 1640 the first water-driven grist mill in the United States was put in operation by Isaac Stedman at a dam on the Herring River. The mill ground corn from the local farmers into cornmeal, which was packaged and sold. It became known as the Stockbridge Mill and is today owned by the Scituate Historical Society.

Scituate shipwrights built sturdy wooden ships from the lumber along the North River, and Scituate became a center of shipbuilding expertise in the New World. Many famous ships, including the Columbia, which sailed around the world, were built here. Many shipbuilders from other areas along the coast apprenticed or were trained in Scituate. The shipbuilding industry in Scituate lasted approximately 200 years, until the early 1870's, when the lumber supply along the river began to diminish and metal replaced wood as the new material for ships.

In the late 19th century, Scituate had ten school districts. A number of primary schools from this era still exist. Many were converted into private residences or were restored for other uses. The Mount Hope Improvement Association building was an early schoolhouse.

The Lawson Tower, a local landmark, has been cited as the "most photographed, most beautiful, and the most expensive" water tower in the country. The tower was constructed by wealthy entrepreneur Thomas Lawson in 1902 to conceal a water standpipe visible from his nearby estate, Dreamwold (Margaret Cole Bonney, *Scituate's Sands of Time*, 1993.) Modeled on a 15th Century tower on the Rhine River, it still serves as a landmark to ships at sea today and is listed as an American Water Landmark.

Efforts to Preserve Historic Resources

The Scituate Historical Society owns or maintains a number of properties with historic significance. The Kathleen Laidlaw Historical Society headquarters at 43 Cudworth Rd., the G.A.R. Hall, Stockbridge Mill, Old Oaken Bucket Homestead at 47 Old Oaken Bucket Rd., and the James House at 301 Driftway (now the Maritime and Mossing Museum) are owned and maintained by the Historical Society. The Society also manages the Scituate Lighthouse, the Cudworth House, Lawson Tower, and the Mann House, which are owned by the Town. Maintenance of these buildings is a continuing priority, albeit an expensive one.

The National Register of Historic Places lists areas or sites with distinguished historical significance. Structures on the National Register are protected from being altered to accommodate projects which use federal funds. The Scituate and Minot Lighthouses, the Old Oaken Bucket Homestead, James House, the First Trinitarian Congregational Church at 381 Country Way and Lawson Tower are Scituate buildings on

the National Register. Numerous properties in Town, including the bridge on Edward Foster Road, have been determined to be eligible to be listed on the National Register. Many of these eligible properties were identified as part of the Army Corps' Section 106 review required to determine the impact of the MBTA commuter rail extension on nearby historic properties, and others were recognized in a recent survey initiated by the Scituate Historical Society by Turks, Tracy and Larry Architects. More information on these surveys is provided at the end of this section. Individual properties and districts on the National Register and eligible for inclusion are shown on the map of Historic Resources at the end of this element.

The community is respectful of its historic assets, and has managed to preserve many of them. Numerous historic buildings have been very effectively conserved through reuse, for example, the Central School now houses apartments for the elderly; the Allen and Pierce Libraries are private homes and Thomas Lawson's Dreamwold estate has been remodeled as attractive condominiums. Although simply reusing older buildings may preserve them in many cases, other methods may be needed to protect historic structures for the long term. The First Trinitarian Congregational at 381 Country Way and the G.A.R. Hall, listed as the First Baptist Meeting House (its original use) at 353 Country Way, are both subject to preservation restrictions which limit possible changes to these structures.

The Scenic Roads Act (MGL Ch. 40, S.15C) requires that before trees can be cut down or stone walls altered on roads the Town considers "Scenic Roads", a public hearing must be held before the Planning Board. Border St., Clapp Rd., Country Way, First Parish Rd., Grove St., Maple St., Nealgate St., Old Oaken Bucket Rd., Stockbridge Rd., Summer St., Tilden Rd. and the Old Driftway from New Driftway to Collier Rd. have been formally designated by Town Meeting as Scenic Roads. Many of these old roads, which follow routes used in Colonial times or earlier, meander through dense woods or pass by special sites such as the Town Green or Common. Preserving the character of these roads is important to protecting the overall beauty of the Town.

Scituate contains a number of historic cemeteries. These include the Groveland Cemetery; Union Cemetery; Mount Hope Cemetery; Fairview Cemetery; the Men of Kent Cemetery; Cudworth Cemetery; the Clapp, Cushing, Merritt and Hatch Family Cemeteries; Damon Tombs; James Cemetery; and the Vinal/Barnes Tomb. Many have unusual and important stories to tell. The Fairview Cemetery holds a plaque in memory of sailors who died in a shipwreck on Egypt Beach in 1844. Scituate's historic cemeteries are shown on the Historic Resources Map.

Preservation in Scituate has been aided by the advocacy of the Scituate Historical Society. In addition to active maintenance of many historic structures, the Society is currently restoring the G.A.R. Hall. Following efforts by the Historical Society to inventory the town's historic buildings, the Town contracted with Turk, Tracey and Larry Architects in December, 2001 to complete a community-wide preliminary survey plan for the Town's historic resources. This firm used archival information and a windshield survey to identify neighborhood survey areas and develop a survey action plan. This plan can be used to guide future efforts to survey the town's 3,334 buildings constructed prior to 1952¹.

Public Archaeology Laboratory, Inc., a consulting firm hired by Sverdrup Civil, Inc., engineers for the MBTA, also compiled an inventory of all historic properties affected by the extension of commuter rail. This inventory identified properties close to the railroad right-of-way which are eligible for nomination to the National Register of Historic Places. It is contained in Appendix D. of Volume II, Cultural Resources:

¹ Turk Tracey & Larry Architects, LLC, Community-Wide Preliminary Survey, Scituate, Massachusetts, December, 2002

Comprehensive Effects and Mitigation Report, prepared as part of the Section 106 Review of the Final Environmental Impact Report for the MBTA's proposed extension of commuter rail to Greenbush.



Old Scituate Lighthouse

Character of Waterfront Development

The Glades, Surfside Rd., Cedar Point, Scituate Harbor and the Cliffs are waterfront locations where considerable architecture of Scituate's earlier times is still in evidence. In the Glades and on Surfside Rd., the dominant building form is that of large estates of the Victorian era and early twentieth century, which have a special charm and character. Cedar Point and the Cliffs contain a number of simple, older structures which may have been fishermen's or mosser's cottages. Some homes have plaques that proudly show their historic roots. Scituate Harbor contains buildings of a mix of ages, with 18th, early 19th and early 20th century structures coexisting in a small area.

Its older architecture gives residents and visitors a sense of the age and historic activities of the waterfront and should be preserved to maintain the unique character of these areas. The harbor's early architecture helps make the business district an interesting, attractive destination where people are drawn to shop. Some buildings require extensive repair and the costs of upkeep are high. State tax incentives for maintenance and other sources of funds for renovation may be needed for the upkeep and productive use of some buildings.

Small, seasonal cottages on the water are often replaced by new homes with a significantly larger footprint and greater height than the original construction. It is important that redevelopment of waterfront properties not diminish the character of neighborhoods or the views enjoyed from public roads. Although new construction may be required to be above the base flood elevation, it may be desirable to limit height or lot coverage to prevent huge homes from obscuring views from the street and other public spaces.

RECOMMENDATIONS

As pressures for new homes and services mount, long-standing structures and sites that the local community has come to identify as important to its history may become imperiled. Many of Scituate's long-time residents will describe places that were once there but are now gone forever. In order for the community to be prepared to protect and enhance local character, a series of land planning and design tools must be in place and ready for use when a new proposal is presented which would otherwise result in significant change to a historic building or location.

HR-1 Adopt Design Guidelines.

A tool that can be very effective to preserve the character of the town's villages is Design Guidelines, administered by the Planning Board through the Design Review Committee. Proposals for new construction or alterations to existing structures in the village centers will trigger review, which may inform the decisions of other agencies such as the Zoning Board of Appeals or Building Commissioner. Minimum thresholds can be set, to allow small projects to proceed without review, or even to limit review to particular uses (for example, new commercial or industrial projects, or a subset of these). These guidelines shall include review of aesthetic aspects such as architectural features, overall scale and massing, and the effects of lighting and signage.

HR-2 Preserve Rural Community Character, Historic Landscapes, and Vistas.

Scituate has a number of historic scenic vistas and landscapes. These include the Town Green, with its elephant fountain donated by the Lawson estate; the Common on Stockbridge Rd.; and Elm Park on Greenfield Lane. The Planning Board recently compiled a map of the Town's scenic viewsheds. The vista of the Scituate Lighthouse from the harbor and spectacular views from Fourth Cliff and the Glades are some of the Town's most scenic water views.

While the integrity of historic homes around town are likely to be preserved by those living in them, recommendations made in the land use and open space elements, as well as those given in this section will work to protect vistas, open spaces, and the character of Scituate's special places.

HR-3 Raise Awareness of Historic Resources.

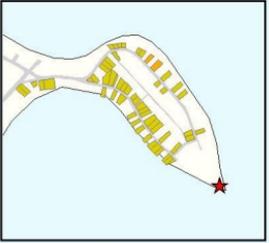
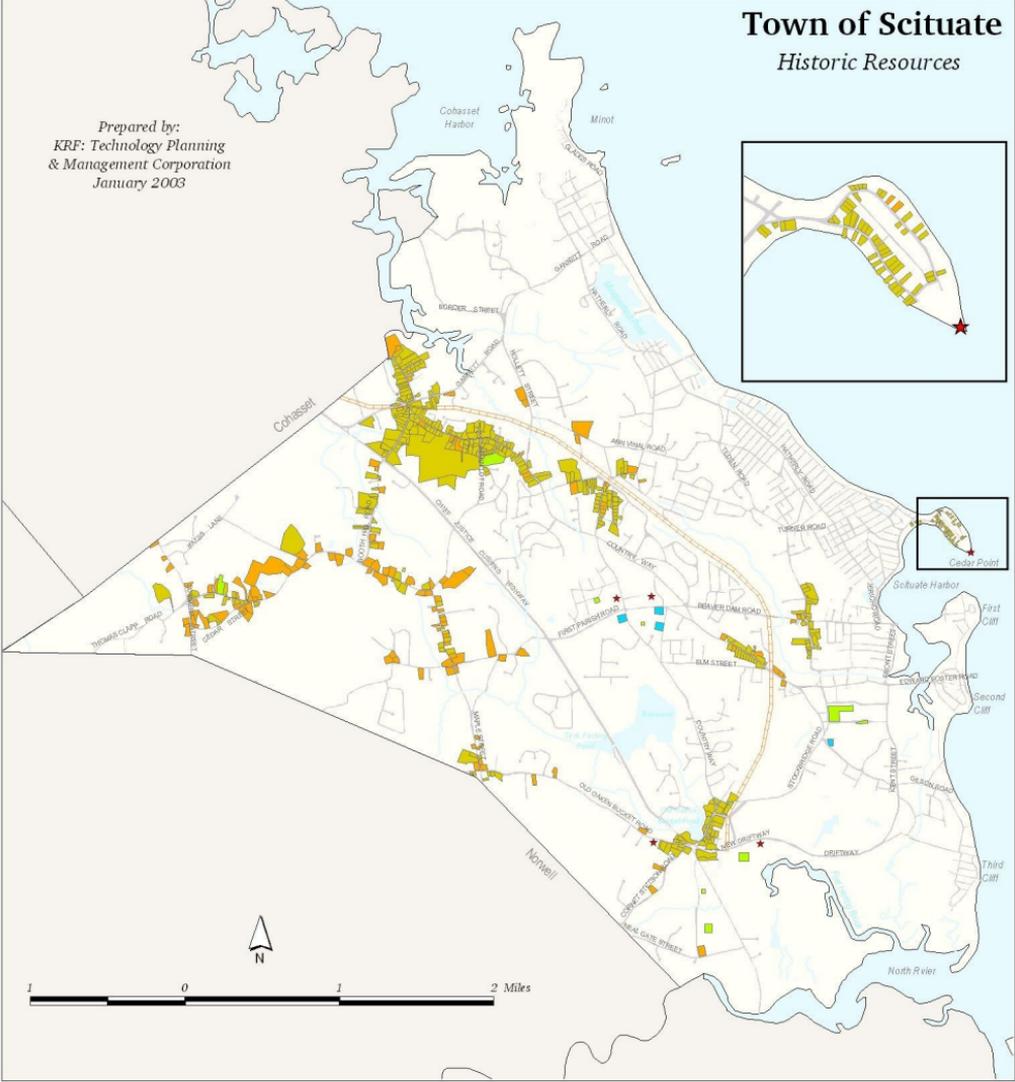
All preservation programs—whether they are based in regulatory or non-regulatory strategies—depend on ongoing community support. This support can only be earned through continual positive reinforcement of the tremendous value of the Town's historic resources. Residents must be educated, reminded, and actively engaged in historic preservation efforts. An integral part of the Community Preservation Act is an annual allotment of a minimum of 10 per cent of total funds for historic preservation. To that end, this

Plan recommends continuing and intensifying outreach work, including speaker series, festivals, awards programs, and other activities designed to raise awareness and celebrate the history of the Town.

Town of Scituate

Historic Resources

Prepared by:
**KRF: Technology Planning
 & Management Corporation**
 January 2003



HISTORIC RESOURCES

- ★ On National Register of Historic Places (NRHP)
- Historic Cemeteries
- * NRHP Eligible as Individual Property
- * NRHP Eligible as Part of Historic District
- Other Property Owned or Managed by Scituate Historical Society

— Streams

— Ponds

— Roads

— Proposed Commuter Rail

* NRHP eligibility was based on surveys by Wendy Frontiero as part of the Town's review of the MBTA Greenbush Commuter Rail Extension, and Turk Tracy & Larry Architects. The Turk Tracy & Larry survey is still ongoing.

IMPLEMENTATION

The key to the success of a master planning effort is to prepare a viable implementation program to insure that the recommendations are acted upon. Two of the most direct ways the Town can affect its physical development are through regulation and the expenditure of public money. Examples of these techniques are zoning bylaw changes and the appropriation of funds to build or improve a facility, such as a Fire Station, Senior Center or the Town Hall. Scituate has been working toward achieving its goals using both of these actions, and this element should assist in providing a rational strategy for the Town to achieve the goals and objectives set forth in this Master Plan.

Zoning is the most important tool a town has to implement its Master Plan and policies with respect to new development. Regulation is direct, the basis for enforcement is well established, and approval of new bylaws is mandatory. Several proposed actions are changes to the zoning bylaw that are expected to result in different outcomes than current provisions. The Master Plan also recommends changes to subdivision regulations, health regulations and general town bylaws, all other important regulatory tools.

The Planning Board can help implement the Master Plan any time it is asked to give advise. The real test of a town's commitment to planning and proactively working towards its vision is when other boards, commissions, and the general public question whether a proposed action is consistent with the Master Plan and fosters town goals. If not, then what alternative action is appropriate?

An important part of implementation is persuading and promoting private action. There are many examples where this type of action can be very productive and cost effective. The Conservation Commission uses persuasion when talking with landowners about gifts of land or sale of certain property rights. Whenever the Planning Board has a discussion with a property owner, certain private actions can be promoted to be consistent with the Master Plan and supportive of the public interest.

An Implementation element should set forth specific action items with identification of one or more responsible parties. The Implementation Table, on the following pages, includes suggested actions and the lead group(s) with responsibility to complete the action. These lead groups include the Board of Selectmen, Town Administrator, Department of Public Works, Planning Board, Building Inspector, Conservation Commission, Recreation Commission, Housing Partnership, and the Community Preservation Committee. For each recommendation, the particular groups indicated have some level of responsibility. It is up to those responsible to involve other necessary participants.

The Implementation Table should be reviewed and revised periodically to reflect new proposals, to delete those completed or abandoned, or to modify actions as they become more fully developed. An annual assessment is suggested. When a chapter is revised, it is also an appropriate time to assess how changes impact other elements and their actions. Adherence to keeping the Master Plan updated will help keep the Master Plan a relevant document for the Town in its quest to realize its aspirations. The Master Plan is a 'living' document. When conditions or attitudes change, a new consensus should be formulated on that aspect and the Master Plan adjusted as necessary.



Town of Scituate
Master Plan Update

MASTER PLAN IMPLEMENTATION

Scituate Planning Board
9/26/2005

KEY TO COLORS AND SYMBOLS:



- Shaded text - Master Plan objective



- X - This Board or Department will be involved in implementation



- Shaded X - This Board or Department is responsible for initiating action

SUBJECTS



NATURAL RESOURCES



HISTORIC RESOURCES



TRANSPORTATION



ECONOMIC DEVELOPMENT



HOUSING



LAND USE



OPEN SPACE

LAND USE

	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	ZBA	CPC	Other	
LU-1 Increase opportunities for local, small-scale commercial development in mixed-use village centers.									
<ul style="list-style-type: none"> ▪ Update zoning to allow mixed use with Site Plan Review, rather than a Special Permit. ▪ Develop a Table of Uses to prohibit those that are noisy, not conducive to pedestrian traffic, or generate large volumes of traffic. ▪ Provide a minimum lot size for the Business Districts and reduce front and side setbacks. ▪ Give high priority to sewerage all of the village centers to support local businesses. 	X	X	X	X	X	X	X	Town Meeting	
LU-2 Identify land appropriate for rezoning to Commercial. Consider land near the commuter rail layover which will be affected by major land use changes in that area.	X			X	X				Town Meeting
LU-3 Protect community character in the village centers.									
<ul style="list-style-type: none"> ▪ Adopt landscaping requirements for new businesses. ▪ Incorporate pedestrian and bicycle amenities into plans for the village centers. ▪ Formalize the current Design Review process for site plans. 			X	X	X				Chamber of Commerce Traffic Rules Committee Design Review Committee

LAND USE									
	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	ZBA	CPC	Other	
LU-4 Update parking standards in the village centers.									
<ul style="list-style-type: none"> ▪ Require parking lots behind buildings in downtown areas. 			X	X	X				
<ul style="list-style-type: none"> ▪ Estimate requirements for additional public parking based on the total gross floor area of commercial space in each village and the number of existing parking spaces. 	X		X	X	X			Chamber of Commerce	
<ul style="list-style-type: none"> ▪ Revise and update parking standards. 	X		X	X	X				
<ul style="list-style-type: none"> ▪ Make parking requirements more flexible where possible and encourage shared parking. 	X		X	X	X				
LU-5 Preserve community character in areas of residential growth.									
<ul style="list-style-type: none"> ▪ Investigate the use of Transfer of Development Rights to preserve key open space. 	X			X					
<ul style="list-style-type: none"> ▪ Adopt lot coverage requirements. 	X			X	X	X			Town Meeting
<ul style="list-style-type: none"> ▪ Increase use of open space preservation techniques such as cluster development and Flexible Open Space Development. 				X		X			
LU-6 Continue to use the Community Preservation Act to preserve open space, create affordable housing and protect historic resources.									
	X						X		

LAND USE

	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	ZBA	CPC	Other
LU-7 Continue to protect the town's sensitive environmental areas.								
<ul style="list-style-type: none"> ▪ Revise the Water Resource Protection District to reflect current information on Zone II's. 	X	X	X	X	X	X		Board of Health, Town Meeting
<ul style="list-style-type: none"> ▪ Consider a prohibition on clear-cutting lots prior to development. 				X	X			Conservation Comm.
<ul style="list-style-type: none"> ▪ Clean up construction sites promptly after new roads and homes are constructed. 			X	X	X			
<ul style="list-style-type: none"> ▪ Consolidate the separate flood plain Zoning Districts. 				X	X			Town Meeting
LU-8 Encourage diversity of housing types.								
<ul style="list-style-type: none"> ▪ Adopt zoning for the Business Districts to require possibly 2,500 to 5,000 sq. ft. per unit for multi-family housing with 10 to 15% affordable units required. 				X	X	X		Town Meeting, Housing Partnership
<ul style="list-style-type: none"> ▪ Adopt the E Zoning District as an overlay for the Residential Zoning Districts with landscaping, buffers, and architectural controls and a requirement for affordable units. 	X			X	X	X		Town Meeting, Housing Partnership
<ul style="list-style-type: none"> ▪ Provide a density bonus for larger developments which contain ten to fifteen per cent of affordable units. 	X			X	X	X		Town Meeting, Housing Partnership
LU-9 Ensure compliance with the Zoning Bylaw and conditions of subdivisions and Special Permits.								
<ul style="list-style-type: none"> ▪ Consider additional staff so enforcement keeps up with the pace of new development. 	X				X	X		Town Meeting
<ul style="list-style-type: none"> ▪ Adopt non-criminal disposition to encourage compliance with zoning. 		X		X	X	X		

HOUSING

	Board of Selectmen	Town Administrator	Housing Authority	Planning Board	Housing Partnership	ZBA	CPC	Other	
HS-1 The Scituate Housing Partnership, in conjunction with the Planning Board, should develop an outreach program to educate local residents about the need for affordable housing and inform them of available housing opportunities.					X			Town Planner	
HS-2 The Scituate Housing Partnership, in conjunction with the Planning Board, should pursue sources of funds to develop a Strategic Plan with a time line to implement the recommendations of this report, and lead the implementation effort.		X	X		X				
HS-3 The town should evaluate its capacity to administer and manage housing programs.	X		X		X				
HS-4 Scituate Housing Partnership, in conjunction with the Planning Board, should pursue opportunities to provide direct financial assistance to renters and first-time homebuyers.				X	X				
HS-5 The town should continue efforts to increase its numbers of affordable rental units.									
<ul style="list-style-type: none"> ▪ Zoning should be adopted to further encourage multi-family dwellings in the Business Districts by reducing or eliminating the requirement for 10,000 sq. ft. of land for each unit. ▪ The town should promote use of the accessory dwelling and affordable accessory dwelling options in the Zoning Bylaw. ▪ The town should investigate use of tax title land or land acquired using donations, the Community Preservation Act, the HOME program and other sources to develop rental units in the Business District or on nearby parcels. 	X			X	X			Building Dept.	
	X			X	X				Building Dept.
	X				X		X		Assessor's Dept.

HOUSING

HS-6 The town should continue efforts to increase its numbers of affordable homes for first-time buyers.

- The town should adopt an inclusionary zoning bylaw to obtain at least 10% affordable units in new developments of ten or more units.
- The town should adopt a zoning bylaw to allow increased densities in exchange for affordable units in areas where there will be minimal environmental impact.
- New construction of affordable housing should be compatible with surrounding neighborhoods.
- The town should use the Community Preservation Act as a source of funds for purchasing land or deed restrictions for development of affordable housing.
- The town should continue to work with organizations like Habitat for Humanity to develop affordable housing on scattered sites.
- The town should continue thorough review of 40B proposals.
- The Scituate Housing Partnership should work with the Zoning Board of Appeals, Building Commissioner and Town Planner to develop standard guidelines for 40Bs.
- The town, through its regulatory boards and agencies, should strive to maintain affordability for new housing through deed restrictions for the longest time allowed by law.

	Board of Selectmen	Town Administrator	Housing Authority	Planning Board	Housing Partnership	ZBA	CPC	Other
	X			X	X			Building Dept., Town Meeting
	X			X	X			Building Dept., Town Meeting
			X	X	X	X		
	X			X	X		X	Town Meeting
	X				X			Town Meeting
	X				X	X		Town Planner, Building Commissioner
				X	X	X		

ECONOMIC DEVELOPMENT	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	Traffic Rules	Chamber of Commerce	Other
EC-1 Continue to develop outdoor recreation as a strong tourist attraction.								
▪ Maintain the attractive Route 3A greenbelt.	X		X	X	X		X	Town Meeting
▪ Encourage development of recreation-based businesses, including a golf driving range, function hall/conference center, and other uses (e.g., North Scituate visitor center, capped landfill).	X	X	X	X	X		X	Recreation Commission
▪ Create a connected and safe network of bike trails, lanes, and routes.	X		X	X		X		CPC
▪ Complete a network of multi-use trails along the Driftway recreation area and former landfill, North River estuary, Greenbush rail corridor trail, Ellis estate, and Rt. 3A greenbelt area. Connect these with trails and sidewalks for a comprehensive pedestrian network.	X		X	X		X		Conservation Commission, CPC
EC-2 Support townwide business center growth and revitalization.								
▪ Launch an integrated, community-wide marketing plan including event promotions, maps of bicycle and pedestrian routes, and directional signs noting points of interest.	X			X			X	
▪ Promote Scituate as a destination and a desirable, livable community for business investment.	X		X	X			X	
▪ Pursue PWED and TEA-21 funding for streetscape improvements, bicycle and pedestrian access, and parking.	X			X				Streetscape Committee
▪ Adopt regulations to preserve the village scale and character and support redevelopment, including no drive-throughs; maximum set backs from curb to building front (e.g. 12 feet); no parking on lot in front of buildings.				X			X	Town Meeting
▪ Utilize traffic calming to maintain a safe and appealing public realm, especially in defining automobile entries to village centers.	X		X	X		X		
▪ Require traffic, massing and environmental impact studies where appropriate.	X			X				
▪ Review the sign code with an eye to revision, including limiting the maximum area allowed.	X			X	X		X	Town Meeting
▪ Develop comprehensive design guidelines.				X	X		X	Town Meeting
▪ Update the Zoning Bylaw to allow mixed use, to encourage apartments and multi-family above first floor retail and service uses in the Business Zone, and to include modern business uses.				X	X		X	
▪ Encourage consistent enforcement of parking regulations.	X			X	X		X	Town Meeting
▪ Provide public restrooms in all village centers.	X		X				X	

ECONOMIC DEVELOPMENT	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	Traffic Rules	Chamber of Commerce	Other
EC-3 Support the economic strength of North Scituate village.								
▪ Raise the priority of sewer service to North Scituate business district.	X	X	X	X				Board of Health, Town Meeting
▪ Develop a parking plan to optimize on-street and municipal parking.	X		X	X		X		MBTA Liaison
▪ Explore extending the business/mixed-use zone with second floor business and residential uses.				X			X	Town Meeting
▪ Develop North Scituate as a key gateway to the Town, for example through development of a visitor center.	X			X			X	
▪ Create municipal parking which can be protected from MBTA rider overflow.	X		X					MBTA Liaison
EC-4 Provide for attractive, sustainable future development for Greenbush village.								
▪ Implement the zoning, streetscape and design guidelines recommendations of the MAPC's Region at Risk study for mixed-use and greater residential density in the village center.	X			X				Streetscape Committee, Town Meeting
▪ Develop Greenbush as a key gateway to the marketed business and recreational activities of recommendation EC-1.	X			X			X	
▪ Anticipate the displacement of businesses by rail restoration, and define relocation possibilities.	X			X				MBTA Liaison, Town Meeting
▪ Create a contiguous sidewalk network, on-street parking, frequent crosswalks and traffic calming to support local businesses and improve connections and create a clear, defined, inviting village core.	X		X	X		X	X	

ECONOMIC DEVELOPMENT	Board of Selectmen	Town Administrator	DPW	Planning Board	Building Dept.	Traffic Rules	Chamber of Commerce	Other
EC-5 Enhance Scituate Harbor as a central business and retail district.								
▪ Develop a comprehensive parking plan for downtown which includes best use of extensive existing parking (on-street, Cole Parkway, and other large lots).	X		X	X		X	X	
▪ Explore use of regional parking for peak demand periods with shuttles to schools, MBTA parking, etc.	X		X	X		X	X	MBTA Liaison
▪ Create a contiguous sidewalk network, frequent crosswalks, secure bicycle parking, and more traffic calming to bring more customers to Scituate Harbor without automobiles.	X		X	X		X		
▪ Encourage greater second and third floor setbacks to maintain an appealing environment on main thoroughfares.				X	X			
▪ Implement the recommendations of the Scituate Harbor Public Access study.	X		X	X		X		
▪ Add public sanitary facilities to serve visitors to Scituate Harbor.	X		X					
EC-6 Support low impact home-based business activities.								
▪ modify zoning codes to support in-home office development.				X	X		X	Town Meeting
EC-7 Support a sustainable fishing industry.								
▪ Pursue state and federal funding for infrastructure that supports commercial and/or sport fishing.	X	X						Waterways Committee, Harbormaster
▪ Explore opportunities and funding for development of commercial aquaculture.	X						X	Harbormaster
▪ Explore the feasibility of an open-air summer fish and produce market at the Cole Parkway parking lot.	X						X	
▪ Consider a fee and local tax structure that is favorable to the fishing industry.	X	X					X	Assessors
▪ Protect all natural resources that support Scituate's fisheries and shellfish.	X	X	X					Conservation Commission

NATURAL RESOURCES	Board of Selectmen	Town Administrator	DPW	Planning Board	Board of Health	Cons. Comm.	Building Dept.	ZBA	Other
NR-1 Consider regulation of activities which can affect the Reservoir and public water supply wells.									
▪ Continue strong enforcement of Title V in water resource areas.					X				
▪ Enforce zoning to restrict hazardous material use in water resources areas.			X				X	X	
▪ Develop plan for spills of hazardous materials from commercial traffic on Route 3A.			X		X	X			Fire Dept.
▪ Revise Water Resource Protection District to include new Zone II's.	X		X	X	X		X		Town Meeting
▪ Make sure Scituate water supply watersheds overlapping other towns are protected.	X			X	X				Boards of Selectmen, Towns of Norwell and Cohasset
▪ Adopt recommendations of CEI's Surface Water Supply Protection Plan.	X	X	X	X	X	X	X	X	
▪ Regulate generation, storage, and if possible transportation of hazardous materials.			X	X	X	X			Fire Dept.
▪ Increase lot sizes within the Zone II's and Zone A.	X		X	X	X	X			Town Meeting
NR-2 Consider long-term protection of the area west of Route 3A to protect the town's valuable drinking water resources.	X		X	X		X	X		CPC, Town Meeting
NR-3 Educate the public about the sensitivity of all types of natural resources.									
▪ Continue public education on water conservation and water quality protection.	X	X	X	X	X		X		
▪ Educate the public about the proper use of household hazardous materials and fertilizers.			X		X	X			Fire Dept.
▪ Educate the public about sensitive bird species in recreation areas.	X					X			Recreation Comm.
▪ Post signs and provide disposal bags to help control pet waste in sensitive areas.			X		X				
▪ Educate boaters about the need to use pump-outs.	X								Harbormaster
▪ Support FHBWI efforts to educate homeowners about water quality.	X		X	X	X	X			FHBWI

NATURAL RESOURCES	Board of Selectmen	Town Administrator	DPW	Planning Board	Board of Health	Cons. Comm.	Building Dept.	ZBA	Other
NR-4 Manage sewage and wastewater in a manner that protects groundwater and environmentally sensitive resources in all parts of Scituate.									
▪ Extend sewer to environmentally sensitive areas as required by previously adopted townwide water quality plans.	X	X	X						
▪ Encourage upgrades and repairs for failed systems in environmentally sensitive areas.	X	X			X				
▪ Determine most effective approach for areas with large numbers of failed septic systems.	X	X	X		X				
▪ Continue implementation of Septic Management Program.					X				
▪ Map private wells so their water quality can be better protected.			X		X	X			
NR-5 Encourage careful stormwater management to guard against contamination of the public drinking water supply.									
▪ Mitigate the effects of stormwater on sensitive environmental resources.			X	X	X	X			
▪ Maximize stormwater infiltration in recharge areas for Reservoir and private wells.				X	X	X			
i. Maintain undisturbed natural areas in new developments.				X		X		X	
ii. Use pervious surfaces in new development in Zone II's and Zone A's.			X	X		X		X	Fire Department
iii. Recharge stormwater through dry wells.			X	X	X	X		X	
iv. Require stormwater treatment in large parking lots near wetlands.			X	X	X	X		X	
v. Use detention basins to remove suspended solids from stormwater.			X	X	X	X		X	
vi. Avoid direct discharge of stormwater to wetlands or surface waters.			X	X	X	X		X	
vii. Use Best Management Practices for drainage mitigation.			X	X	X	X		X	
viii. Use innovative stormwater design to enhance groundwater recharge.			X	X	X	X		X	
ix. Insure that detention basins and drainage facilities will be well maintained.			X	X	X	X		X	
▪ Adopt bylaws to prohibit clearcutting and regulate the use of fill.				X	X	X	X		Town Meeting
▪ Review Water Resource Protection District to improve regulatory stormwater controls.	X		X	X	X	X	X		Town Meeting
▪ Enforce laws re. discharge and treatment of stormwater runoff.				X	X	X	X		
▪ Enforce laws re. disturbance of wetlands and surface waters.					X	X	X		

NATURAL RESOURCES	Board of Selectmen	Town Administrator	DPW	Planning Board	Board of Health	Cons. Comm.	Building Dept.	ZBA	Other
NR-6 Continue policies which encourage protection of Scituate's inland surface waters.									
▪ Implement recommendations of FHBWI reports.	X		X	X	X	X	X	X	
▪ Enforce requirements for vegetated buffers around inland waters.					X	X	X		
▪ Continue efforts to certify vernal pools.						X			
NR-7 Continue to strictly enforce requirements for new construction in the flood plain.									
▪ Enforce regulations for construction in the flood plain.				X	X	X	X	X	
▪ Encourage use of pervious surfaces to protect barrier beaches.				X	X	X		X	
▪ Maintain natural vegetation to protect barrier beaches.			X	X		X		X	
▪ Combine the two flood-related Zoning Districts.				X					Town Meeting
NR-8 Support residents' use of the harbor and beaches by supporting improvements that are sensitive to the needs of the natural environment.									
▪ Continue dredging program for Scituate Harbor.	X	X							Waterways Comm., Harbormaster
▪ Consider beach nourishment in eroded areas.	X	X	X			X			Town Meeting
▪ Plan for greater handicapped access at beaches.	X		X						Recreation Comm.
▪ Pursue designation of additional No Discharge Zones.	X	X				X			Harbormaster
NR-9 Preserve areas of prime farmland and make them a priority for open space acquisition.	X			X		X			CPC, Assessors
NR-10 Pursue reopening historically productive shellfish beds.	X				X	X			Shellfish Warden

OPEN SPACE

	Board of Selectmen	Town Administrator	DPW	Planning Board	Cons. Comm.	Recreation Commission	CPC	Other
OS-1 Develop criteria for prioritizing open space purchases.								
<ul style="list-style-type: none"> Develop criteria for open space acquisitions using recommendations of the OSRP and Master Plan. Proactively seek preservation opportunities for the most valued parcels. 	X			X	X	X	X	
OS-2 Develop criteria for prioritizing recreation purchases.								
<ul style="list-style-type: none"> Continue to purchase land for recreation, including parcels in neighborhoods with high populations of children, where children live and land for beach parking. Protect rights of way to the water. Determine the size, location and characteristics of land needed for specific recreation purposes using projected population by target age group and standard sizes of facilities. 	X			X		X	X	Town Meeting
OS-3 Improve pedestrian connections between open space parcels and residential areas.								
<ul style="list-style-type: none"> Identify potential trail corridors to connect open space parcels and link residential areas to recreation areas. Acquire land, easements, or authorization to use existing public land to create trails. 	X	X		X	X	X	X	
OS-4 Beautify pedestrian walkways.								
<ul style="list-style-type: none"> Landscape streets in villages, and between neighborhoods, with specimen trees and add sidewalks. 	X	X	X	X				Streetscape Committee
OS-5 Encourage conservation restrictions and easements.								
<ul style="list-style-type: none"> Provide guidelines on donating development restrictions, including information about tax advantages. Negotiate conservation restrictions and easements with landowners. Use cooperative agreements between the Town, state, landowners, conservation groups and land trusts to facilitate land purchases. Encourage scenarios where some development is allowed, to preserve a larger area. 	X	X		X	X		X	Assessor's Dept. Assessor's Dept.
OS-6 Protect and enhance Route 3A Greenway.								
<ul style="list-style-type: none"> Investigate use of RELEAF, Heritage Tree and other grants to preserve and add trees on public streets. Consider adding design standards to supplement the 100' and 50' setbacks. 	X		X	X	X			Tree Warden

OPEN SPACE	Board of Selectmen	Town Administrator	DPW	Planning Board	Cons. Comm.	Recreation Commission	CPC	Other

OPEN SPACE

	Board of Selectmen	Town Administrator	DPW	Planning Board	Cons. Comm.	Recreation Commission	CPC	Other
OS-7 Strengthen Open Space Zoning.								
<ul style="list-style-type: none"> Ensure that open space in Flexible Open Space Developments and other subdivisions contains buildable upland. 				X	X			Building Dept.
<ul style="list-style-type: none"> Use open space in subdivisions to preserve scenic vistas, sensitive environmental resources, wildlife habitat, and prevent building on steep slopes. 				X	X			
<ul style="list-style-type: none"> Encourage Flexible Open Space Development where property has significant sensitive resources, special features or is adjacent to protected land. 				X	X			
<ul style="list-style-type: none"> Investigate a Major Residential Development Bylaw for development over a certain size. 				X				Town Meeting
<ul style="list-style-type: none"> Adopt bylaws to allow cluster development by right. 				X				Town Meeting
OS-8 Consider a transfer of development rights (TDR) program.								
	X	X		X				Building Dept., Town Meeting
OS-9 Consider a Viewshed Protection Bylaw.								
	X			X	X			Building Dept., Town Meeting
OS-10 Improve access to beaches, passive recreation and open space.								
<ul style="list-style-type: none"> Install bike racks and improve pedestrian access to the beach. 			X					
<ul style="list-style-type: none"> Use gravel or another permeable surface for resurfacing of parking lots for beaches and passive recreation. 	X		X		X			
<ul style="list-style-type: none"> Review inventory of open spaces and privately owned undeveloped parcels to identify opportunities to increase public access. 				X	X		X	
OS-11 Maintain and improve recreational facilities.								
<ul style="list-style-type: none"> Address the acute need for more playing fields and playgrounds. 	X		X			X	X	
OS-12 Investigate the possibility of establishing small neighborhood pocket parks.								
<ul style="list-style-type: none"> Use small, scattered vacant parcels to create small parks, playgrounds or tot lots. 	X		X	X		X		
OS-13 Rehabilitate Scituate's shellfishery.								
<ul style="list-style-type: none"> Research the causes of resource depletion, take steps to overcome its causes of depletion and rejuvenate the shellfishery. 	X	X	X		X			Shellfish Warden, Board of Health

See DPW for proposed capital improvements and scheduling.

TRANSPORTATION

TR-1 Encourage concentrated development in village centers.

See worksheet for Economic Development recommendations.

TR-2 Encourage alternative modes of transportation such as:

- A local circulator bus that serves the residents and makes it more desirable to leave the car at home.

- A shuttle bus serving nearby MBTA commuter rail stations.

- An improved Dial-A-Ride service for the elderly and physically challenged.

TR-3 Create and support a network of w+A3walkways.

- Local streets within the walking radius of a school should have a sidewalk on at least one side.

- All new sidewalks should be at least 5 feet wide and must comply with the ADA requirements.

- Where the right-of-way exists, there should be a buffer of at least 3 or 4 feet between the edge of roadway and the edge of the sidewalk.

- Vertical granite curbs are desired to provide a barrier between motor vehicles and pedestrians when the sidewalk is within 10 feet of the traveled way. When the sidewalk is adjacent to the roadway, the granite curb should be of 6" (six inches) height minimum.

- Informal pathways and "paper streets" should be inventoried and developed when feasible to be utilized as pedestrian and bicycle connectors.

- Town boards should strongly encourage well-designed bicycle and pedestrian connections in new residential and commercial development proposals.

	Board of Selectmen	Town Administrator	DPW	Planning Board	Traffic Rules Committee	Council on Aging	School Committee	Other
	X					X		Comm. on Dis., MAPC, Town Meeting
	X							Chamber of Commerce, MBTA Liaison
	X					X		Comm. on Dis., MAPC, Town Meeting
	X		X		X	X	X	
			X		X	X		Comm. on Disabilities
	X		X		X	X	X	
	X			X	X			
	X		X	X	X			

TRANSPORTATION

	Board of Selectmen	Town Administrator	DPW	Planning Board	Traffic Rules Committee	Council on Aging	School Committee	Other
TR-4 Develop and enhance bicycle facilities.								
TR-5 Upgrade specific isolated intersections.	X		X	X	X		X	
<ul style="list-style-type: none"> ▪ The Beaver Dam Road/Branch Street/Lawson Road Intersection is a five-way intersection with difficult sight lines. ▪ Booth Hill Road (from Chief Justice Cushing Highway to Country Way) is a narrow road with significant sight distance concerns because of layout bends and grade changes. ▪ Chief Justice Cushing Highway (3A)/Booth Hill Road is a four-way intersection on a major road with difficult sight lines. ▪ Chief Justice Cushing Highway (3A)/Diffway is an unorthodox rotary with difficult sight lines, poor queuing lanes, and multiple roadways. ▪ Chief Justice Cushing Highway (3A)/Henry Turner Bailey Intersection configuration provides difficult sight lines and turning lanes. ▪ Chief Justice Cushing Highway (3A)/Mann Lot Road is a four-way intersection on a major road with difficult sight lines. ▪ Clapp Road (from Chief Justice Cushing Highway to the Norwell Town Line) is a narrow road with significant sight distance concerns because layout bends and grade changes. ▪ Front St./First Parish Rd./Kent St./Edward Foster Rd. is a four-way intersection with a three-way stop which is confusing to motorists. It is expected to be impacted by the new Jenkins School as well as new residential development. ▪ Front St./Brook St./Cole Parkway is a busy intersection which is congested at peak hours, and is expected to be impacted by the new Jenkins School as well as new residential development. 	X		X	X	X			

TRANSPORTATION

	Board of Selectmen	Town Administrator	DPW	Planning Board	Traffic Rules Committee	Council on Aging	School Committee	Other
TR-6 Upgrade pedestrian and bicycle accommodation on specific roadways.								
▪ Beaver Dam Road. Sidewalks needed from Tilden Rd. to Clifton (near the ballfield).	X		X		X			
▪ Branch Street. Sidewalk needed from the five corners to the library.	X		X		X			
▪ Country Way. Create or improve sidewalks along the full length	X		X		X			
▪ Elm Street. Sidewalks and crosswalks needed to Jenkins School.	X		X		X			
▪ Gannet Road. Sidewalks and bike lanes needed.	X		X		X			
▪ Hatherly Road. Sidewalks from Egypt Beach to Minot.	X		X		X			
▪ Hazel Ave. Sidewalk needed towards Jenkins School.	X		X		X			
▪ Kent Street/Driftway.	X		X		X			
▪ Stockbridge Road. Sidewalks required to Jenkins School, and to Greenbush center and trail.	X		X		X			
▪ Tilden Road. Sidewalks required to Wampatuck and Jenkins Schools.	X		X		X			
TR-7 Implement an Access Management Program.								
▪ Develop specific curb-cut design and management guidelines.			X		X			
▪ Improve road surfaces, especially drainage design. Alleviate existing drainage problems.	X		X		X			
▪ Improve roadway and walkway lighting.	X		X					
▪ Adopt roadway design standards to include pedestrian, bicycles, and bus stop facilities.			X		X	X	X	
TR-8 Develop additional parking facilities and improve management of existing facilities.								
▪ Construct additional parking at the elementary and junior high schools.	X						X	
▪ Restrict student parking privileges at the high school.							X	
▪ Investigate purchasing private land along Front Street.	X		X		X			
▪ Explore multi-use green space and seasonal/event parking along Cole Parkway.	X		X		X			
▪ Revise the Zoning Bylaw to reflect current standards for parking. Look for opportunities for shared parking in the villages.			X	X	X			Chamber of Commerce, Building Dept.
▪ Negotiate municipal access to MBTA commuter lots for evenings, weekends, and special events in villages.	X	X	X	X	X			Chamber of Commerce, MBTA Liaison

HISTORIC RESOURCES	Board of Selectmen	Town Administrator	Planning Board	Building Dept.	Historical Society	Design Review Committee	Other
HR-1 Adopt design guidelines for new construction in the village centers.							
▪ Set thresholds for Town review of new construction.			X	X	X	X	
▪ Develop guidelines for architectural features, overall scale and massing.			X		X	X	
▪ Develop guidelines for lighting and signage.			X	X	X	X	
HR-2 Preserve rural community character, historic landscapes and vistas. (See recommendations for open space preservation.)	X		X				Conservation Commission, CPC, Town Meeting
HR-3 Raise awareness of historic resources through public outreach.							
▪ Continue efforts to make public aware of historic preservation through speaker series, festivals, awards programs and other activities.	X				X		