

**TOWN OF GILL
MASSACHUSETTS**



Community Development Plan for the Town of Gill

JUNE 2004

Created by
the Gill Community Development Planning Committee
and the Franklin Regional Council of Governments

Funded by the Massachusetts Executive Order 418 Program as implemented through the Interagency Work Group including the Executive Office of Environmental Affairs, the Department of Housing & Community Development, the Department of Economic Development, and the Executive Office of Transportation & Construction. Additional funding was provided by the Franklin Regional Economic Development Initiative.

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Community Development Plan for the Town of Gill

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Executive Summary

EXECUTIVE SUMMARY

The creation of the Gill Community Development Plan was funded through Massachusetts Executive Order 418 (EO418), and accomplished by a committee of Gill residents facilitated by staff from the Franklin Regional Council of Governments. All tasks have been completed for the preparation of this plan as outlined in the state approved scope of services dated February 24, 2003.

Vision Statement

The Gill Community Development Planning Committee drafted the following vision statement to be used as a guide for the creation of this plan and for the implementation of its strategies.

The vision for the Town of Gill is to recognize and preserve the Town's unique natural, historic and scenic resources, as well as its overall rural character. The preservation of these assets is for the benefit of current and future residents and visitors alike. This vision for Gill includes the continued provision of quality community services and the promotion of the economic well-being of residents and the health of the Town's business community.

Chapter 1: Open Space & Resource Protection

The Community Development Plan for Gill includes specific mapping products that complement the work completed in the "Open Space and Recreation Planning in Gill, Massachusetts" report produced in Spring 2000. The mapping products in this Community Development Plan include the following:

- Water Resources Map,
- Prime Farmland & Development Constraints Map,
- Open Space Map,
- Scenic Resources & Unique Environments Map,
- Developed Land Uses & Absolute Constraints Map,
- Developed Land Uses & Potential Constraints Map, and
- Land Use Suitability Map.

Recommendations

These recommendations are based on the Open Space and Resource Protection Chapter's review of Gill's important natural, open space, historic, scenic, and recreational resources, and the Community Development Planning Committee's support for having the Town do more to preserve and protect these community assets.

- *Develop an Open Space and Recreation Plan to prioritize additional open space, farmland and forestland parcels for preservation and protection from development.* This task will build upon the work conducted in the "Open Space and Recreation Planning in Gill, Massachusetts" report and in this Community Development Plan.
- *Consider establishing new overlay zoning district(s) to help protect important natural, scenic, historic, and open space resources.*

Chapter 2: Economic Development

The purpose of local economic development planning is to create a framework to guide and encourage economic prosperity in a manner that is best suited for that community. The path a community takes to achieve economic security and prosperity is best guided by the residents' vision for their hometown. The Town of Gill through the Community Development Planning process established economic development goal with corresponding objectives.

Goal

- To encourage and support economic development which is balanced with the preservation of the Town's natural and scenic resources and overall community character.

Objectives

- To create a climate that fosters business development and growth compatible with the Town's rural character.
- To retain and strengthen the existing businesses in Gill, including agricultural businesses and home-based businesses.
- To diversify the tax revenue base, in order to provide quality community services.
- To encourage commercial development in selected areas of the Route 2 corridor that is compatible with residential and recreational uses.
- To examine other locations to determine if there are areas suitable for commercial and/or light industrial development.

Chapter Highlights

The Economic Development chapter includes the sections that provide an overview of the demographic profile of residents, an analysis of the regional labor force and local economy, and a discussion of the various factors that may impact economic development.

Gill is known for its beautiful rural landscape with rolling hills, river valley vistas, and pastoral agricultural land. Gill has retained several active farms. At the same time, Gill has access to Route 2, the primary transportation corridor along the northern tier of the state, and is located between the largest employment centers in Franklin County of Greenfield, Montague, and Orange. Route 2 is also the Mohawk Trail, a state designated scenic byway and tourist route. Outdoor recreation activities, specifically related to the Connecticut River, are found along this corridor.

The overall demographics in Gill indicate higher household incomes and lower poverty rates in comparison to other areas in the region. Gill was reported to have significant population loss in recent years; however, much of this loss is attributed to inaccuracies with the U.S. Census Bureau survey conducted in 2000. According to Gill municipal officials, data from the 2000 U.S. Census is inaccurate due to the survey attributing faculty households located on the Gill campus of the Northfield Mount Hermon School to the Town of Northfield. It is estimated that approximately 200 residents and 80 households were missed. If these missing residents were included, it would indicate that the population level remained steady from 1990 to 2000 as opposed to significantly declining. Another factor that may have influenced population and housing data for the Town is the shared zip code between Gill and Turners Falls. The loss of population experienced in Turners Falls from 1990 to 2000 may have impacted Gill's population and housing counts. While 2000 Census data is flawed, it is important to note that it is the best source of detailed population and housing statistics. The 2000 Census information will be used to estimate trends and patterns.

The major employer located in the town is the Northfield Mount Hermon School. The concentration for much of the employment by one employer may indicate some risk. However two trends indicate that there is increasing diversification for Gill residents with respect to employment. For some Gill residents, the commute time has increased because of the increasing percentage of Gill workers who are employed outside of Franklin County, according to data from 1990 and 2000. For other Gill residents, there is an increase in the presence of entrepreneurs, self-employed and at-home workers. This Chapter includes the results of a home-based business survey of Gill residents conducted in 2002. Overall, the majority of home-based businesses that responded to the survey has been in business for several years, employ more than one person, and have been financially successful over the past two years. These home-based businesses do not expect to expand their space needs greatly in the next few years. In terms of infrastructure needs, most of the businesses responded that improved telecommunications services are needed. While cable broadband service is available to many Gill residents, other higher capacity broadband services are not.

The tax base in Gill that provides the funding for much of the municipal services is primarily dependent on residential property taxes. In addition, there are several properties that are tax exempt. The most efficient tax base is one that balances different land uses, such as open space (a land use that requires few municipal services) and commercial (a land use that typically generates greater property taxes). There are areas in Gill that exist for potential development, if it so desired by residents. However, no specific areas in Gill are zoned for commercial or light industrial use. There is a limited area in Gill with water and sewer infrastructure. It is located in the Riverside Village area and in nearby sections along Route 2. This Chapter includes a study of the properties in this area of Route 2 and along the southern portion of Main Road to determine the potential for commercial development of undeveloped parcels, and the potential reuse or redevelopment of developed parcels. As a result of this study, it has been determined that there is potential for greater commercial development in this area and strategies are provided that will assist with this pursuit, if desired by residents.

Recommendations

The following list of recommendations was identified as strategies to forward economic development in the Town of Gill by the Community Development Planning Committee.

- *Assign an existing or new Town Committee to encourage the pursuit and/or implementation of the economic development recommendations of this Community Development Plan.*
- *Support the continued operation of farms and other agricultural-based businesses.* Town support of programs that preserve agricultural land, such as the Agricultural Protection Restriction Program, is one way to support the operation of existing agricultural businesses. Residents purchasing local farm products are another way a community may support farms.
- *Examine Zoning Bylaws to address business development.* Examine and potentially revise Zoning Bylaws to encourage appropriate business development, such as an overlay district over a select area(s) that has specific guidelines for commercial uses. To accomplish this task, select businesses should be identified that are compatible with town character and factors that are important for the development of these businesses should be addressed in the zoning regulations.
- *Encourage the development of commercial activities, such as tourism-related services or offices, in appropriate areas.* Town officials may want to encourage business development of tourism-related services, such as a restaurant, retail store, or an outdoor recreation store or service provider. Visitor-related services would capture the significant tourism traffic that travels the Mohawk Trail as well as many local and regional customers traveling between major population centers. A small-scale office park developed in an area located with convenient access to Route 2 may appeal to expanding home-based business operators as well as other small businesses in the region. The development of such an area would also provide additional tax revenue.

- *Participate in the Mohawk Trail East Scenic Byway project.* Participation by Gill residents, town officials and/or business-people in the development in the corridor management plan for the eastern portion of the Mohawk Trail will allow Gill's economic development vision to be part of the broader project as well as promote tourism opportunities specific to Gill.
- *Encourage the development of home-based businesses.* Identify resources that will assist entrepreneurs and home-based businesses in their business activities, such as having access to a public photocopier or meeting room.
- *Support local entrepreneurship by encouraging participation in regional business development efforts.* Town participation in regional economic development efforts, such as the Franklin Regional Council of Governments, the Franklin County Community Development Corporation, and other organizations. Activities could include workshops in Town about entrepreneurship or the creation of a community bulletin board to provide information about available business development assistance on local products for sale.
- *Maintain relationships with large organizational property owners.* Both the Northfield Mount Hermon School and Northeast Generation (previous Northeast Utilities) own a significant amount of property in the community. A continued dialogue with these organizations will identify issues and potential partnering opportunities for the both the organizations' and the community's mutual benefit. Possibilities for economic development include the identification of needed business services that complement their organizations, such as an outdoor recreation supply store related to Barton Cove activities, or outsourcing of services for the Northfield Mount Hermon School or its students.
- *Continue to advocate for advanced telecommunications broadband services to be made available throughout Gill.* Support local and regional efforts to pursue broadband telecommunications services.
- *Pursue independent zip code or improved postal service for Gill.* Efforts have been conducted in the past to establish an independent zip code for Gill. A review of these efforts and an examination of their status should be organized. Based on this information, a plan can be created to determine potential options to remedy this situation. An option to consider may be having a postal pick-up box in Gill Center for afternoon service.

Chapter 3: Transportation – Pavement Management System Report

Chapter Highlights

In accordance with the scope of services, the transportation portion of the Community Development Plan is a pavement management system study of the paved roads in Gill as conducted by the Franklin Regional Council of Governments. A pavement management system study is a systematic method for routinely, collecting, storing, and retrieving the kind of decision-making information needed about pavement to make the maximum use of limited maintenance and construction dollars. Historically in some communities, road maintenance funds were channeled to those roads that may have been perceived by local highway superintendents to be in the worst condition, or where political influence dictated. Various studies have indicated that a pavement maintained in a perpetual “good” to “excellent” condition, requires one-fourth to one-fifth the investment of a pavement that is un-maintained and rehabilitated once it reaches a “poor” or “failed” condition.

The pavement management study for Gill consisted of a pavement surface survey conducted of the 26 miles of paved town-maintained roadways. This survey was conducted in Fall 2003 by the Franklin Regional Council of Governments. The survey data was then inputted into a software program that analyzes the information. The survey indicated that Gill is implementing sound pavement management practices with the limited funds that are available. The paved road network is currently in a “good” overall condition.

An analysis of future conditions indicates that existing levels of Chapter 90 funding are not sufficient to allow the Town to improve or even maintain the existing level of pavement conditions through 2013. A second analysis looked at the impacts on the paved road network conditions if Chapter 90 funds were restored to an annual \$150 million statewide program. This analysis showed that not only would the existing condition of the paved road network be maintained, but additional improvements could be made. A final analysis was used to try and predict the impacts on the paved road network if funding is not secured for the reconstruction of Main Road. This analysis using existing Chapter 90 funding levels showed an accelerated decline in pavement conditions and increases in the backlog of repairs. These budgetary analyses show that in the absence of an increase in Chapter 90 funding, an alternative source roughly equivalent to \$30,000 per year is needed to maintain the paved road network in its current conditions.

Recommendations

The Town of Gill is doing an excellent job of utilizing available funding sources, but for it to protect the investment it has made, additional maintenance funds must be found. In these difficult economic times, it is challenging to leverage additional funds, but with Governor Romney’s new Road and Bridge Policy of “Fix It First,” this report could be used as justification when lobbying for additional funding now or in the future.

Chapter 4: Housing

Diverse, affordable housing is important for all communities. After paying housing costs, residents need adequate income to cover other basic expenditures, including food, health care, utilities, and transportation. Housing is generally considered to be affordable when households spend no more than 30% of their gross income on housing costs. The Housing Chapter of the Community Development Plan presents an overview of housing in Gill. It discusses how well the current housing supply is meeting demand, evaluates housing affordability, and assesses which areas of Gill may potentially be the most suitable for new residential development to address the community's identified housing needs.

Goals

- To promote the creation of affordable housing opportunities for diverse populations in Gill.
- To develop housing that meets the needs of residents while protecting the rural character of Gill.

Objectives

- To access regional, state and federal resources to assist in meeting the housing needs of Gill residents.
- To adopt innovative planning techniques to address housing needs while also protecting the rural character and qualities of Gill.
- To encourage the development of programs and policies that support resident seniors with low and moderate income levels to meet their housing needs

Chapter Highlights

The first section of this Chapter contains a comprehensive discussion about the planning and legislative context of current housing issues. In addition, the Chapter includes a summary of the characteristics to the Town's current housing supply and a review of population characteristics that influence housing demand.

The predominant type of housing unit in Gill is single-family units, however, there are several multi-unit structures as well, including the Stoughton Village senior housing complex. In two of three zoning districts, two to three family units are allowed by right. In the Village zoning district in the Riverside neighborhood such multi-units are not allowed by right. Apartment conversions within existing structures in the Riverside district require special permits. The Riverside neighborhood has a public water and sewer system, and provides an alternative to the

more rural lifestyle found in most areas of Gill. Areas served by public water and sewer systems may be a more suitable location to allow two or three family units by right.

While Gill has many historic farm buildings, there is also new development. According to building permit data, 56 dwelling units were authorized from 1994 through 2002. Fourteen of those authorized units are part of the Stoughton Village senior housing complex. In the future, as the number of elderly residents in Gill increases, additional housing for seniors may be needed. Additional housing could include rental housing or condominiums.

In the Housing Chapter, there is a comparison between housing supply and demand to identify potential housing gaps, and an assessment of housing choices and affordability for individuals and households of different incomes. It was estimated that approximately 20% of Gill households spend more than 30% of their gross income on their housing expenditures. In the future, more housing options for families and individuals with low or moderate incomes will be needed. An additional factor is the trend of increasing property taxes for residents, which will place a greater burden on residents with limited or fixed incomes.

As part of the Housing Chapter, an analysis of areas in Gill which may potentially be the most suitable for new housing development was identified. The need to balance future residential development with the protection of the Town's natural, scenic, and historic resources was identified as being very important and taken into consideration when identifying these areas. The primary factors for determining the general locations for potential suitable residential development were avoiding "sprawl" style development, locating near areas with the potential for water or sewer infrastructure access, and to encourage "infill" development near current services.

Recommendations

Zoning Recommendations

- *Clarify zoning bylaw definitions.* Definitions of terms regarding the creation of accessory apartment rental units in single-family homes, such as mother-in-law apartments, and duplex or similar multi-unit structures, should be clarified in the zoning bylaw regulations.
- *Consider creating a new zoning district or revising an existing zoning district, which would allow additional residential housing types, such as condominiums and senior housing, and/or mixed residential.*

Other Strategies

- *Continue to work with the Franklin County Regional Housing and Redevelopment Authority to help low and moderate-income residents access loans and grants for first-time home purchases, and home rehabilitation projects.* Promote the current housing rehabilitation loan program among residents who do not have the financial resources to fund home improvements and repairs on their own, including accessibility improvements and septic system upgrades. Use the housing rehabilitation loan programs to help maintain and preserve Gill's affordable housing stock.

- *Pursue public grants and other funding sources to encourage the development of affordable housing for seniors. Identify potential locations to expand or to build another senior housing complex in the future.*
- *Work with Rural Development Inc, to identify potential locations in Gill for new affordable single-family homes.*
- *Work with legislators to encourage the State to continue revising Chapter 40B to provide additional flexibility and local control in the creation of affordable housing, and to expand its definition of “affordable.”*
- *Consider the creation of a town program to allow for specific tax abatements for seniors in exchange for volunteer work on the behalf of Gill.*

Conclusion

The Town of Gill, through the work of the Gill Community Development Planning Committee and input provided by residents, is well positioned to implement actions to retain the rural character of the community, while expanding its economic development potential and access to housing that is affordable to different demographic groups.

INTRODUCTION

INTRODUCTION

Issued in 2000, Executive Order 418 continues the Commonwealth's long commitment to encouraging the creation of affordable housing. Executive Order 418, entitled "Assisting Communities in Addressing the Housing Shortage," provides new incentives and resources for communities to promote affordable housing development. First, EO418 offers municipalities funding to create Community Development Plans, such as this one, which helps communities consider the ways they would like to grow in the future, and assists them to establish options and strategies for addressing future development.

The creation of the Gill Community Development Plan was funded through Massachusetts Executive Order 418 (EO418), and accomplished by a committee of Gill residents. The development of the plan was facilitated by staff from the Franklin Regional Council of Governments. All tasks have been completed for the preparation of this plan as outlined in the state approved scope of services dated February 24, 2003.

Vision Statement

The Gill Community Development Planning Committee drafted the following vision statement to be used as a guide for the creation of this plan and for the implementation of its strategies.

The vision for the Town of Gill is to recognize and preserve the Town's unique natural, historic and scenic resources, as well as its overall rural character. The preservation of these assets is for the benefit of current and future residents and visitors alike. This vision for Gill includes the continued provision of quality community services and the promotion of the economic well-being of residents and the health of the Town's business community.

CHAPTER 1

CHAPTER 1: OPEN SPACE & RESOURCE PROTECTION

In the Spring of 2000, the “Open Space and Recreation Planning in Gill, Massachusetts” report was produced. The report was created by the Gill Open Space Advisory Committee along with other Gill residents and Town officials, and a team from the Department of Landscaping Architecture and Regional Planning at the University of Massachusetts. The report included the following sections: community setting description, environmental inventory and analysis, inventory of lands of conservation and recreation interest, community goals, and an analysis of needs and recommendations. The Community Development Plan for Gill builds upon this work with the creation of mapping products. The mapping products included in this report are:

- Map 1-1: Water Resources Map,
- Map 1-2: Open Space Map,
- Map 1-3: Prime Farmland & Development Constraints Map,
- Map 1-4: Scenic Resources & Unique Environments Map,
- Map 1-5: Developed Land Uses & Absolute Constraints Map,
- Map 1-6: Developed Land Uses & Potential Constraints Map,
- Map 1-7: Land Use Suitability Map.

Mapping and Identifying Resources

The creation of the maps included in this chapter is important for understanding the spatial relationships of resource areas to one another, and to the developed portions of Town. The maps are an essential first step for prioritizing which parts of Town may be important to preserve and to protect from certain land uses, and for identifying which areas may be suitable for future development.

This section describes the resource maps created for the Open Space and Resource Protection Chapter, and the key resources that each map documents. It is important to note that the accuracy of the maps is limited by the regional scale of many of the data layers contained on the maps, and that the maps therefore, should not be construed as providing information on any individual parcels. Many of the data layers were created at a scale of 1:25,000 (1 inch = 2,083.3 feet), and as a result, provide only a general estimate of resource locations. For example, the regional wetland data layer, with a scale of 1:25,000, has wetland boundary lines with a maximum locational accuracy of +/- 20 feet. Notwithstanding the accuracy limitations of the regional data layers, they are still a useful tool for estimating the general

location of significant natural and open space resources, and for identifying the general areas that are most important to protect and preserve.

Most of the data layers on the resource maps come from MassGIS, the Massachusetts Geographic Information System group in the Massachusetts Executive Office of Environmental Affairs (EOEA). For many of the data layers, MassGIS distributes data that are created and primarily maintained by other State agencies. For example, the Department of Environmental Protection (DEP) created and maintains the data layer on DEP wellhead protection areas. In other cases, data layers are created and maintained in-house at MassGIS.

Water Resources Map

Water resources are important both as habitat areas and for water supply purposes. The Water Resources Map (see Map 1-1) shows the location of surface waters, such as rivers, streams, ponds, wetlands, of wetland and river buffers, and of groundwater resources such as public water supplies, aquifers, recharge areas, and watersheds. The data on surface water bodies, including lakes and ponds is derived from U.S. Fish and Wildlife National Wetlands Inventory (NWI) data layers. Additional water bodies not found in the NWI were located using 1999 MacConnell land use data provided by MassGIS, and include all areas with a land use code of 20 (Water). The watershed data layer comes from MassGIS and was produced using information from the U.S. Geological Survey (USGS) Water Resources Division and the Massachusetts Water Resources Commission. As indicated on the Water Resources Map, the Town of Gill is entirely in the Connecticut River Watershed. The map also shows portions of the neighboring towns that are in the Deerfield River Watershed and Millers River Watershed.

The wetlands information is from the National Wetlands Inventory (NWI). The rivers and wetlands on the Water Resources Map are buffered in accordance with the Massachusetts Wetlands Protection Act (Massachusetts General Laws, Chapter 131, Section 40). The Wetlands Protection Act, first enacted in 1963, regulates and restricts development activities within wetland areas, the 100-year floodplain, a 100-foot buffer zone around wetland areas, and a 200-foot buffer zone around riverfront areas. Riverfront areas were added to the Wetlands Protection Act with the passage of the Rivers Protection Act in 1996.

The MassGIS/NWI wetlands data layer was created from aerial photographs. The data layer for Gill was last updated in 1991, a relatively dry year. As result, the data layer may be understating the extent of some wetlands. The wetlands data layer includes forest-area wetlands, fire ponds, beaver ponds, and certified vernal pools. The wetlands data layer differs somewhat from the wetlands under jurisdiction of the Wetlands Protection Act, but provides an approximation of these areas. With the Wetlands Protection Act, wetlands must be verified on a case by case, parcel by parcel basis to be fully protected from future development.

The aquifer locations on the Water Resources Map come from the aquifer data layer created and maintained jointly by the Massachusetts Department of Environmental Protection (DEP) and MassGIS. The potential yield of the aquifers was determined using surficial geological

data from MassGIS and maps from the USGS. Aquifers provide the source for drinking water supplies such as community wells. Underground aquifer levels are maintained by groundwater flow from aquifer recharge areas. Protecting groundwater and aquifer recharge areas from degradation is important to maintaining the quality of public drinking water supplies.

The data on public water supplies, Zone I and Zone II Wellhead Protection Areas, and approved Interim Wellhead Protection Areas come from the Massachusetts Department of Environmental Protection (DEP). Public water supplies are wells that serve members of the public. Public water supplies can be community owned, such as city or town wells, or they can be privately owned, such as wells for private schools, restaurants, or inns. Zone I and Zone II Wellhead Protection Areas are those areas from which a wellhead draws most of its water supply. A Zone I Wellhead Protection Area typically has a 400-foot radius around a wellhead, and land uses within a Zone I area have an immediate impact on water quality. A Zone II Wellhead Protection Area includes all the sections of an aquifer from which a well would draw during an extended dry period (up to 180 days) without precipitation. Land uses within a Zone II area can affect water quality. Zone II Wellhead Protection Areas have been verified through DEP hydro-geologic modeling and officially approved. In the absence of hydro-geologic modeling studies, an Interim Wellhead Protection Area may be established by the DEP. The radius of an Interim Wellhead Protection Area will vary from 400 feet to half a mile, depending on a well's known pumping rate or DEP default values if the pumping rate is unknown. There are three public water suppliers found on the Water Resources Map of Gill. They are the Gill Elementary School, the Barton Cove campground, and Alan's Bar-b-que restaurant on Route 2.

Open Space Map

The preservation of large, contiguous open space areas is essential for protecting the integrity of natural ecosystems, and for supporting farming, forestry, and recreational activities. Preserving open spaces also helps maintain a community's rural character as well as historic and scenic landscapes and viewsheds. The Open Space Map (see Map 1-2) shows the locations of open space land in Gill that is permanently protected from development. The map also includes Town-owned lands that have limited protection status, and private lands that have temporary protection from development through their participation in the Commonwealth's Chapter 61 programs. The term "protection" refers to any number of mechanisms that help keep land from being developed and converted to commercial, industrial, or residential land uses.

Permanently Protected Land

For the purposes of this Community Development Plan, the term "permanently protected" indicates that no development may take place. Public land is considered to be "permanently protected" if it is owned by a State conservation agency such as the Department of Environmental Management (DEM) or if it is owned by a town for conservation purposes. Private land is regarded as "permanently protected" if it is owned by a land trust, if its development rights have been sold, or if a conservation restriction has been attached to the

property's deed and the land is restricted from having development. Once a conservation restriction has been placed on a property, the restriction will remain with the land even if the property changes ownership. In exchange for foregoing the right to develop the land, the property owner pays a lower level of property taxes. Privately-owned permanently protected lands include properties held by land trusts, and properties that are enrolled in the Agricultural Preservation Restriction (APR) Program. The APR is a statewide program, run through the Massachusetts Department of Food and Agriculture that purchases the development rights of farmland on a voluntary basis. Under this program, landowners retain ownership of the land and the right to farm the land, and receive payments for the difference between the fair market value of their farmland, based on its development potential, and its value when limited to agricultural uses. In exchange for these payments, landowners agree to permanently restrict the land from development. Reducing the level of protection from development for any parcel of land that is owned by a State conservation agency, a land trust, or by a town for conservation purposes, requires the approval of two-thirds of the State Legislature.

Land with Limited Protection

A parcel of land in Massachusetts is considered to have "limited protection" from development when it is owned by a water district or a municipality, but has not been specifically designated for conservation. If a town-owned parcel of land is not under the legal authority of the Conservation Commission, but instead under the authority of the Select Board, then it is regarded as having only "limited protection." The parcel in question could be considered a wildlife sanctuary or a town forest by residents, but it does not have the long-term protection afforded Conservation Commission lands. Decisions to convert town parcels without Conservation Commission protection to other uses, for example, to convert a town park to a school parking lot, can be made during Town Meeting. A parcel of land held by a water district is viewed in much the same way. Unless there is a legal restriction attached to the parcel's deed, it is considered to have only limited protection from development. However, in order to convert a water district property to a developed land use, the water district is required to show the Massachusetts Department of Environmental Protection (DEP) just cause for doing so.

Land with Temporary Protection

Properties that are enrolled in one of the Massachusetts Chapter 61 tax abatement programs have "temporary protection" from development. Chapter 61 is used for forestland, Chapter 61A for farmland, and Chapter 61B for recreational open space lands. The Chapter 61 programs encourages the continuation of forestry, farming, and outdoor recreation by taxing land at its use value rather than its market value based on its development potential. For example, forestland enrolled in Chapter 61 can have its assessed value reduced by up to 95%. In exchange for property tax reductions, landowners agree to continue the current principal use on their land for a certain amount of time. The time commitment for Chapter 61 and Chapter 61B is ten years, and the commitment required for Chapter 61A is generally at least five years.

Land enrolled in the Chapter 61 programs is considered to have only “temporary protection” because landowners can leave the program at the end of their time commitment, and develop the land, or the land can be sold to a new owner for development purposes. Under the Chapter 61 program guidelines, if Chapter 61, 61A, or 61B land is going to be sold or converted into a developed use, the town where the land is located, has the right of first refusal and the option of purchasing and permanently protecting the land before this happens. The right of first refusal can also be sold or given to a land trust, to allow it to purchase and protect the property. The right of first refusal must be exercised within 120 days of when the property is placed for sale.

Prime Farmland and Development Constraints Map

The Prime Farmland and Development Constraints Map (see Map 1-3) indicates which parts of Gill are currently used for farming and which areas have prime farmland soils. The map also shows which parts of Gill have slopes of 15% or greater. The 1999 MacConnell land use data layer provided by MassGIS was used to help determine which land is presently used for agriculture purposes. The MacConnell land use data layer is based on aerial photographs and classifies land uses into 21 primary categories. For the map, land was considered to be in agricultural use if it had a MacConnell land use code of 1 (Cropland), 2 (Pasture), or 21 (Woody Perennial). The woody perennial category includes orchards and plant nurseries.

The prime farmland soil data layer was created from a 1979 U.S. Department of Agriculture (USDA) Soil Conservation Service Map entitled “Important Farmlands in Franklin County.” The Important Farmlands Map was interpreted from a 1967 USDA soil map and indicates the location of prime farmland, unique farmland, and additional farmland of statewide importance. Of the three categories, prime farmland rates the highest for agricultural productivity and significance. Prime farmland soils are those soils that have the best combination of physical and chemical characteristics for producing food, feed, and fiber crops. They also have the soil quality, growing season, and moisture supply needed to economically and consistently achieve high crop yields. There is usually a strong correlation between prime farmland soil locations and agricultural land uses, and protecting prime farmland for agricultural purposes can help farming remain viable within a community.

The information on slopes came from the Franklin Regional Council of Governments and was derived from contour line data from the (U.S. Geological Survey) USGS. The areas of Gill with slopes of more than 25% are indicated, as are areas with slopes of 15 to 25%. It is generally considered unfeasible to build on slopes that are greater than 25%, due to the high costs of construction, the likelihood of erosion, and the difficulty of traversing such steep terrain, especially during New England winters. Building on slopes of 15 to 25% can have adverse environmental impacts such as erosion. In addition, slopes of 15 to 25% can pose constraints on industrial and commercial development. Industrial and commercial facilities typically require relatively flat slopes and it can be prohibitively expensive to regrade a site to that extent.

Scenic Environments and Unique Resources Map

Gill has a large number of historic, scenic, and recreational resources. These assets contribute significantly to the community's character and quality of life. The Town also contains a number of important habitat areas. The Scenic Environments and Unique Resources Map (see Map 1-4) identifies the key locations for these various resources so that they can be better preserved and protected from development.

Important Habitat Areas

The habitat areas on the Scenic Environment and Unique Resources Map include forestland, and rare and endangered species habitats that have been documented by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). Forest locations were estimated by using the 1999 MacConnell land use data provided by MassGIS and mapping all areas with a land use code of 3 (Forest).

The Natural Heritage and Endangered Species Program (NHESP) is administered by the State Division of Fisheries and Wildlife, under the Department of Fisheries, Wildlife, and Environmental Law Enforcement. The NHESP data layers on the Scenic Environment and Unique Resources Map include the Estimated Habitats of Rare Wildlife in wetland resource areas, Priority Habitats of Rare Species, and Core Habitats from the BioMap biodiversity mapping project. Each of these data layers was mapped at a 1:25,000 scale, using the USGS topographic maps as a base layer. The Estimated Habitats of Rare Wildlife data are designed to be used with the Massachusetts Wetlands Protection Act. Construction projects that are subject to the Wetlands Protection Act, and that fall within the Estimated Habitats of Rare Wildlife, require a filing of a notice of intent to be reviewed by NHESP.

The Priority Habitats of Rare Species have been identified by the NHESP as the estimated primary habitats for rare species in Massachusetts. The priority habitats include both wetland and upland habitats for rare plants and animals. Priority habitats are not protected under the Massachusetts Endangered Species Act, but the Act does protect the rare species that use the priority habitats. The Core Habitat data layer depicts the most viable habitat for rare species and natural communities in Massachusetts. A number of core habitat areas have been identified in Gill, particularly, along the Connecticut River. In addition, Estimated Habitats of Rare Wildlife as well as Priority Habitats of Rare Species have been documented in Gill.

Historic Resources

The Scenic Environment and Unique Resources Map shows Gill properties that are listed on the National Register of Historic Places or are considered historically significant by the Community Development Planning Committee. The original list of historic assets was created in the "Open Space and Recreation Planning in Gill, Massachusetts" report prepared by the University of Massachusetts' Department of Land Architecture and Regional Planning in Spring 2000. This listing of historic resources was revised by the Community Development Planning Committee.

Table 1-1 lists the ten historic resources identified in the Town of Gill. Of these historic resources, the only one that is on the National Register of Historic Places is the Riverside Archaeological District. The other sites include historic mill areas, a church, cemetery, and the Captain Turners Monument. These resources are identified on the Scenic Environments and Unique Resources Map with the following map identification numbers (IDs).

Table 1-1: Historic Resources in Gill

Map ID	Title	Type of Resource
H1	Riverside Archaeological District*	Historic
H2	Grist Mill Site	Historic
H3	Methodist Church	Historic
H4	Old Bridge Crossing	Historic
H5	Center Cemetery	Historic
H6	Ballard & Janes Mill Sites	Historic
H7	Factory Hollow	Historic
H8	Capt. Turner Monument	Historic
H9	Riverside Cemetery	Historic
H10	Old Red Bridge Anchor	Historic

* National Registered Historic District

Source: 2000 Gill Open Space Plan, Gill CDP Meeting (08/18/03), and Dick French (10/21/03).

Recreational Resources

Recreational areas and facilities help connect residents of a community with the nature and natural resources around them. Table 1-2 summarizes Gill’s primary recreational resources. These recreational resources include private, town, and state owned properties. The location of each resource is also identified on the Scenic Environments and Unique Resources Map using the Map IDs below.

Table 1-2: Recreational Resources in Gill

Map ID	Title	Type of Resource
R1	Oak Ridge Golf Course	Recreational
R2	Riverside School Recreation Area	Recreational
R3	Barton’s Cove Recreation Area	Recreational
R4	Route 2 Rest Area	Recreational

Source: 2000 Gill Open Space Plan, Gill CDP Meeting (08/18/03), and Dick French (10/21/03).

Natural Resources

Gill has several special natural resources that are an asset to the community (see Table 1-3). These resources include the various ponds and rivers located in town, as well as unique geologic features, such as dinosaur footprint quarries found in the Route 2 Geologic Corridor. The location of these resources is found on the Scenic Environments and Unique Resources Map.

Table 1-3: Natural Resources in Gill

Map ID	Title	Type of Resource
N1	Shadow Lake	Natural
N2	Otter Pond	Natural
N24	Lily Pond	Natural
N3	Otter Brook	Natural
N4	Dry Brook	Natural
N5	Ashuela Brook	Natural
N6	River Banks near Kidd’s Island	Natural
N7	Fall River	Natural
N8	Fall River Tributary “Cascades”	Natural
N9	Darby Hill	Natural
N10	Dry Brook “Cascades”	Natural
N11	Connecticut River	Natural
N12	Great Falls & Great Island	Natural
N13	Route 2 Geologic Corridor	Natural
N14	Submerged Dinosaur Footprint Quarry	Natural
N15	Armored Mud Balls	Natural
N16	Dinosaur Footprint Quarry	Natural
N17	Dinosaur Footprint Quarry	Natural
N18	Barton Island & Eagle’s Nest	Natural
N19	Dinosaur Footprint Quarry	Natural
N20	King Phillip’s Abyss	Natural
N21	Deep Hole	Natural
N22	French King Gorge	Natural
N23	French King Rock	Natural

Source: 2000 Gill Open Space Plan, Gill CDP Meeting (08/18/03), and Dick French (10/21/03).

Scenic Resources & Unique Environments

In many parts of Gill, the historic, recreational, and natural resources blend to help create the various scenic viewsheds. The mountains in Gill offer a wonderful landscape of rolling hills as well as views of the river valleys. The roads listed in Table 1-4 provide a way for residents and visitors to access these special places. Other unique assets in Gill include areas of Main Road that offer particularly picturesque views of historic farm properties.

Another unique resource is the Mohawk Trail along Route 2, a scenic auto-route designated by the state in the 1950s. The Mohawk Trail is known for its rural beauty and historical significance. Efforts are underway to create a plan for the corridor that would help preserve its unique assets and enhance related economic opportunities, such as tourism-related services.

Scenic vistas identified on the Scenic Environments and Unique Resources Map are identified with an eyeball-type symbol. The lines emanating from the symbols indicate the direction of the scenic vista.

Table 1-4: Scenic Resources in Gill

Map ID	Title	Type of Resource
S1	Mt. Hermon Campus & Scenic Vista	Scenic
S2	Bascom Hollow/Bascom Road	Scenic
S3	West Gill Road	Scenic
S4	Dry Hill	Scenic
S5	Barnard Hill	Scenic
S6	Historic & Scenic Farm Area (Main Road north)	Scenic
S7	Munn's Ferry Road	Scenic
S8	Franklin Road	Scenic
S9	Pisgah Mountain	Scenic
S10	Mason Hill	Scenic
S11	Historic & Scenic Farm Area (Main Road south)	Scenic
S12	Main Road	Scenic
S13	Grist Mill Road	Scenic
S14	Barney Hale Road	Scenic
S15	Pisgah Road	Scenic
S16	Stacey Mountain & Scenic Vista	Scenic
S17	River Road	Scenic
S18	Riverview Drive	Scenic
S19	Route 2 Scenic Vista	Scenic
S20	Mohawk Trail	Scenic
S22	French King Bridge & Scenic Vista	Scenic

Source: 2000 Gill Open Space Plan, Gill CDP Meeting (08/18/03), and Dick French (10/21/03).

Identifying Potentially Suitable Land for Future Development

This section of the Community Development Plan builds on the results from the mapping and inventory of Gill's natural, open space, scenic, and recreational resources. The section discusses a methodology for determining which parts of Gill are potentially developable, and which may potentially be suitable for future development. The methodology focuses first on identifying which parts of Gill may be unsuitable for any future development due to environmental and open space constraints. It first removes those areas from consideration, and then works with the remaining areas to identify the potentially suitable sites for new development. This methodology is similar to that which was used for the recent build-out analyses that were sponsored by the Executive Office of Environmental Affairs (EOEA) and conducted for communities statewide, though the absolute and potential constraints considered here are slightly more extensive than those used for the build-out analyses.

The results of the analysis to determine which areas of Gill may be constrained from future development, and which may be suitable for new development, are shown on the Land Use Suitability Map. Figure 1-1 depicts the general methodology for identifying land in the Town of Gill that is potentially suitable for development. It is important to note that the term "coverage" relates to a single or combination of elements that is used as layer of information. Applying multiple layers of information is the basis for geographic information systems (GIS) mapping.

Figure 1-1: Methodology for Identifying Potentially Suitable Land for Development

Step 1 – Absolute Constraints: Identify land areas with environmental or open space constraints that make the areas unsuitable for future development. These lands include wetlands, water bodies, Zone I recharge areas for public drinking water supplies, important habitat areas, and steep slopes, and parcels that have been permanently protected as open space. The combination of these elements determines the absolute constraints that could prevent future development and are removed from further consideration for development.



Step 2 – Potential Constraints: Identify which land areas that are not *absolutely* constrained (as described in Step 1), but which may still be undesirable or unsuitable for development. Potential constraints for commercial and industrial development include slopes of 15-25%, prime farmland soil, interim wellhead protection areas, and medium yield aquifers.



Step 3 – Developed Land: Identify land areas that have developed land uses (as determined by MassGIS data), such as land currently in residential or commercial use.



Step 4 – Potentially Developable: Identify land areas that are *not* presently developed *nor* absolutely constrained. These areas combined to create a coverage of potentially developable land.



Step 5 – Area Evaluation & Selection: From the “Potentially developable, has no absolute constraints” coverage, with potential constraints and developed land depicted, evaluate which areas may potentially be the most suitable for new residential development.

Step 1: Identify areas with absolute environmental or open space constraints

This step identifies land with environmental or open space constraints that make it unsuitable for new development (i.e. absolute constraints). The relevant areas with these constraints are shown on the natural resources maps described earlier and on the Map 1-5: Developed Land Uses & Absolutely Constrained Map. The areas that are absolutely constrained from development include:

National Wetlands Inventory wetlands. The location of these wetlands has been documented by the U.S. Fish and Wildlife Service’s National Wetlands Inventory project. Wetlands in Massachusetts are protected from development under the Massachusetts Wetlands Protection Act (Massachusetts General Laws, Chapter 131, Section 40).

100 foot buffer area of wetlands. The State Wetlands Protection Act regulates and restricts development within 100 feet of wetlands.

Rivers, ponds, and other water bodies. The locations of these water resources have been identified by MassGIS, using National Wetland Inventory data on pond and lake locations and MacConnell land use data on other water bodies (land use code = 20 (Water)).

200 foot buffer areas of rivers. The Massachusetts Wetlands Protection Act regulates and restricts development within 200 feet of riverbanks. Riverfront areas were added to the Wetlands Protection Act after the passage of the Rivers Protection Act in 1996.

Interim Wellhead Protection Areas and Zone II areas (surrounding public water supplies). The locations of these resources have been documented by the Massachusetts Department of Environmental Protection (DEP).

Estimated Habitats of Rare Wildlife in wetland resource areas, Priority Habitats of Rare Species, and Core Habitats for Rare Species and Natural Communities. The locations of these resources have been identified by the Massachusetts Natural Heritage and Endangered Species Program (NHESP), as the primary and most-important habitat areas for the State's rare and endangered species. Development in the Estimated Habitats of Rare wetlands Wildlife is regulated under the State Wetland Protection Act. Other rare and endangered species documented by the NHESP are protected under the Massachusetts Endangered Species Act.

Areas with a slope of over 25 percent. The information on slopes has been derived from contour line data produced by the U.S. Geological Survey (USGS). It is generally considered unfeasible to build on slopes of 25 percent or greater, due to the high costs of construction, the likelihood of erosion, and the difficulty of traversing such steep terrain, particularly during the winter.

Permanently protected open space areas. These areas have been located using parcel maps and information from the Town of Gill Assessors office, the Town of Gill Open Space Committee, an individual land owner, information from the Massachusetts Department of Food & Agriculture, and the open space data layer produced by MassGIS, using information provided by the Department of Environmental Protection. The permanently protected open space areas include both publicly and privately owned properties. The publicly owned properties include land areas owned by a State conservation agency or by the Town itself. Privately owned properties that are permanently protected as open space are owned by conservation groups, such as the MT. Grace Land Conservation Trust, or have deed restrictions that prevent future development.

Step 2: Identify Areas with Potential Environmental Constraints

This step identifies land that is not absolutely constrained from development, but which may still be undesirable or unsuitable for new development, because of other potential environmental constraints. The areas with these potential constraints are shown on the natural resource maps presented earlier, and on the Map 1-6: Developed Land Uses & Potential Constraints map. The areas that are potentially constrained from development include:

Areas with a slope of 15% to 25%. The information on slopes has been derived from contour line data produced by the U.S. Geological Survey (USGS). Building on slopes of 15% to 25% can result in adverse environmental impacts, including erosion. In addition, slopes of 15% to 25% can pose limits on industrial and commercial development. Large industrial and commercial facilities typically require relatively flat slopes, and it can be prohibitively expensive to regrade a site to that extent.

Aquifers. The locations of these underground resources have been identified by MassGIS and the Massachusetts Department of Environmental Protection (DEP). The potential yield of the aquifers was determined using surficial geological data provided by MassGIS and maps produced by the USGS. Aquifers provide the source for drinking water supplies such as community wells. Underground aquifer levels are maintained by groundwater flow from aquifer recharge areas. Protecting groundwater and aquifer recharge areas from degradation is important to maintaining the quality of drinking water supplies.

Zone II Wellhead Protection Areas and Interim Wellhead Protection Areas. Data on the Zone II Wellhead Protection Areas and Interim Wellhead Protection Areas come from the DEP. These areas surround the public water supplies. A wellhead protection area includes the sections of an aquifer from which a well would be expected to draw during an extended dry period (up to 6 months) without precipitation. As a result, land uses within wellhead protection areas can have an impact on drinking water quality. The location and extent of Zone II Wellhead Protection Areas have been verified through DEP hydro-geologic modeling and officially approved. In the absence of hydro-geologic modeling studies, an Interim Wellhead Protection Area may be established by the DEP. The radius of an Interim Wellhead Protection Area will vary from 400 feet to half a mile, depending on a well's known pumping rate or DEP default values if the pumping rate is unknown. None of the three public water supplies in Gill currently have a delineated Zone II Wellhead Protection Area; instead they each feature an Interim Wellhead Protection Area. Zone II Wellhead Protection Areas are identified on these maps are found in areas outside of Gill town boundaries.

Areas with Prime Farmland Soils. The areas with prime farmland soils have been identified using the 1979 U.S. Department of Agriculture, Soil Conservation Service map, “Important Farmlands in Franklin County.” Prime farmland soils have the best combination of physical and chemical characteristics for crop production, and protecting areas with prime farmland soils for agricultural purposes can help farming activities remain viable within the community.

Step 3: Identify Areas that Contain Developed Land Uses

This step identifies land that is currently developed. This identification relies on the 1999 MacConnell land use data provided by MassGIS. The MassGIS land use data layer has 21 land use classifications interpreted from 1:25,000 scale aerial photography. Table 1-5 lists the land uses which are in the Developed Land coverage. The areas with developed land uses are shown on Map 1-5, Map 1-6, and Map 1-7: Land Use Suitability Map. Mining is shown on the latter two of these maps as well, even though it is not considered a developed land use for the purpose of this analysis.

Table 1-5: Land Uses Included in the Developed Land Coverage

Land Use Code	Land Use	Land Use Description
8	Spectator Recreation	Stadiums, racetracks, fairgrounds, drive-in theatres
9	Water-Based Recreation	Beaches, marinas, swimming pools
10	Residential	Multi-family
11	Residential	Homes on lots less than a quarter-acre
12	Residential	Homes on lots a quarter-acre to a half-acre
13	Residential	Homes on lots larger than a half-acre
15	Commercial	General urban; shopping centers
16	Industrial	Light and heavy industry
17	Urban Open	Parks, cemeteries, public and institutional buildings and greenspaces
18	Transportation	Airports, docks, divided highway, freight storage, railroads
19	Waste Disposal	Landfills, sewage lagoons

Source: MassGIS

Step 4: Identify Areas that are Potentially Developable

This step identifies land that is potentially developable. In Step 4, a Potentially Developable Land coverage is created from any areas that are not constrained by the environmental and open space characteristics listed in Step 1 (i.e. areas that are not absolutely constrained), and that are also currently undeveloped. Developed land areas identified in Step 3 are depicted accordingly.

Remaining areas that have potential constraints are also depicted on Map 1-7: Land Use Suitability Map. These uses include slopes of 15% to 25%, prime farmland soils, interim wellhead protection areas, medium yield aquifers, core habitats for rare species and natural communities, estimated habitats of rare state listed wetlands wildlife, and priority habitats of rare species.

Step 5: Identify the Potentially Most Suitable Areas for Future Development

This step develops specific criteria for identifying the potentially most suitable locations for development. In this case, generalized areas were selected for potential future residential development from the Potentially Developable Land coverage, which is depicted on Map 1-7: Land Use Suitability Map. This step is further described in the Housing Chapter. A map and discussion of the Route 2 and Main Road study area is included in the Economic Development Chapter, which describes areas for potential future commercial and light industrial development. Please see these chapters for discussions of the criteria used to select the potentially suitable locations for these types of development and for the maps indicating the locations of the potentially most suitable development sites.

Open Space and Resource Protection Recommendations

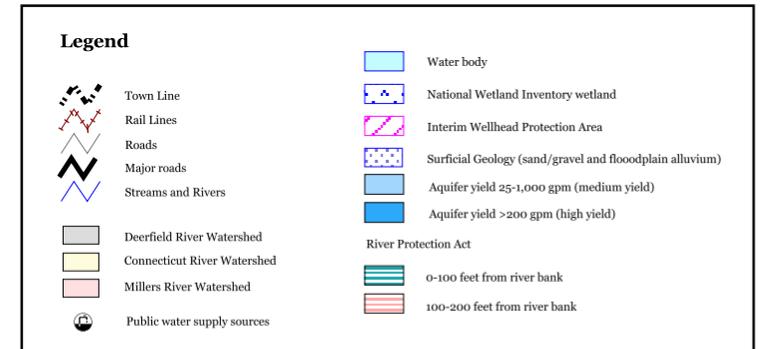
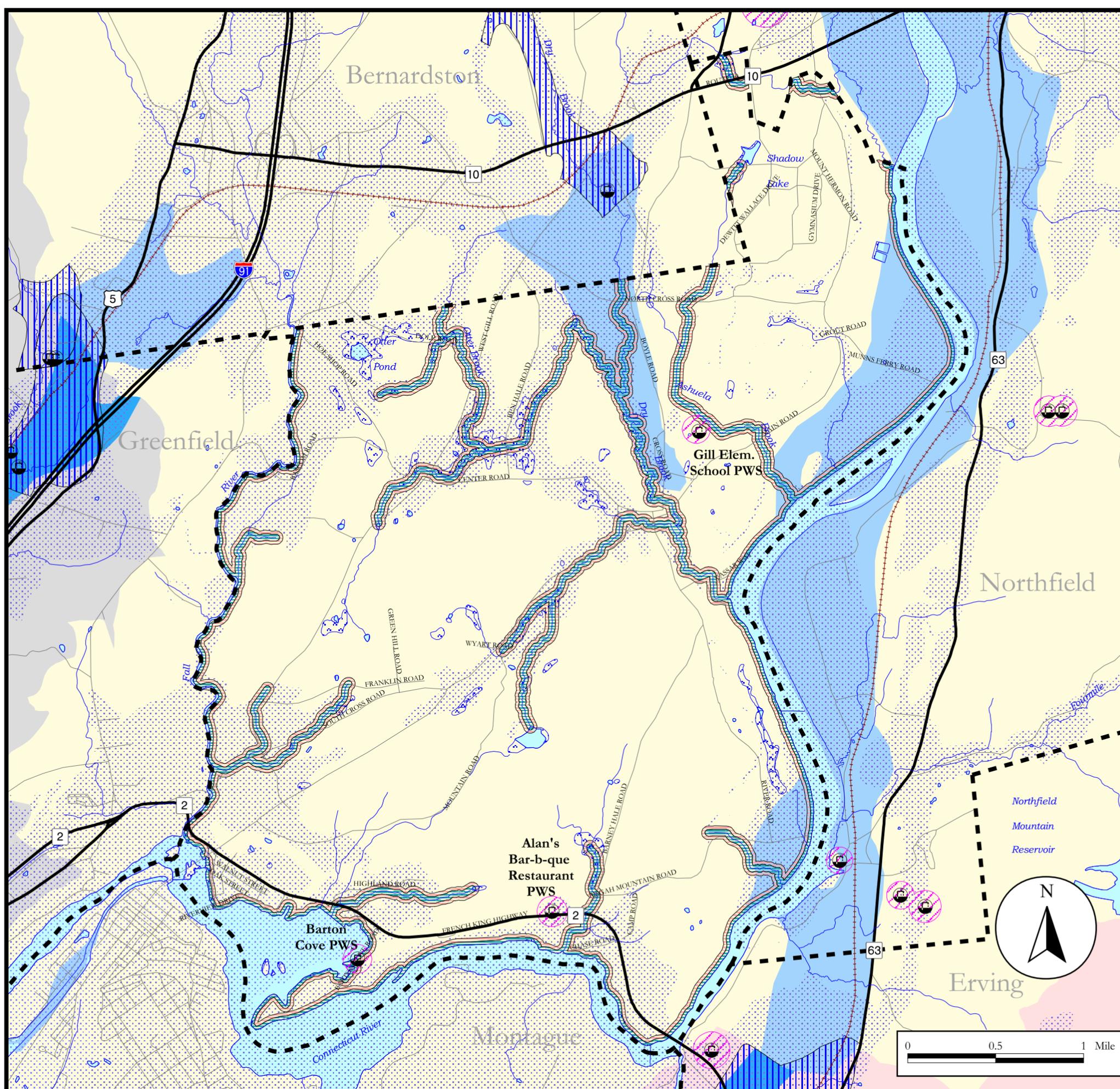
These recommendations are based on the Open Space and Resource Protection Chapter's review of the Gill's important natural, open space, historic, scenic, and recreational resources, and the Community Development Planning Committee's support for having the Town do more to preserve and protect these community assets.

- Develop an Open Space and Recreation Plan to prioritize any additional open space, farmland and forestland parcels for preservation and protection from development. This task will build upon the work conducted in the "Open Space and Recreation Planning in Gill, Massachusetts" report and in this Community Development Plan.
- Consider establishing new overlay zoning district(s) to help protect important natural, scenic, historic, and open space resources.

Town of Gill

Community Development Plan

Water Resources



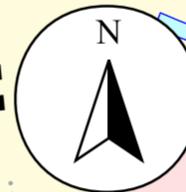
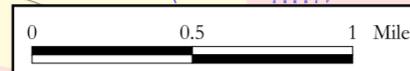
Map Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEa maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEa makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEa maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEa Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department. Town line, rail line, zone II, interim wellhead protection area, River Protection Act area, public water supply, aquifer, surficial geology, major basin, National Wetland Inventory, river, stream, and pond data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

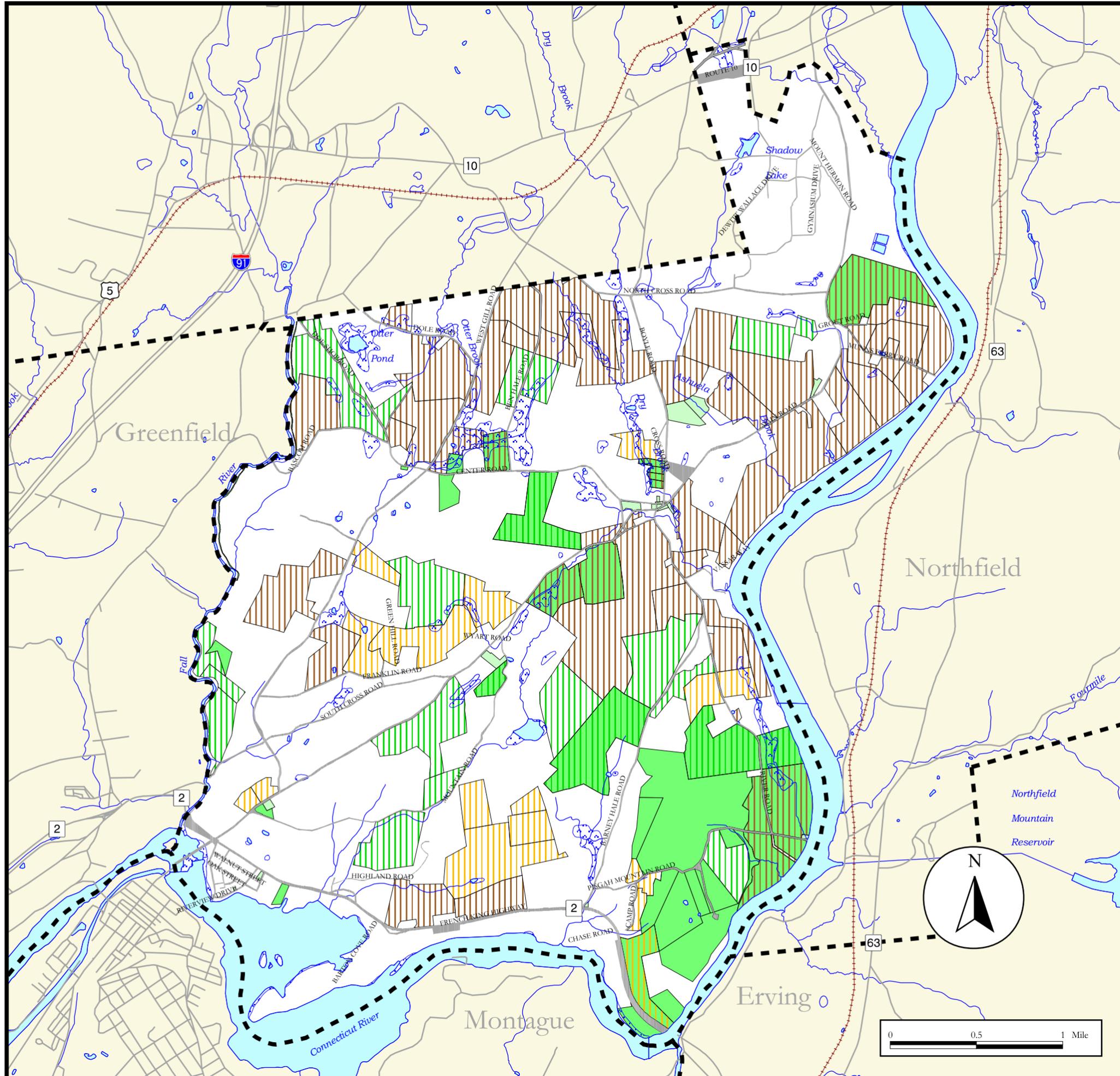
FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS
 Main Office: 413-774-3167
 425 Main Street
 Greenfield, Massachusetts 01301



Town of Gill

Community Development Plan

Open Space



Legend

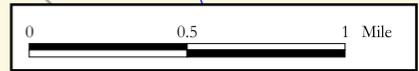
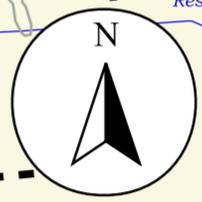
	Town Line		Open Space
	Rail Lines		Open Space with Permanent Protection
	Roads		Open Space with Limited Protection
	Streams and Rivers		Open Space with Temporary Protection
	Water		Chapter 61A (Agriculture)
	National Wetlands Inventory wetland		Chapter 61B (Recreation)
			Chapter 61 (Forestry)

Map Sources:

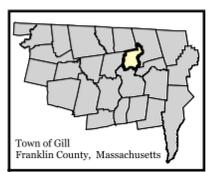
Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEA maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEA makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEA maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEA Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department. Town line, rail line, open space (Chapter 61 and Protected Open Space), National Wetlands Inventory, river, stream, and pond data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

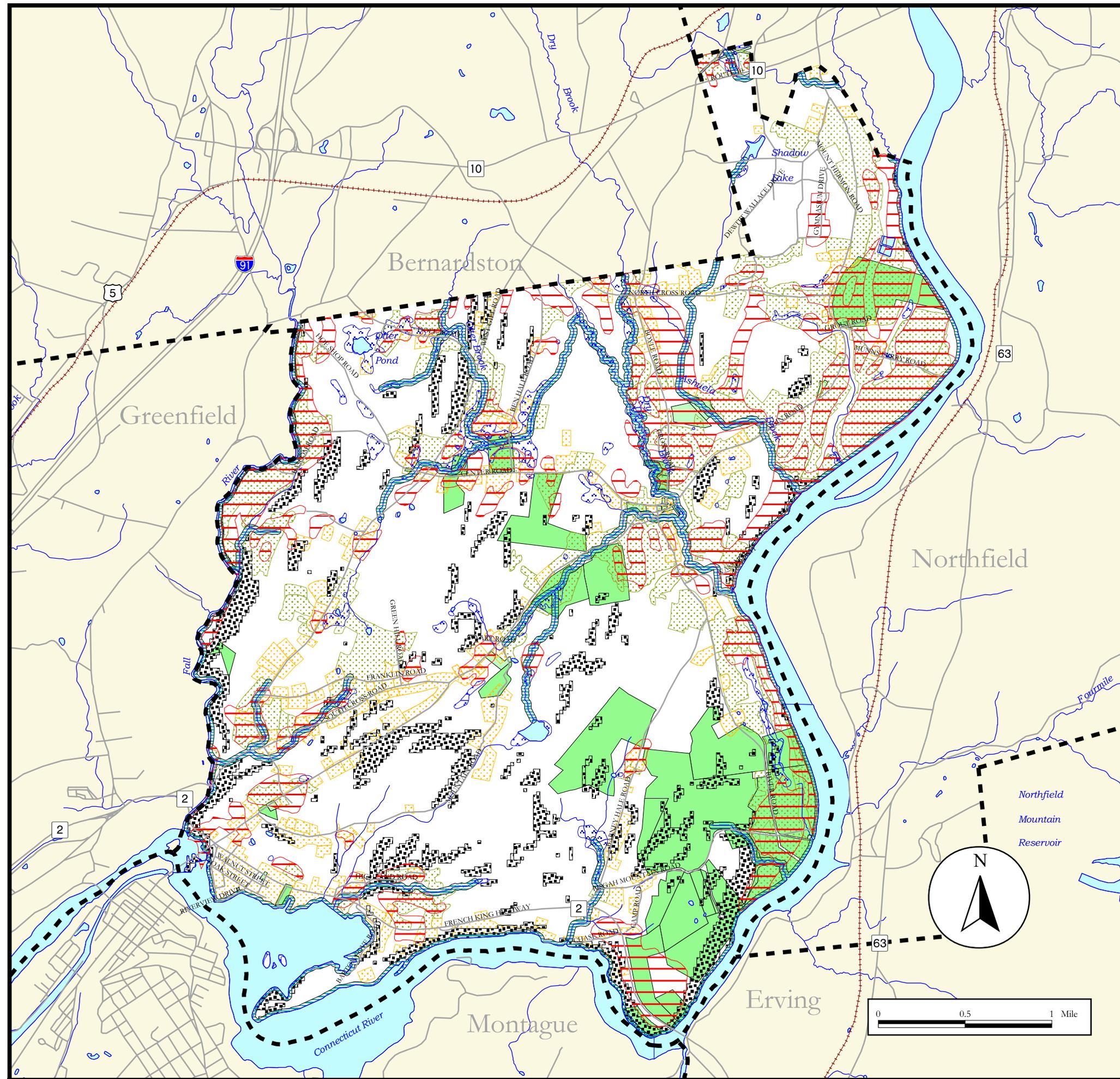


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Town of Gill Community Development Plan

Prime Farmland and Development Constraints



Legend

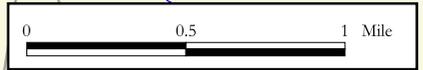
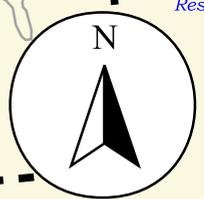
	Town Line		Open Space with Permanent Protection
	Rail Lines		Open Space with Limited Protection
	Roads		Crop land
	Streams and Rivers		Residential
	Water body		0-100 feet from river bank
	National Wetland Inventory wetland		
	Slope greater than 25%		
	Prime Farmland Soils		

Map Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEa maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEa makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEa maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEa Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Farmland soils digitized from "Important Farmlands of Franklin County" map (U.S. Soil Conservation Service, 1979) by FRCOG Planning Department staff. Road data provided by Massachusetts Highway Department. Town line, rail line, slope, land use, open space, River Protection Act, National Wetlands Inventory, river, stream, and pond data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.



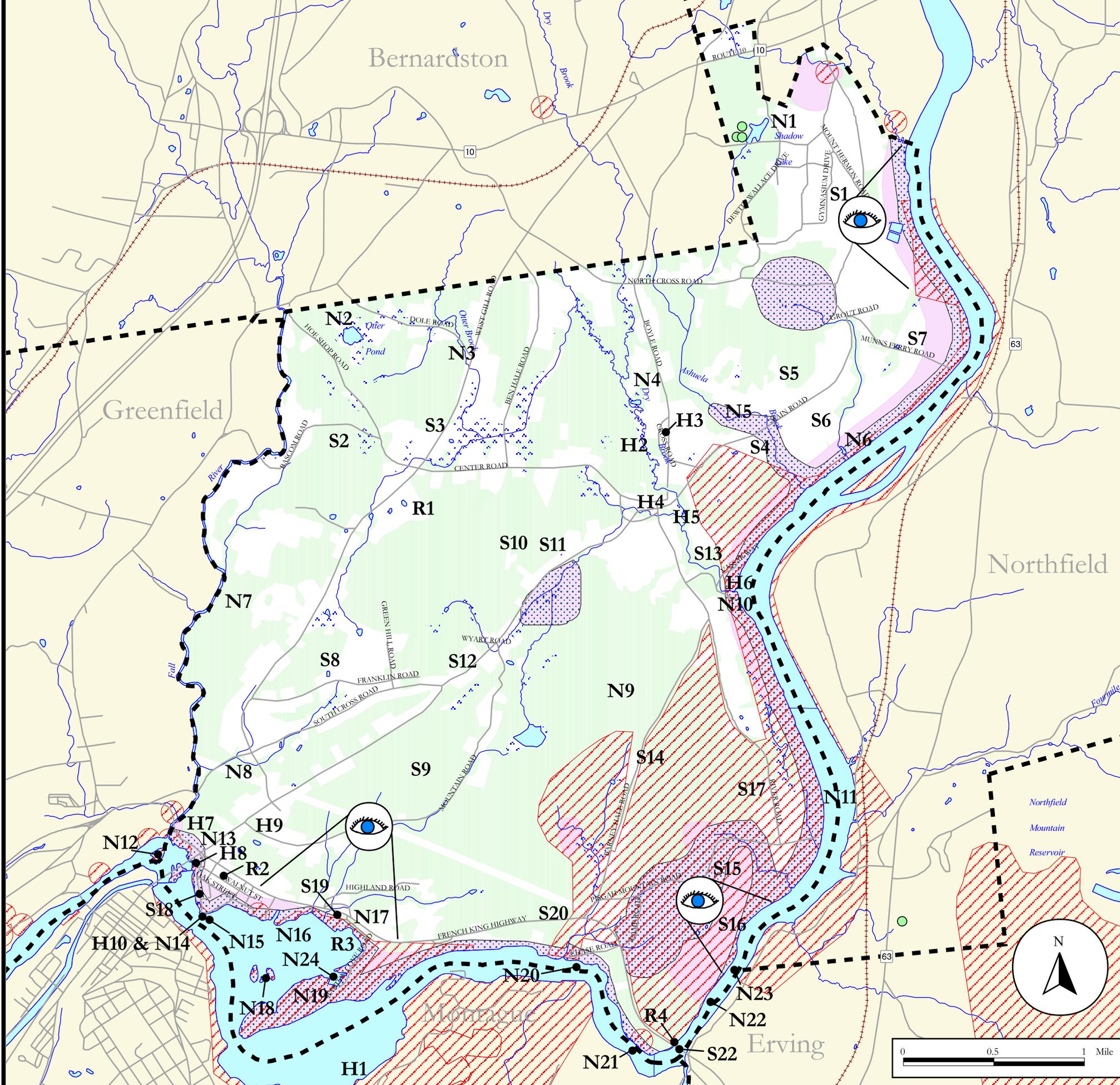
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Town of Gill

Community Development Plan

Scenic Resources and Unique Environments



Title	Code
Historic Resources	
Riverside Archaeological District	H1
Grist Mill Site	H2
Methodist Church	H3
Old Bridge Crossing	H4
Center Cemetery	H5
Ballard & Jones Mill Sites	H6
Factory Hollow	H7
Capt. Turner Monument	H8
Riverside Cemetery	H9
Old Red Bridge Anchor	H10
Natural Resources	
Shadow Lake	N1
Otter Pond	N2
Lily Pond	N24
Otter Brook	N3
Dry Brook	N4
Ashuela Brook	N5
River Banks near Kidd's Island	N6
Fall River	N7
Fall River Tributary "Cascades"	N8
Darby Hill	N9
Dry Brook "Cascades"	N10
Connecticut River	N11
Great Falls & Great Island	N12
Route 2 Geologic Corridor	N13
Submerged Dinosaur Footprint Quarry	N14
Armored Mud Balls	N15
Dinosaur Footprint Quarry	N16
Barton Island & Eagle's Nest	N18
Dinosaur Footprint Quarry	N19
King Phillip's Abyss	N20
Deep Hole	N21
French King Gorge	N22
French King Rock	N23
Recreational Resources	
Oak Ridge Golf Course	R1
Riverside School Recreation Area	R2
Barton's Cove Recreation Area	R3
Route 2 Rest Area	R4
Scenic Resources	
Mt. Hermon Campus & Scenic Vista	S1
Bascom Hollow/Bascom Road	S2
West Gill Road	S3
Dry Hill	S4
Barnard Hill	S5
Historic & Scenic Farm Area (Main Road north)	S6
Munn's Ferry Road	S7
Franklin Road	S8
Pisgah Mountain	S9
Mason Hill	S10
Historic & Scenic Farm Area (Main Road south)	S11
Main Road	S12
Grist Mill Road	S13
Barney Hale Road	S14
Pisgah Road	S15
Stacey Mountain & Scenic Vista	S16
River Road	S17
Riverview Drive	S18
Route 2 Scenic Vista	S19
Mohawk Trail	S20
French King Bridge & Scenic Vista	S22

Legend

- Town Line
- Rail Lines
- Roads
- Streams and Rivers
- Water body
- National Wetlands Inventory wetland
- Forest
- Estimated Habitats of Rare Wildlife (NHESP)
- Priority Habitats of Rare Species (NHESP)
- NHESP BioMap Core Habitat
- Scenic Resources and Unique Environments (see table)
- Certified Vernal Pool (Additional vernal pools that have not been certified or mapped by the State are not included.)

Map Sources:

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Road data provided by Massachusetts Highway Department. Town line, rail line, river, stream, pond, land use, core habitat, Natural Heritage, and open space data provided by MassGIS.

NHESP 2003 Estimated Habitats of Rare Wildlife: For use with the Massachusetts Wetlands Protection Act regulations (310CMR 10).

NHESP 2003 Priority Habitats for State-protected Rare Species: NOT equivalent to Significant Habitat' as designated under Massachusetts Endangered Species Act.

NHESP 2003 Massachusetts Certified Vernal Pools.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

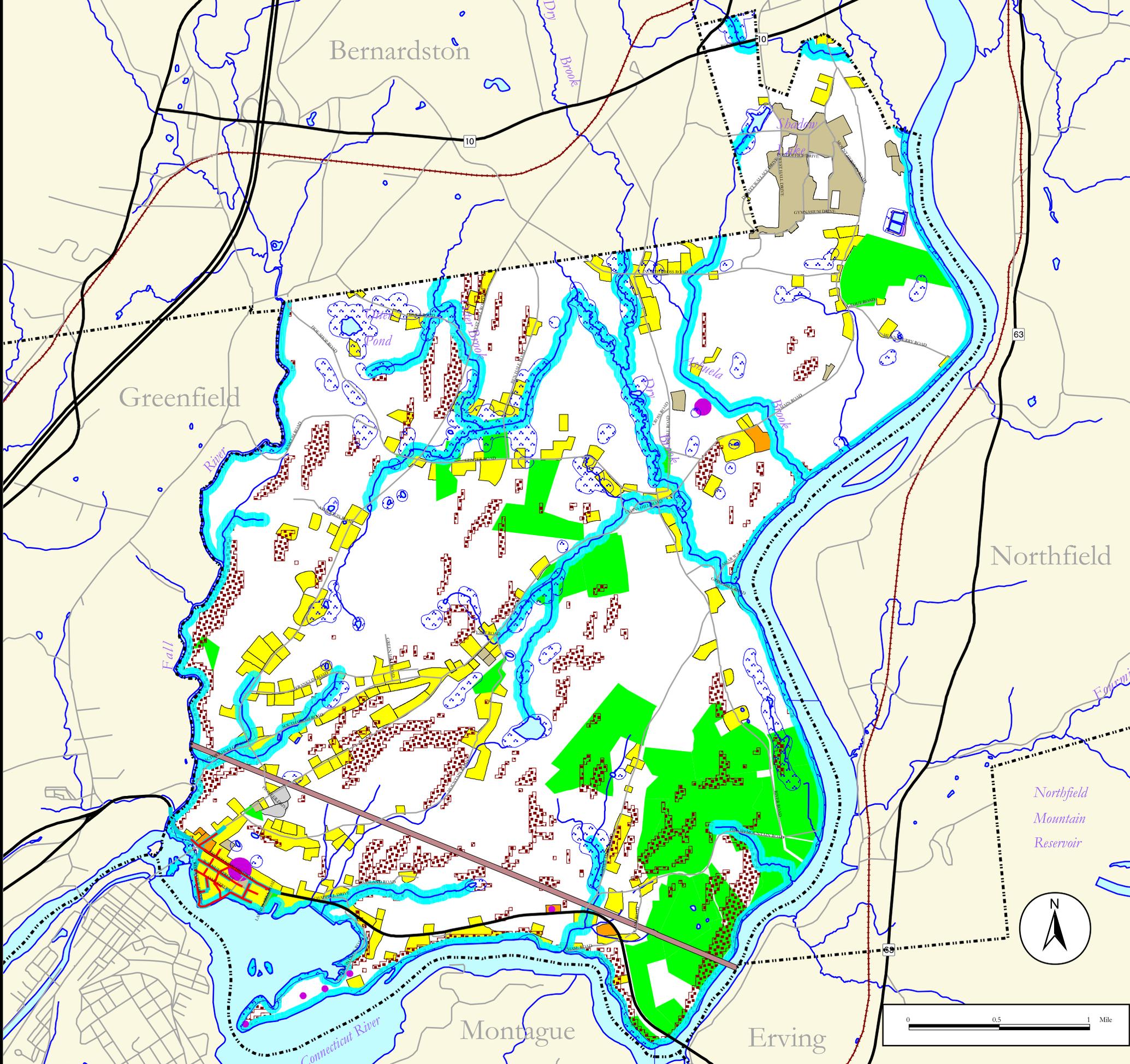
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Town of Gill

Community Development Plan

Developed Land Uses & Absolute Constraints



Legend

Town line	Transmission lines	
Rail lines	Permanently protected open space	
Roads	Developed land (1999)	
Streams and rivers	Mining	Water-based recreation
Water lines	Residential	Commercial
Sewer lines	Industrial	Urban open
Water body	River Protection Act: 200-foot buffer on rivers and streams	Transportation
100-foot buffer NWI wetlands	Zone I	Landfill, waste treatment
Slope >25%		

Map Sources:

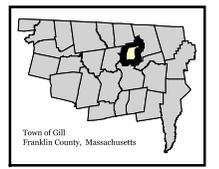
Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEa maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEa makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEa maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEa Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department. Town line, rail line, transmission line, river, stream, pond, River Protection Act, NWI, zone I, core habitat, slope, land use, and open space data provided by MassGIS. Water and sewer lines data digitized by FRCOG staff.

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Town of Gill

Community Development Plan

Developed Land Uses & Potential Constraints

Legend

Town line	Medium yield aquifer (25-1,000 gpm yield)
Rail lines	Core habitats for rare species and natural communities
Roads	Estimated habitats of rare state listed wetlands wildlife
Streams and rivers	Priority habitats of rare species
Water lines	Crop, pasture, nursery
Sewer lines	Developed land (1999)
Transmission lines	Water-based recreation
Water body	Residential
Slope 15-25%	Commercial
Prime farmland soil	Urban open
Interim wellhead protection areas	Transportation
Zone II area	Landfill, waste treatment
Potentially developable, has no absolute constraints	

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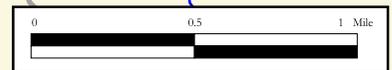
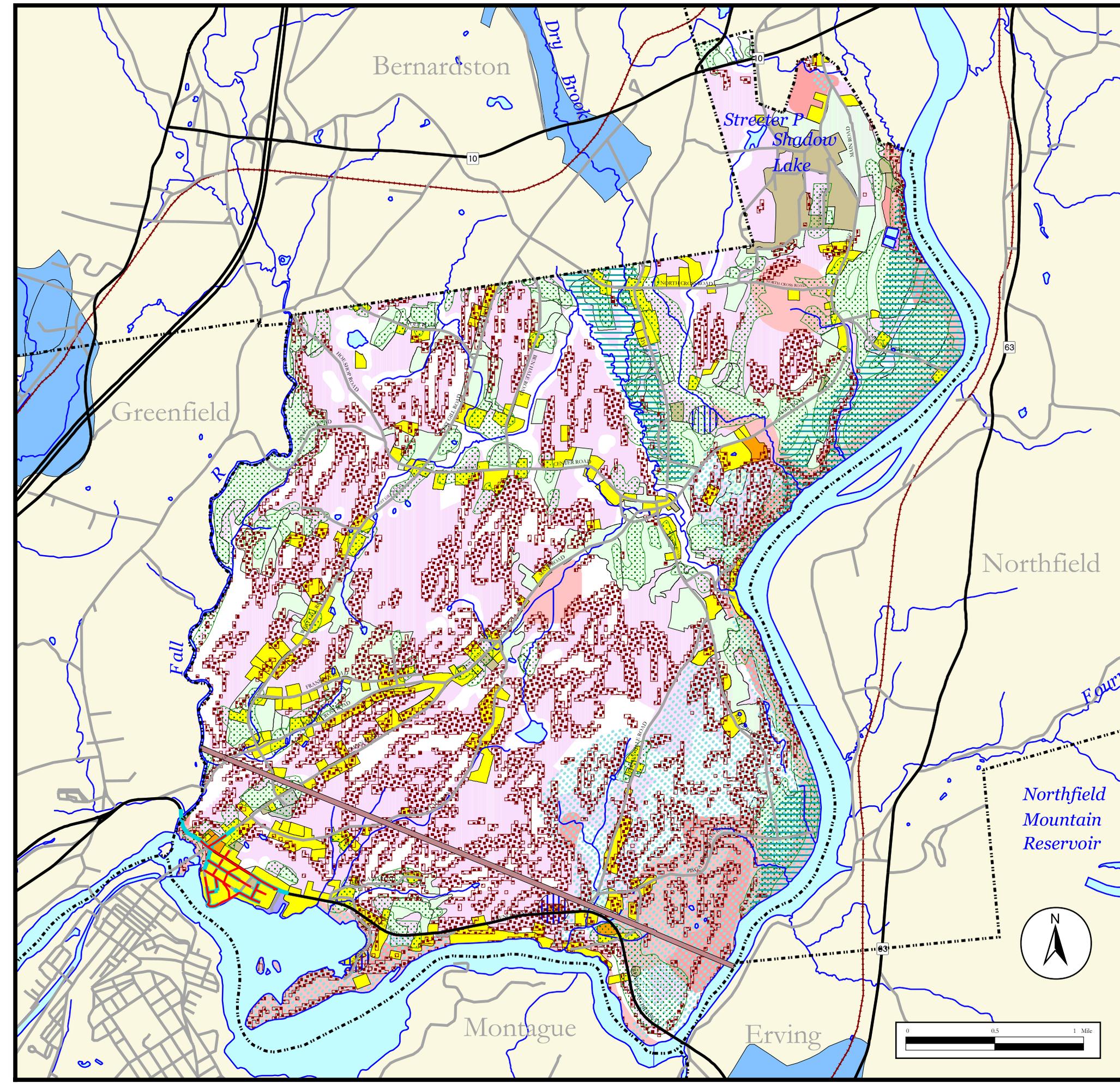
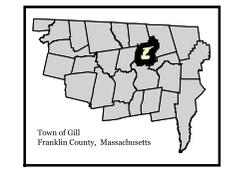
NHESP 2003 Estimated Habitats for Rare Wildlife: For use with the Massachusetts Wetlands Protection Act regulations (310CMR 10).

NHESP 2003 Priority Habitats for State-protected Rare Species

NHESP 2003 BioMap Core Habitat

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

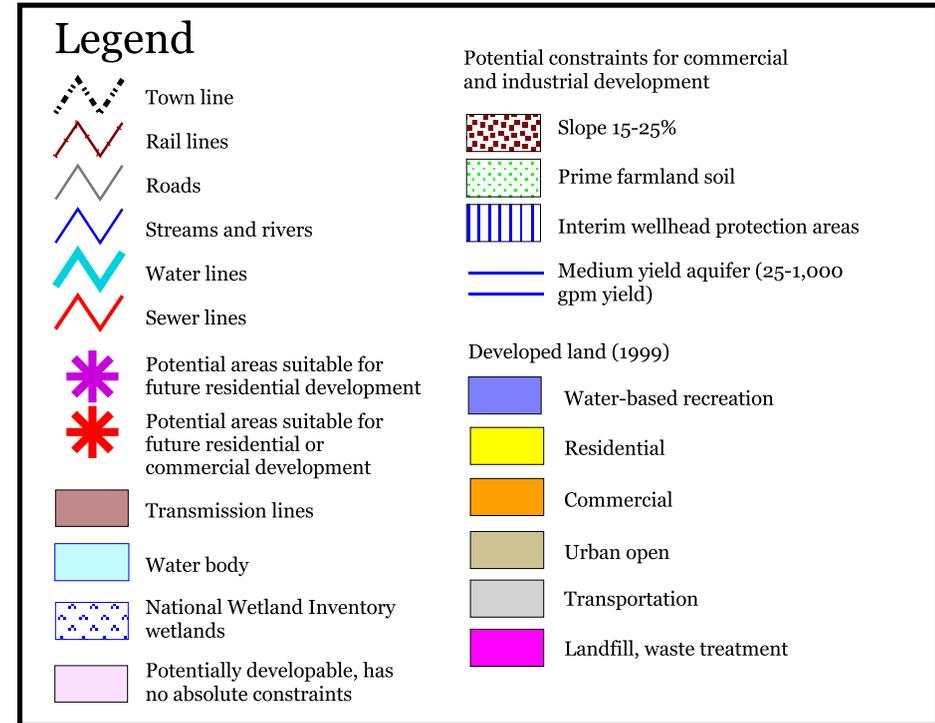
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Town of Gill

Community Development Plan

Land Use Suitability

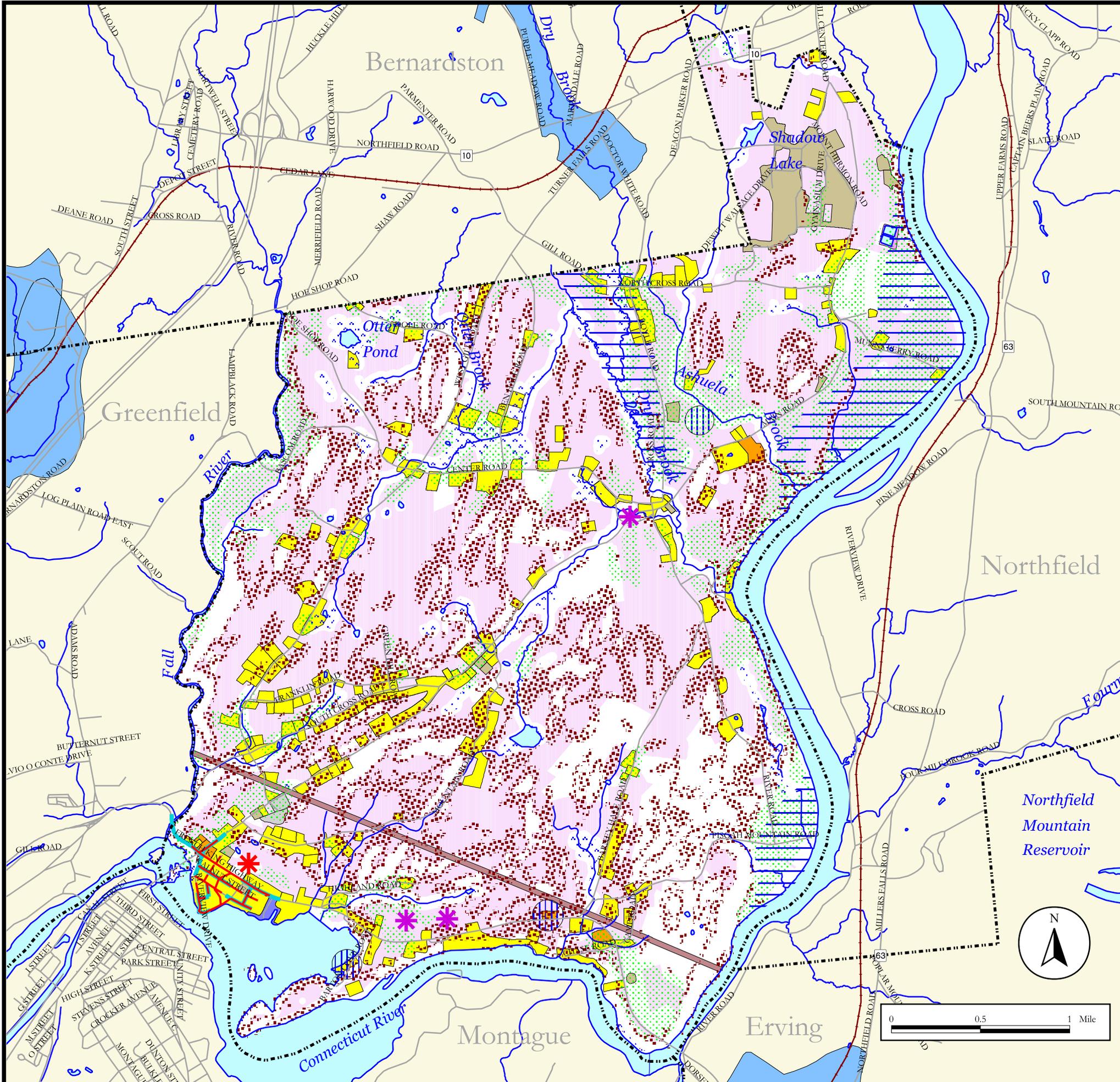
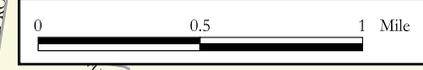
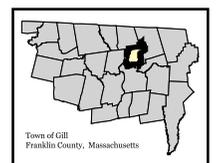


Map Sources:

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Road data provided by Massachusetts Highway Department. Town line, rail line, transmission line, river, stream, pond, National Wetlands Inventory, zone II, slope, soil, interim wellhead protection area, aquifer, and land use data provided by MassGIS. Prime farmland soils, water line and sewer line data digitized by FRCOG staff.

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CHAPTER 2

CHAPTER 2: ECONOMIC DEVELOPMENT

The purpose of local economic development planning is to create a framework to guide and encourage economic prosperity in a manner that is best suited for that community. The path a community takes to achieve economic security and prosperity is best guided by the residents' vision for their hometown. The Town of Gill through the Community Development Planning process established economic development goals with corresponding objectives.

The Economic Development chapter includes the following sections:

- The goal and corresponding objectives for economic development efforts in Gill,
- An overview of the demographic profile of residents,
- An analysis of the regional labor force and local economy,
- A discussion of the factors that may impact economic development,
- Potential recommendations to enhance economic development opportunities in Gill.

In addition, this chapter features two special sections.

- The results of a survey of home-base businesses in Gill, conducted in Fall 2003.
- An in-depth study for the potential development or reuse/redevelopment of parcels located along specific sections of Route 2 and Main Road.

Economic Development Goal & Objectives

The following economic development goal and corresponding objectives for the Town of Gill were created by the Community Development Planning Committee.

Goal:

- To encourage and support economic development which is balanced with the preservation of the Town's natural and scenic resources and overall community character.

Objectives:

- To create a climate that fosters business development and growth compatible with the Town's rural character.
- To retain and strengthen the existing businesses in Gill, including agricultural businesses and home-based businesses.

- To diversify the tax revenue base, so as to continue to provide quality community services.
- To encourage commercial development in selected areas of the Route 2 corridor that is compatible with residential and recreational uses.
- To examine other locations to determine if there are areas suitable for commercial and/or light industrial development.

Demographics

A review of the general demographic profiles of residents is useful in developing specific economic development strategies. The size and characteristics of the existing and prospective labor pools identify the types of workers to which businesses may have access. The profile of workers may also direct the type of employment opportunities that could be sustained in the community and that would offer the greatest benefit to those in need of jobs. For example, the income of Gill residents is reviewed to give a sense of the present wages offered and a direction for the types of jobs and wages needed to support residents looking for employment. In addition, the demographic profile of a community will indicate the potential consumer profile for businesses that may be developed there. These data would be particularly useful to guide entrepreneurs in the creation of their business plans.

Population

From data gathered by municipal officials, Gill currently has a population of 1,620. This is different from the total population the U.S. Census reported for Gill in 2000. According to the 2000 U.S. Census, the Town of Gill had a population of 1,583 people as of April 1, 2000 (Table 2-6). This represented a 13.9% loss in population from the previous Census survey in 1990 (Table 2-7). According to Gill municipal officials, this 2000 population figure is inaccurate. It is believed that this decrease is a result of the Census Bureau inaccurately attributing Gill residents to another community or not including certain Gill households in the survey at all.¹ Despite this situation, 2000 U.S. Census data will be used for economic development planning purposes, as it presents an indication of overall trends and is the best available data.

¹ According to Gill municipal officials, data from the 2000 U.S. Census is inaccurate due to the survey attributing faculty households located on the Gill campus of the Northfield Mount Hermon School to the Town of Northfield. It is estimated that approximately 200 residents and 80 households were missed. If these missing residents were included, it would indicate that the population level remained steady from 1990 to 2000 as opposed to significantly declining. Another factor that may have influenced population and housing data for the Town is the shared zip code between Gill and Turners Falls. The loss of population experienced in Turners Falls from 1990 to 2000 may have impacted Gill's population and housing counts. While 2000 Census data is flawed, it is important to note that it is the best source of detailed population and housing statistics. The 2000 Census information will be used to estimate trends and patterns.

Table 2-6: Total Population from 1970, 1980, 1990 and 2000*

Geography	1970 Population	1980 Population	1990 Population	2000 Population
Gill	1,100	1,259	1,583	1,363
Franklin County	59,223	64,317	70,092	71,535
Massachusetts	5,689,377	5,737,037	6,016,425	6,349,097

Source: U.S. Census Bureau – 1970 Census, 1980 Census, 1990 Census STF3A, and 2000 Census SF3.

* Please note that Gill Town officials believe the U.S. Census Bureau’s 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Table 2-7: Population Change from 1970 to 2000*

Geography	1970-1980 Change	1980-1990 Change	1990-2000 Change	1970-2000 Change
Gill	14.5%	25.7%	-13.9%	23.9%
Franklin County	8.6%	9.0%	2.1%	20.8%
Massachusetts	0.8%	4.9%	5.5%	11.6%

Source: U.S. Census Bureau – 1970 Census, 1980 Census, 1990 Census and 2000 Census

* Please note that Gill Town officials believe the U.S. Census Bureau’s 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Excluding 2000 U.S. Census data, the population change in Gill in recent decades has indicated consistent growth. From 1970 to 1980, the population in the Town of Gill grew over 14% (Table 2-7), and grew significantly from 1980 to 1990 by another 26%. For Franklin County, the rate of population growth was fairly consistent from 1970 to 1980 and 1980 to 1990 with approximately a 9% growth rate for each of those time periods. However, the growth rate from 1990 to 2000 in Franklin County diminished to 2%. In contrast to these trends, the State did not grow as much since 1970; however, the rate of growth continued to rise each decade.

Age Distribution

It is important to know the size of various population age groups and how they are changing over time. The rise and fall in the number of people in different age groups (called cohorts) can affect demand for various municipal services, including schools and housing. It can also impact the number of people in the labor pool available to local businesses as well as influence the types of goods and services a business wants to offer.

U.S. Census Bureau age distribution data are used to predict how the labor force may change over time. The Town of Gill and Franklin County share some similar age distribution patterns. From 1990 to 2000, there were decreases in the proportion of the population under 9 years of age, while the proportion of young adults from 10 to 19 years of age increased (Table 2-8)². For the age group from 20 to 24 years old, there have been consistent decreases in the proportion of these individuals in relation to the total population in each region. This is in accordance with national population trends.³

² Please note that students attending Northfield Mount Hermon are not included in the Census survey. Of the students that live in Northfield Mount Hermon dormitories, 611 live in student housing on the Gill campus.

³ A note regarding national population trends: From 1946 to 1964, there was a dramatic population increase, referred to as the “Baby Boom.” A corresponding smaller population boom occurred in the 1980s and 1990s when the Baby Boomers had their own children. This is the population group presently under 20 years of age, and is often referred to as “Generation Y.” The children born in the late 1960s and the 1970s are often referred

Table 2-8: Age Distribution in 1990 and 2000

Geography	Total Population	% 9 Years & Under	% 10-19 Years	% 20-24 Years	% 25-44 Years	% 45-64 Years	% 65-74 Years	% 75 Years & Over
Gill								
1990	1,580	15.0%	12.7%	5.2%	33.9%	21.7%	6.6%	4.9%
2000	1,363	12.3%	14.5%	3.4%	26.8%	30.2%	5.9%	6.8%
Franklin County								
1990	70,092	14.5%	12.6%	6.4%	34.2%	17.7%	8.2%	6.3%
2000	71,535	11.5%	14.3%	5.4%	28.5%	25.9%	6.7%	7.5%
Massachusetts								
1990	6,016,425	13.1%	12.6%	8.4%	33.6%	18.6%	7.7%	5.9%
2000	6,349,097	13.0%	13.3%	6.4%	31.3%	22.4%	6.7%	6.8%

Note: Gill Town officials believe the U.S. Census Bureau’s 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

The traditional work force age groups are the 25 to 44 age range and the 45 to 64 age range. Each of these age groups is likely to have a greater interest in specific amenities and services that will influence their desire to remain in or move to the Town of Gill. The 25 to 44 year olds are more likely to be examining a community’s real estate options, and child-care and early educational systems for their children. In contrast, the age group from 45 to 64 years of age is more likely to be considering educational opportunities for their older children and future retirement options. In Gill, there was a considerable decrease in the distribution of people in the 25 to 44 year age group and a dramatic increase in the distribution of 45 to 64 year olds. This increase in the older age cohort represents the aging of the “Baby Boom” generation.

The 65 to 74 year age group and the 75 year and over age group represent a relatively small portion of the total population, however, these age groups may have an increasing role in the work force than in previous decades. As the Baby Boom generation reaches retirement age, job vacancies will occur. However, postponement of retirement for financial, career or other personal reasons is increasing. They may be apt to postpone retirement by reducing their hours or start in a new career direction, such as consulting or a shift into a new occupation. Often members of this age group can be a valuable resource of experienced, part-time workers. As will be discussed further in this chapter, there is a trend for increases in self-employed workers and home based workers, which may be appealing to some older workers.

Whether or not retiring residents continue to reside in Gill will impact the demand for elder services. Older residents with grown children may be tempted to move to an area with lower residential property taxes and more in town services. This could create a supply for housing, which could be filled by young families with children that would result in increased education costs. Due to these potential outcomes, providing support to seniors makes economic sense.

to as “Generation X.” This is a smaller age group in comparison to Generation Y and is presently in the age range from 20 to 40 years of age.

Education and Skills

The educational attainment level of the population is important to recognize for several reasons. From a business owner’s perspective, it demonstrates the ability of a community to provide labor and expertise. This may be a vital element in a company’s decision to locate to or remain in a community. In addition, the educational attainment level of a population may be a factor for a business determining where to locate, so as to best access a potential customer base.

Data on educational attainment is collected for people aged 25 years and older. According to Census data, the Town of Gill, Franklin County and Massachusetts have similar educational attainment distribution patterns (Table 2-9). From 1990 to 2000, there has been a decrease in the percentage of adults with less than a high school education and an increase in the percentage of adults that are high school graduates.

In the past decade, the Census survey identified an increase in the percentage of adults with a Bachelor Degree in Gill, Franklin County and the State. The data also show that for Gill there were decreases in the percentage of adults with an Associate Degree or Graduate Degree between 1990 and 2000. The decrease in the percentage of adults with Associate Degrees and Graduate Degrees is not consistent with trends for Franklin County and Massachusetts.

Table 2-9: Highest Educational Attainment Level in 1990 and 2000*

Geography	Population 25 years and over	% Less than High School Graduate	% High School Graduate	% Some College	% Associate Degree	% Bachelor Degree	% Graduate Degree
Gill							
1990	1,060	13.7%	32.9%	17.0%	7.4%	14.4%	14.6%
2000	956	9.6%	37.8%	18.5%	6.2%	15.5%	12.4%
Franklin County							
1990	46,559	17.6%	33.2%	16.9%	8.0%	14.5%	9.8%
2000	49,121	12.0%	31.2%	19.0%	8.6%	16.2%	12.9%
Massachusetts							
1990	3,962,223	20.0%	29.7%	15.8%	7.2%	16.6%	10.6%
2000	4,273,275	15.2%	27.3%	17.1%	7.2%	19.5%	13.7%

* All data are for persons 25 years and over.

Note: Gill Town officials believe the U.S. Census Bureau’s 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

The Massachusetts Department of Education releases selected statistical data regarding public high schools in the State, such as drop-out rates and plans of seniors. Public high school students in Gill attend Turners Falls High School in the Gill-Montague Regional School District, which also serves students from Erving and Montague. Table 2-10 shows a selection of data for this and other high schools in the region located near Gill.

Table 2-10: Selected High School Data in 2001

High School (Location)	Student Enrollment	Drop-out Rate	Graduate Plans *			Avg. Annual Per Pupil Expenditure
			Work	2-Year College	4-Year College	
Amherst Regional High School (Amherst)	1,365	2.6%	6.2%	18.3%	74.5%	\$9,062
Franklin County Vocational Technical School (Turners Falls)	508	3.2%	46.7%	28.3%	9.8%	\$12,921
Frontier Regional High School (South Deerfield) **	646	0.8%	5.4%	30.4%	50.0%	\$8,652
Greenfield Public High School (Greenfield)	617	5.4%	10.9%	45.3%	33.6%	\$7,397
Pioneer Valley Regional High School (Northfield) **	503	4.6%	19.2%	28.8%	48.0%	\$7,370
Ralph C. Mahar Regional High School (Orange)	753	5.6%	22.7%	8.0%	54.7%	\$8,638
Turners Falls High School (Turners Falls)	437	6.9%	21.6%	33.0%	35.2%	\$7,592
Massachusetts Average	-	3.5%	14.1%	21.5%	53.6%	\$7,561

Source: Massachusetts Department of Education – 2002 School District Profiles; April 2003

* These are the indicated plans of graduating seniors to enter the work force, 2-year college, or 4-year college; Plans are not included for those seniors entering the military or pursuing other options.

** The High Schools listed offer grades 9 through 12, with the exception of these schools that include grades 7 through 12.

According to the Massachusetts Department of Education, the Turners Falls High School in the Gill-Montague School District had a higher drop-out rate than the State average and in comparison to other nearby schools. The Massachusetts Department of Education conducted a survey of high school seniors in 2001 to determine their plans upon graduation. The survey indicated that the percentage of students with plans to attend a four-year college were below the State average. However, there were a greater percentage of students with plans to attend a two-year college than the State average.

The average annual per pupil expenditure for the Turners Falls High School was consistent with the State average and with the other high schools in the region, with the exception of the vocational high school. However, vocational schools often have higher expenditures than other public schools because of the costs for specialized equipment.

Income

There are three statistics from the decennial Census that reflect how well residents are fairing in the regional economy. Using these statistics, it may be noted that the residents in the Town of Gill are earning higher incomes than residents in the County overall but not as high as the State. One such measure is per capita income, which is determined by dividing the total amount of income earned in Town by the number of residents, including a portion of the population that might not be generating income such as children and the elderly. The Gill per capita income reported for 1999 was \$23,381, which was higher than both the County figure of \$20,672, and lower than the State figure of \$25,952. The Gill per capita income was the tenth highest of the twenty-six towns of Franklin County.

Median household income is a better statistic for describing the distribution of income. Median income figures describe the middle statistic in a data set, which is unaffected by any

extreme numbers (either the very wealthy or very poor) from influencing the overall figure. Median household income data relate information about families as well as individuals living alone. The median household income for Gill was \$50,750 in 1999, which was much higher than the County (\$40,768) and near the State (\$50,502) figures. The Gill median household income in 1999 was the sixth highest of the twenty-six towns in Franklin County. Income data for neighboring communities is in Appendix Table 2-11.

Table 2-11: Selected 2000 Income and Poverty Statistics

Geography	Per Capita Income in 1999	Median Household Income in 1999	Individuals Below Poverty Level*
Gill	\$23,381	\$50,750	4.4%
Franklin County	\$20,672	\$40,768	9.4%
Massachusetts	\$25,952	\$50,502	9.3%

* For whom poverty status was determined.

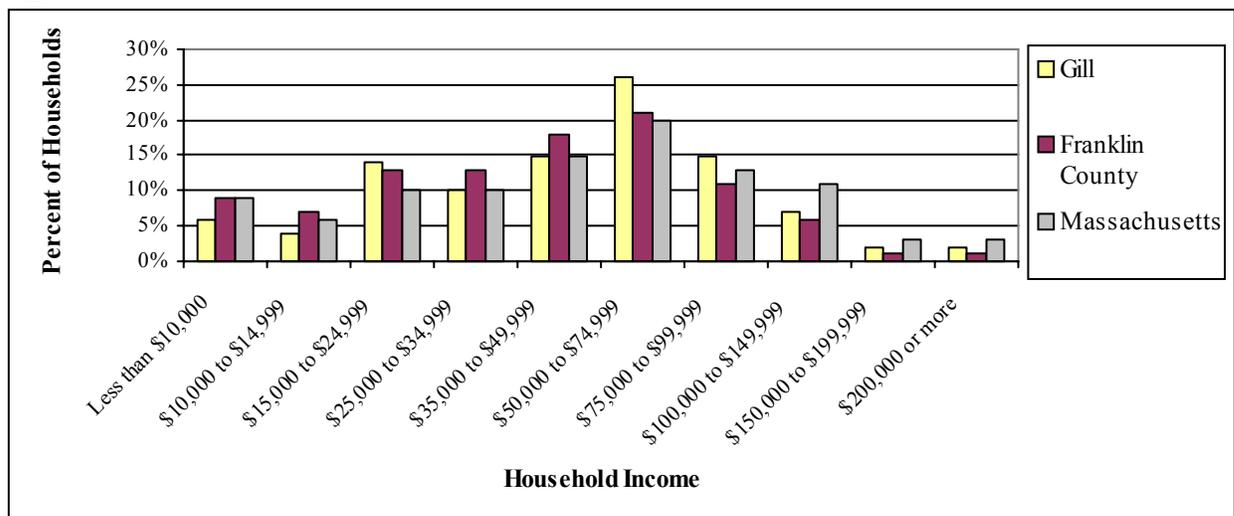
Please note that income data were reported for the previous year of when the Census survey was taken; in this case 1999.

Source: U.S. Census Bureau – 2000 Census SF3

Table 2-11 includes another way to describe a community's income and economy, the poverty rate. Poverty status is established using federal income thresholds that vary according to family size and composition. Individuals are then determined to have income levels above or below these thresholds. In Gill, 4.4% of residents for whom poverty status was determined (for Gill, this is the entire population), were living below the poverty level in 2000. This poverty rate was significantly less than in the County (9.4%) and State (9.3%).

Despite the relatively moderate to high incomes of Gill residents as indicated by the per capita income and median household income data, lower income households are still present. This is demonstrated through the review of the distribution of household income and the percentage of households that earn under \$25,000.

Figure 2-2: Household Income in 1999



Source: U.S. Census Bureau – 2000 Census SF3

Labor Force Characteristics and the Local Economy

The following is a discussion of the quantity of labor available in the regional labor force. In this section, data will be given for the Town of Gill, Franklin County and Massachusetts. Commuting data are used to identify the boundaries of the regional labor pool, which will likely influence the potential for business growth in Gill. Additional tables with data for the Towns of Bernardston, Erving, Greenfield, Montague and Northfield, are included in the appendix for reference.

Data for this section come from two different sources, one federal and one state. The federal source is the decennial Census. Data from the Census surveys offer a snapshot in time of the employment status and characteristics of the labor force. These data may also be compared to previous decennial Census surveys. However, data available on an annual basis is of greater value for identifying current trends. State data from the Massachusetts Division of Employment and Training (DET) are available on an annual basis for the number of total employed and for unemployment rates. This information will be used to determine the employment patterns occurring in the Town of Gill.

Commuting and the Regional Labor Force

Commuting pattern data of the regional labor force are used to garner an understanding of where Gill residents work and where residents from neighboring communities work as well. If Gill is to pursue a strategy of business development, sources of potential labor within and outside of the community must be identified.

Commuting pattern data from the decennial Census are determined for basic geographic boundaries (municipality, county and state). Table 2-12 shows that the percentage of workers who work in their town of residence and in Franklin County has decreased in Gill from 1990 to 2000. During the same time period, the percentage of workers that work out of Franklin County or out of Massachusetts has increased.

Table 2-12: Worker Commute Patterns in 1990 and 2000

Geography	Total Workers*	Worked in Town of Residence	Worked out of Town but in County of Residence	Worked out of County but in State of Residence	Worked out of State of Residence
Gill					
1990	899	16.0%	73.2%	8.0%	2.8%
2000	757	13.3%	66.2%	16.8%	3.7%
Franklin County					
1990	34,674	35.8%	35.8%	24.9%	3.4%
2000	37,053	27.6%	34.9%	33.4%	4.1%
Massachusetts					
1990	2,979,594	36.5%	35.9%	24.5%	3.1%
2000	3,102,837	31.3%	35.4%	30.1%	3.3%

* Employed workers 16 years and over.

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

The decennial Census also provides statistics on the number of workers who work at home and the commuting time for those who do not. The percentage of workers who work at home in Gill has decreased slightly since 1990 (Table 2-13). For many towns, the trend has been for the percentage of workers that work at home to increase since 1990. The limitations of telecommunications infrastructure in the region may be related to Gill's reduced number of at-home workers in the 2000 U.S. Census. Another consideration for this decrease in at-home workers may be related to problems with the Census survey. As mentioned previously, Northfield Mount Hermon faculty and their families that live on the campus were not included in the 2000 U.S. Census survey conducted. If this group of residents was included in the survey, they may have contributed to the number of at-home workers.

Between 1990 and 2000, there has been an increase in the percent of Gill commuters whose travel time to work is greater than 10 minutes. The increase of travel time greater than half an hour experienced by Gill commuters is consistent with trends for Franklin County, Hampshire County, and the State.

Table 2-13: Travel Time to Work in 1990 and 2000

Geography	Total Workers*	Work at home	Less than 10 Min.	10 - 19 Min.	20 - 29 Min.	30 - 39 Min.	40 - 59 Min.	60 - 89 Min.	90 or More Min.
Gill									
1990	899	5.2%	23.0%	41.0%	13.9%	8.3%	6.0%	1.6%	0.9%
2000	757	3.7%	14.4%	44.3%	15.1%	10.8%	6.5%	2.9%	2.4%
Franklin County									
1990	34,674	4.7%	21.8%	32.1%	17.8%	11.5%	7.7%	3.2%	1.1%
2000	37,053	5.1%	16.3%	30.0%	19.1%	14.2%	9.7%	3.3%	2.3%
Massachusetts									
1990	2,979,594	2.5%	15.6%	31.3%	18.7%	15.5%	10.7%	4.7%	1.0%
2000	3,102,837	3.1%	12.6%	27.4%	18.6%	16.3%	13.0%	6.5%	2.4%

* Employed workers 16 years and over.

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Labor Force Participation and Employment

The labor force is defined as the pool of individuals who are 16 years of age and over that are actively seeking employment. Enrolled students, retirees, stay-at-home parents and other persons not actively seeking employment are excluded from the labor force. When comparing 1990 and 2000 labor force characteristics, it is important to consider the very different economic climates of the respective years. The recession of the early 1990s led to high unemployment rates for most areas across the country. By the latter part of the decade many areas had recovered their previous employment levels. A better demonstration of this is available through State employment data. However, federal Census data provide important statistics that are not collected by the State.

One such important statistic collected by the Census Bureau and not the State, is the participation rate. The difference between the number of people in the labor force and the number of people who are 16 years of age and over is termed the participation rate. The

participation rate is a potential source of additional workers. Flexible, part-time employment opportunities or additional support services such as skills training, public transportation or day-care facilities could influence the number of people included in the labor force. According to the 2000 U.S. Census, the Town of Gill has a high participation rate of 73%, which was higher than Franklin County (69%) and State (66%) rates. With regard to the participation rate for females in the region, the rate in Gill was 68%, which was also higher than Franklin County (64%), and the State (60%). Historically, Franklin County has had a higher female participation rate than in other areas of the State. This high rate reinforces the necessity for a region to offer adequate day-care facilities and worker support services.

The next section features employment information released by the Massachusetts Division of Employment and Training (DET). DET data are derived from statistical sources, such as federal annual surveys and the unemployment insurance program. Employment information released by the U.S. Census Bureau is a result of their decennial census survey. Due to the different methodologies used by the DET and the U.S. Census Bureau, these figures are not directly comparable.

The unemployment rate describes the percentage of people in the labor force, who are presently not employed, but are actively seeking employment for a given time period. This statistic is often used as a gauge of economic prosperity or distress. Rate of unemployment may be influenced by an over abundance, or a drastic decline, in the number of employment opportunities in an area. In 2002, the Town of Gill had an unemployment rate of 1.8%, much lower than Franklin County (4.1%) and the State (5.3%). The higher unemployment rates in Franklin County indicate a regional labor force that could be accessed for potential business ventures in Gill.

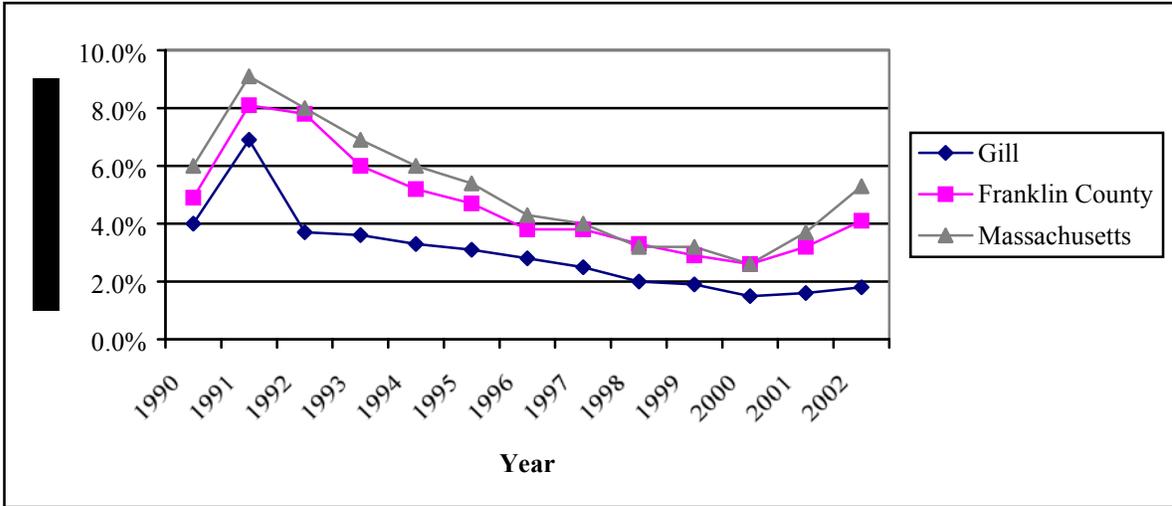
Table 2-14: Labor Force and Unemployment Data 2002

Geography	Labor Force	Employed Persons	Unemployed Persons	Unemployment Rate
Gill	1,012	994	18	1.8%
Franklin County	40,014	38,391	1,623	4.1%
Massachusetts	3,486,400	3,301,300	185,100	5.3%

Source: Massachusetts Division of Employment & Training, ES-202 Data

From 1990 to 2002, the Town of Gill has consistently had a lower unemployment rate than the County and the State. This lower rate indicates that Gill has not been as severely impacted by the economic recessions and recoveries experienced over the past ten years as other areas have in terms of unemployment rates. However, it is evident that Gill's labor force and number of employed are influenced by the greater economy, as demonstrated by the highs and lows in Figure 2-3.

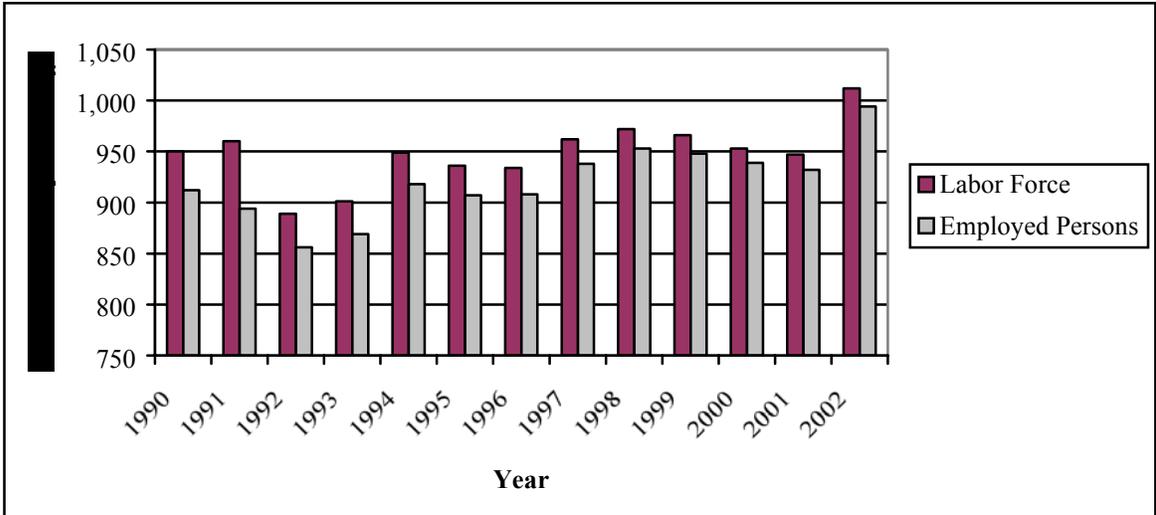
Figure 2-3: Unemployment Rates from 1990 to 2002



Source: Massachusetts Division of Employment & Training, ES-202 data

As Figure 2-4 demonstrates, from 1990 to 2002, Gill has had growth in the size of its labor force as well as the number of employed within that labor force. In 2002, the size of the labor force and the number employed increased greatly. Increases in the labor force may be from increases in the resident population’s participation in the labor force and/or overall population growth in a community.

Figure 2-4: Labor Force and Employed Persons in Gill



Source: Massachusetts Division of Employment & Training, ES-202 data

Industry Sectors and Employment

An important element to the employment profile of residents is understanding the type of work done by residents. This section reviews employment trends by industry sectors and occupations as well as the type of employer (such as a private or government employers, or self-employed workers) of Gill residents. The Census Bureau has also identified 13 distinct employment sectors that represent different economic industries, such as manufacturing or retail trade. The occupation data relate to the type of employment of Gill residents, and not the type of jobs located in Gill.

According to 2000 Census data, the majority of Gill workers were private wage and salary workers, which is consistent for the County and State. The percentage of Gill residents who work for a governmental entity or are self-employed is also consistent with Franklin County, but not with the State. It is not uncommon for rural areas to have higher proportions of workers in these two classes of workers.

Table 2-15: 2000 Class of Worker

Geography	Total Employed *	Private Wage and Salary Workers	Government Workers	Self-employed Workers**	Unpaid Family Workers ***
Gill	761	70.2%	18.7%	10.9%	0.3%
Franklin County	37,577	70.5%	19.3%	9.8%	0.3%
Massachusetts	3,161,087	80.0%	13.5%	6.4%	0.2%

*Employed Civilian Population 16 years of age and over.

** Self-employed workers are in their own, non-incorporated business.

*** Unpaid family workers are individuals who work 15 or more hours without pay in a business or on a farm operated by a relative.

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 2000 Census SF3

The employment profile for Gill is indicative of the employment opportunities available in the community and for its location in the greater region. The largest employer located within the Town of Gill is the Northfield Mount Hermon School with campuses in both Gill and Northfield. As indicated by 2000 Census data, the largest sector of employment for Gill residents is the educational, health & social services, with 30.7% of all workers employed in this sector (Table 2-16). Overall, this is consistent with Franklin County (30.4%), but represents a higher proportion than the State (23.7%).

In addition, the Town is situated between three major employment centers in the Franklin County region; Greenfield, Turners Falls and Orange. These major employment centers have a large manufacturing base. They are also the primary shopping centers for the Franklin County region. Not surprisingly, the next largest employment sectors for Gill residents are manufacturing and retail trade, with 15.9% and 10.2%, respectively. The employment profile of Gill residents in these two employment sectors is also consistent with the Franklin County and State profiles.

Table 2-16: Employment by Sector in 2000

Employment Sector	Gill	Franklin County	Massachusetts
Educational, Health & Social Services	30.7%	30.4%	23.7%
Manufacturing	15.9%	15.0%	12.8%
Retail Trade	10.2%	11.0%	11.2%
Other Services (except Public Administration)	7.8%	4.8%	4.4%
Finance, Insurance, & Real Estate	5.9%	4.1%	8.2%
Construction	5.8%	6.0%	5.5%
Public Administration	5.5%	4.4%	4.3%
Transportation, Warehousing & Utilities	4.7%	4.2%	4.2%
Arts, Entertainment, Recreation, Accommodation & Food Services	3.9%	6.5%	6.8%
Professional, Scientific, Management, & Administrative Services	2.9%	6.4%	11.6%
Information Services	2.4%	2.6%	3.7%
Wholesale Trade	2.4%	2.8%	3.3%
Agriculture, Forestry, Fishing, Hunting, & Mining	1.8%	1.8%	0.4%
Total Employed*	761	37,577	3,161,087

*Employed Civilian Population 16 years of age and over.

Source: U.S. Census Bureau – 2000 Census SF3

The major difference between the employment profile for Gill and Franklin County and the Massachusetts' employment profile is the higher proportion of workers in the professional, scientific, management and administrative services sector and in the financial, insurance and real estate sector. This is not unexpected given that generally the percentage of employment in the professional services sector tends to be lower in small, rural towns.

Table 2-17: Employment by Occupation in 2000

Geography	Total Employed *	Management, Professional, & Related	Service	Sales & Office	Farming, Fishing & Forestry	Construction, Extraction, & Maintenance	Production, Transportation & Material Moving
Gill	761	32.7%	14.6%	27.3%	0.4%	8.7%	16.3%
Franklin County	37,577	35.3%	15.5%	23.2%	0.7%	9.8%	15.6%
Massachusetts	3,161,087	41.1%	14.1%	25.9%	0.2%	7.5%	11.3%

*Employed Civilian Population 16 years of age and over.

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-2 for more information.

Source: U.S. Census Bureau – 2000 Census SF3

The Census data refer to the employment profile of Gill residents, and not the characteristics of jobs located within Gill. The Massachusetts Division of Employment & Training has employment statistics by selected employment sectors for each municipality in the Commonwealth. However, if the level of employment meets specific criteria, the information is not released due to confidentiality requirements. In small towns such as Gill, it is common for employers to meet the criteria, which requires that information remain confidential. In addition, some state and federal statistics may have some inaccuracies because Gill and Turners Falls share a zip code, which may cause some confusion regarding where the business is actually located. Table 2-18 identifies employment within the Town of Gill for selected sectors.

Table 2-18: Employment in the Town of Gill

Year	Total Annual Payroll	Total Establishments	Total Employed	Employed by Sector							
				AFF	Government	Construction	Manufacturing	TCPU	Trade	FIRE	Services
1990	\$933,343	20	93	0	C	17	0	0	15	C	25
1991	\$906,511	20	88	0	C	12	0	0	9	C	31
1992	\$1,450,928	19	116	0	C	C	0	0	17	C	46
1993	\$1,803,986	19	117	0	C	C	0	0	17	0	51
1994	\$1,559,091	17	117	0	C	C	0	0	15	0	45
1995	\$1,628,303	25	131	0	49	22	0	C	16	C	29
1996	\$1,646,581	29	137	C	45	25	0	C	22	C	42
1997	\$1,798,633	29	139	C	41	C	0	C	19	C	46
1998	\$1,977,957	28	138	C	40	23	0	C	22	C	44
1999	\$2,927,338	31	175	C	49	23	0	21	23	C	44
2000	\$3,042,000	31	184	C	52	28	0	C	C	C	46

AFF: Agricultural, forestry and fishing

TCPU: Transportation, communications and public utilities

FIRE: Financial, insurance and real estate

C: Number of employees is confidential

Source: Massachusetts Division of Employment and Training; ES-202 Series.

The largest employer located within the Town of Gill is the Gill campus of the Northfield Mount Hermon School. Specific employment figures are not available because the overlapping of staff between the Northfield and Gill campuses are reported to be in the Town of Northfield. The next largest employer is the Town itself with the Gill Elementary School having 23 employees and the Town of Gill with six full-time employees. It is not uncommon in rural communities for the town government and school to be the major employers. Additional large employers located in Gill include Renaissance Community, Inc with approximately 25 employees and the Kuzmeskus, Inc bus company with a large number of part-time workers. Other various businesses located along the Route 2 corridor comprise of auto repair shops and vehicle sales, convenience stores, a greenhouse, and service based operations, such as a frame shop and a realtor.

Economic Development Factors and Issues

There are many factors and issues to consider when planning for economic development. This section discusses some of the elements that are important for business growth and success.

Natural & Scenic Resources and Recreational Tourism

The Town of Gill has a picturesque natural landscape that features forests and farmland as well as rolling hills and scenic vistas of the Connecticut, Miller's and Falls Rivers. Traditionally, the Town's natural resources were the foundation of the community's economy, such as land for farming and forestry, or water resources for hydropower used in industrial purposes. Today, while many acres are still in agricultural use, a significant amount of the scenic natural landscape is used for recreational purposes.

The plentiful scenic natural resources in Gill offer many enjoyable outdoor recreational opportunities. Northeast Utilities maintains a campground and boating access to the Connecticut River in the Riverside area along Route 2. Other activities include enjoying views from the Mohawk Trail scenic auto route of Route 2, including the impressive structure of the French King Highway Bridge with its view of the Connecticut River. Gill may want to explore economic activities related to these natural and recreational assets. Any economic activity pursued must be implemented in a way that protects these assets. Such economic activity will allow for the Town to preserve not only its natural resources but its rural character.

Village Areas & Municipal Facilities

The three existing concentrations of development within Gill are Gill Center, the Gill campus of the Northfield Mount Hermon School, and the village of Riverside. Gill Center features the Town Hall, a general store, and historic structures that formed the foundation of the Town. The Northfield Mount Hermon School campus is in the northern part of Town near Northfield and the junction of Routes 10 and 63. The residential village area of Riverside is located between the Connecticut River and Route 2 near the Gill-Montague Bridge that leads to Turners Falls.

Gill does not have any areas that are zoned exclusively for commercial or industrial development. Gill also does not appear to have any significant properties in need of redevelopment or revitalization from past industrial use, unlike some communities located in Franklin County. Sometimes these old industrial areas are able to be redeveloped for new uses. With no such properties in Gill, the Town should identify areas that would be the most appropriate for potential commercial, office or light industrial use, while maintaining the community's rural character. One of those potential areas is the Route 2 corridor and part of Main Road near where it meets Route 2. Much of the commercial activity in Gill is located in this section of Town. The following section is a study of the commercial development potential for this area. The study was developed by the Franklin Regional Council of Governments in collaboration with the creation of the Gill Community Development Plan, and funded through the Franklin Region Economic Development Initiative program.

Parcel Study for Route 2 & Main Road Area

As part of the Franklin Regional Economic Development Initiative (FREDI), a study has been conducted to identify underutilized properties that could support additional commercial development in a selected area of the Route 2 corridor in Gill. This study was initiated by the Town of Gill to examine options for diversifying their tax base and promoting additional commercial⁴ activity in this area.

⁴ In this study, the term "commercial" is used to describe any space that is used for business activity, including retail and service operations, as well as office space. Industrial uses, such as manufacturing, are not included in this description.

Diversifying the tax base is of particular importance to Gill since the residential properties are currently the predominant source of tax revenue. The value of commercial or industrial business properties tend to be higher than residential or open space properties, so as a result, they pay more in taxes. At the same time, commercial or industrial business properties generally do not require as costly municipal services as do residential property owners (i.e. families with children that require municipal funds to be paid for education). Currently, the cost of municipal services is rising, while aid from state and federal resources is constrained by budget reductions. To continue to provide adequate municipal services will result in an increased burden on the residential property tax payer in Gill. Identifying ways to diversify the tax base will assist in offsetting this burden from the resident tax payer.

As an additional consideration, the owners of open space and agricultural land in Gill may be feel increased pressure to sell their land for development purposes to offset the increased tax burden. Without targeted geographic areas for potential commercial development identified, there may be a greater likelihood that scenic areas may become developed. If these areas are developed with additional residential units with families and children, this will likely increase the tax burden due to the increased amount of educational services to be provided by the Town.

The Study Area & Study Process

The study area extended the depth of one parcel from the Greenfield town line to Cove View Lane along Route 2, and from the intersection of Route 2 and Main Road north to the electric transmission lines on Main Road. The study area was identified because of its infrastructure resources and presence of existing commercial activity.

The Route 2 corridor in Gill is the northern route that connects Boston to New York State. The western portion of this corridor is also known as the Mohawk Trail, a scenic byway renown for its rural beauty and historical significance. While the Mohawk Trail has been a designated scenic byway since the 1950s, a corridor management plan has been proposed to be developed to help protect the scenic assets, encourage economic development, and maintain efficient and safe traffic patterns.

Gill is also within a few miles of the major north-south transportation corridor of Interstate 91 and is centrally located between three of the larger employment centers in Franklin County: Greenfield, Montague and Orange. In fact, this area of Gill is the primary gateway to the Turners Falls village area and industrial park via the Gill-Montague Bridge. This places Gill in the advantageous position for retail, service or office activities given the ease of transportation access and the high number of travelers in this area.

An additional infrastructure resource in the study area is the public water infrastructure. The properties of the residential area of Riverside as well as properties along the Route 2 corridor have access to the public water infrastructure. Public sewer and water systems are important elements for the development of moderate and large scale developments, such as an office building. The public water system in this area is the one of the few areas in Gill with such a system.

Another important factor to consider is that the Town of Gill possesses a beautiful, rural landscape that is cherished by residents. By grouping commercial activities to a specific area, shared resources may be best be utilized as well as reducing the impacts of such activities in other areas of the community.

To accomplish this study, property tax assessment records, field inspections, discussions with town officials, and Geographic Information System (GIS) mapping were used. The characteristics of properties within the study area were inventoried, including lot size, building area, assessed value, and current use. Efforts focused on quantifying the study area's inventory of ground floor commercial space, the distribution of existing uses by type, and vacancy rates.

In particular, parcels were evaluated for their development potential or redevelopment/reuse potential for commercial activity. These categories reflect the types of commercial development that could be pursued, such as retail shops or business offices. The first category for evaluation was the development of a vacant parcel(s) for use by one or multiple businesses. This could accommodate a moderate to large-scale development, such as an office building or retail complex.

Parcels were also evaluated to determine the potential for reuse of an existing structure, or the complete redevelopment of a property for commercial purposes. The establishments that could use these types of developments depend on the size of the parcel available. To develop an office or retail center would require, at least, greater than an acre of land to accommodate for the buildings as well as parking for employees and customers. Moderate or small scale development would require less space requirements depending on the number of expected employees and customers. For example, a restaurant or retail store will have more space requirements than a small gift or antique shop or service related business that serves few individuals at a time.

Commercial Activity in the Study Area

Most commercial operations in Gill, that are not home-based, are found in the study area. Table 2-19 lists the current commercial activities located in the study area. Predominantly the commercial activities are related to small retail operations or automobile related services. The largest operations are the two transportation related businesses located on Main Road. These two businesses account for \$2.7 million or 31% of the total assessed value for all commercial properties in the study area. Only ten of the fifteen commercial properties in the study area have finished square footage information on their assessor's records. Those ten parcels have over 29,000 square feet of finished area. The two largest businesses are 13,000 square feet or 57% of the total finished area of commercial property in the study area.

Table 2-19: Current Commercial Activities in Study Area

Map-Lot	Location	Acreage	Business Name(s)	Assessor's Land Use Code
101-02	Main Road	1.710	Green River Power Sports	Retail - Building materials and hardware
101-04	Main Road	0.900	Jan's Package Store	Retail - Small retail and service stores
101-05	French King Hwy/Route 2	0.710	Gill Mobil Station	Retail - Auto - Fuel service areas
101-07	French King Hwy/Route 2	0.400	Pine Valley Photography	Retail - Small retail and service stores
101-09	French King Hwy/Route 2	0.500	Town Line Auto Repair	Retail - Auto repair facilities
101-10	French King Hwy/Route 2	1.100	Route to Convenience Store	Retail - Small retail and service stores
101-11	French King Hwy/Route 2	16.000	Yukl's Greenhouses	Storage Warehouse & Distribution Facilities - Commercial Greenhouse*
101-14	French King Hwy/Route 2	1.500	Four Winds School	Public service properties - Education properties
101-16.2	French King Hwy/Route 2	0.500	Riverside Radiator	Retail - Auto sales and service
101-17	French King Hwy/Route 2	0.400	Cove Boat Shop	Retail - Small retail and service stores
102-26	French King Hwy/Route 2	2.060	Barton Cove Campground office	Office - Office Building
102-29	French King Hwy/Route 2	1.200	Johnson & Bassett Realty	Office - Office Building
102-30	French King Hwy/Route 2	0.610	Atlantic Wholesale Auto Sales & Service; Janet Masucci Hypnotherapy & Integrative Accupressure	Retail - Auto repair facilities
223-44	Main Road	13.880	F. M. Kuzmeskus Inc.	Retail - Fuel service areas
224-05	Main Road	10.330	Transcend Carriers	Storage Warehouse & Distribution Facilities - Trucking terminals

* The use of parcel 101-11 is identified in Town Assessor's records as a two-family residence. However, greenhouse buildings and commercial signage are present on the property.
Source: 2003 Town of Gill Assessor's Records; Franklin Regional Council of Governments field assessment.

The availability of commercial property is an important element in determining the economic potential in an area. Not enough commercial space limits opportunities for businesses to locate or expand, while too much vacant commercial space indicates a lack of investment and vitality. The real estate appraisal firm of K. Levitch Associates in Greenfield conducts surveys several times a year to determine the average vacancy rate for a given area for select locations across Franklin County. In Gill, K. Levitch Associates examines the area along Route 2 and part way up Main Road. The survey area is similar to the study area examined in this text.

Vacancy is defined as the excess supply of property at a given rental structure. The standards for evaluation are from guidelines published by the Building Owners and Managers Association International. The guidelines include standards to determine what spaces will be included in the survey. If a building cannot for physical or legal reasons be occupied, then that building would not be included in the vacancy survey. Over the past eight years, the

vacancy rate in this area of Gill has been consistent. In 1995, the vacancy rate was determined to be 6%. From 1996 through 2001, the vacancy rate was 5% and then declined to 4% in 2002. For many small village centers or other such areas, the normal vacancy rate is usually under 5% or 6%. Similarly, for the survey area in Gill, the vacancy rates that were determined over the past eight years, most likely represents only one vacant space. Land that is not developed is not part of the survey.

Zoning for Commercial Activities

Most of the study area is in the Residential/Agricultural zoning district, with the exception of some parcels along Main Road near the intersection of Mountain Road, which are in the Residential zoning district. There is not a commercial or industrial zoned area in Gill. Most commercial activities require a special permit or are simply not allowed. With the exception of agricultural related business operations, most commercial or industrial activities in the Residential/Agricultural zoning district require a special permit, except for home-based businesses. Some examples of commercial activities that require a special permit include restaurants, research & development operations, inns, retail stores, veterinary hospitals, “tourist homes” (i.e. bed & breakfast), banks or other office buildings with less than 2,500 square feet. As for industrial uses, light industry, printing & publishing, and warehousing activities all require a special permit.

In the Residential zoning district, there are more restrictions regarding the types of land uses that may be permitted. Many activities that require a special permit in the Residential/Agricultural zoning district are not allowed in the Residential zoning district. The exceptions are research & development operations and tourist homes, which require a special permit.

The third zoning district in Gill is the Village Residential zoning district that encompasses the Riverside neighborhood. This zoning district is not the study area.

Parcels for Potential Development

Within the study area, there are few undeveloped parcels. According to town assessor’s records, there are six parcels identified by their land use code as developable or potentially developable. These parcels range in size from less than one acre to over fifteen acres. However, it is important to note that not all acres in a parcel are developable, specifically due to circumstances such as steep slopes or wet areas. The following table lists the undeveloped parcels in the study area with their acreage and comments that may impact their development potential.

Table 2-20: Undeveloped Parcels in the Study Area

Map-Lot	Location	Acres	Comments
101-27	French King Hwy/Route 2	0.400	Small parcel; Present location of Polish food stand.
102-27.22	French King Hwy/Route 2	1.000	Waterfront parcel recently sold for residential development.
224-03	Main Road	1.300	Parcel part of TransCarrier property.
224-30	Main Road	15.100	Large State-owned parcel with steep slopes and electric transmission lines. Some potential for development for selected acres.
224-35	Main Road	8.240	Flat parcel with good access; Presently in agricultural use.
224-41	French King Hwy/Route 2	5.200	Limited potential development due to steep slopes, access issues, and electric transmission lines.

Source: 2003 Town of Gill Assessor's Records; Franklin Regional Council of Governments field assessment.

Of the six developable or potentially developable parcels located within the study area, four have constraints that would probably limit their development. These constraints include a parcel too small for development of a small to moderate sized commercial activity, and a parcel with limited transportation access. Constraints related to the natural elements of the parcel, such as slope and wet areas, also limit development by the expense of mitigation or by government regulation.

The two remaining parcels that are undeveloped appear to have more promise for development because of their proximity to other commercial activities and good transportation access to Route 2 from Main Road. The largest parcel of these two, encompasses over fifteen acres and is owned by the Commonwealth of Massachusetts. The parcel is wooded and has some steep slopes and electric transmission lines traversing the rear of the property. This lot is closest to Route 2 and probably could have easy access to the public water system infrastructure. This lot would have to be evaluated to determine how much is developable, for example only a portion of the fifteen acres would probably be developable. The developable area appears to be closest to the road and near the adjacent Green River Sports. This property has been under the ownership of the Commonwealth of Massachusetts for several decades and is not protected as open space. The Commonwealth's future plans, if any, for this property is unknown presently. Whether all or a portion of this property could be procured by the Town or a private developer is also unknown at this time. However, if development of this property were to be pursued, measures should be undertaken to mitigate development impacts upon the nearby residential properties.

The other vacant lot for consideration is located about one mile north of Route 2 and is owned by the Mariamante Academy. This level parcel is in use presently as a cornfield, and, according to GIS information, consists of prime farmland soil. This parcel would probably have the greatest amount of developable acreage of any property in the study area. The parcel is located farther away from Route 2 and from the public water system which would add to the development costs if the system had to be extended along Main Road. While this property is in agricultural use, it is located across the street from two of the largest businesses in Gill, the transportation companies of Kuzmeskus Inc and TransCarrier. There are two residential abutters to this property of which one is under the same ownership as the parcel itself, Mariamante Academy. However, if development of this property were to be pursued,

measures should be undertaken to mitigate development impacts upon the nearby residential properties.

In conclusion, if either of these lots were to become available for commercial use development, they would need to be further evaluated for the development potential and for their impact on the community. In addition, to move such a development project forward would also require town officials to make decisions regarding infrastructure improvements, and zoning regulations, and possibly, marketing of the property. These decisions will need to take into account the desires of potential developers and business owners as well as the residents of Gill.

Parcels for Potential Reuse or Redevelopment

The reuse or redevelopment of a property is one way to promote commercial activity in the community without developing open space. How the property is changed from its present use to one for commercial activity depends on the size of the property and whether the current structure(s) on the parcel will be reused, altered, or removed entirely for complete redevelopment. A residential dwelling or accessory building may be reused for a small shop, café, or office. Since only a few customers or employees would be present at a given time, only a few parking spaces are needed and no significant measures would need to be taken to minimize the impact of increased traffic. It is important to note that this type of low-impact development would contribute to the tax base of the community and would help create a more active commercial center.

Moderate or large scale redevelopment⁵ would require the significant alteration of an existing structure(s) and/or property(s) to accommodate a new commercial venture or multiple ventures. Examples include a restaurant that would seat greater than 25 people, a retail center with one or more shops, or an office building. Such a development would typically require greater than one acre of land to accommodate the building and parking requirements. A moderate or large scale development would have a greater impact on the tax base than a simple commercial reuse of a building. The larger the facility or more value to the property, the greater the impact on the tax base. There are additional considerations for larger scale developments, such as the impact of traffic entering and exiting the driveway as well as the visual impact it will have on the area.

Table 2-21 identifies twelve parcels, which may individually or with adjoining parcels, have the potential to be reused or redeveloped for commercial use or more intense commercial use. Parcels were selected because of their position in the study area; their size, shape and frontage; and lack of environmental constraints such as steep slopes, wetlands or other limiting elements.

Overall, parcels located on the south side of the Route 2 are too close together and thickly developed for moderate to large scale development, with the exception of the old elementary

⁵ In this study, moderate development would be approximately greater than 2,000 square feet but less than 10,000 square feet. A large development would be greater than 10,000 square feet of commercial space.

school property. One small parcel may have the potential for limited reuse for commercial activity.

On the north side of Route 2, there are three parcels that individually have the potential for moderate or large scale redevelopment, such as the Yukl Greenhouses property. There are five parcels on the north side of Route 2 which may have the potential for small scale reuse for commercial activity, or have the potential for a greater sized redevelopment project in combination with other parcels. The remaining two parcels are lesser than one acre in size and could only be redeveloped in coordination with other parcels for a greater scale project.

Map of Study Area Parcels

The following map of the study area depicts the findings of this study. The parcel boundaries shown by the GIS map were provided by the Town of Gill from their Cartographic Associates files. The boundaries have been updated to reflect the Assessor's record information collected in Fall 2003. Parcels with commercial activity have been highlighted. Parcels that have been selected as potentially developable or have the potential for reuse or redevelopment are also identified.

Table 2-21: Developed Parcels for Potential Reuse or Redevelopment in the Study Area

Map-Lot	Location	Acres	Potential Scale & Scope	Comments
101-11	North side of French King Hwy/Route 2	16.000	Large-scale redevelopment	Large parcel with significant frontage; Some wet areas with forest and slope in rear of property; Currently in commercial use; Privately owned.
101-12	North side of French King Hwy/Route 2	3.590	Small-scale reuse, or Part of multi-parcel redevelopment	Narrow shaped parcel; Forest and slope in rear of property; Currently in residential use; Privately owned.
101-12.1	North side of French King Hwy/Route 2	16.000	Large-scale redevelopment	Large parcel with limited frontage; Forest and slope in rear of property; Currently in residential use; Privately owned.
102-03	North side of French King Hwy/Route 2	1.590	Small-scale reuse, or Part of multi-parcel redevelopment	Small parcel with accessory buildings; Currently in residential use; Commercial use in past; Minimal potential for parking; Presently for sale.
102-05	North side of French King Hwy/Route 2)	6.000	Moderate-scale redevelopment	Moderate size parcel with clearing in rear of property; Currently in residential use; Privately owned.
102-06	North side of French King Hwy/Route 2	0.590	Small-scale reuse, or Part of multi-parcel redevelopment	Small parcel with very limited parking potential; Currently in residential use; Privately owned.
102-07	North side of French King Hwy/Route 2	0.070	Part of multi-parcel redevelopment	Very small parcel with no parking potential; No structures on parcel; Privately owned.
102-08	North side of French King Hwy/Route 2	1.500	Small-scale reuse, or Part of multi-parcel redevelopment	Small parcel with accessory building; Potential area for sufficient parking; Currently in residential use; Privately owned.
102-09	North side of French King Hwy/Route 2	0.500	Part of multi-parcel redevelopment	Very small parcel with very limited parking potential; Currently in residential use; Privately owned.
102-10.2	North side of French King Hwy/Route 2	1.000	Small-scale reuse, or Part of multi-parcel redevelopment	Small parcel with minimal potential for parking; Currently in residential use; Privately owned.
101-14	South side of French King Hwy/Route 2	1.500	Moderate-scale reuse/redevelopment	Moderate size parcel that is level and clear. Currently in educational and recreational use; Existing parking area; Owned by Town.
101-21	South side of French King Hwy/Route 2	0.510	Small-scale reuse	Small parcel with very limited parking potential; Currently in residential use; Privately owned.

Source: 2003 Town of Gill Assessor's Records; Franklin Regional Council of Governments field assessment.

Town of Gill

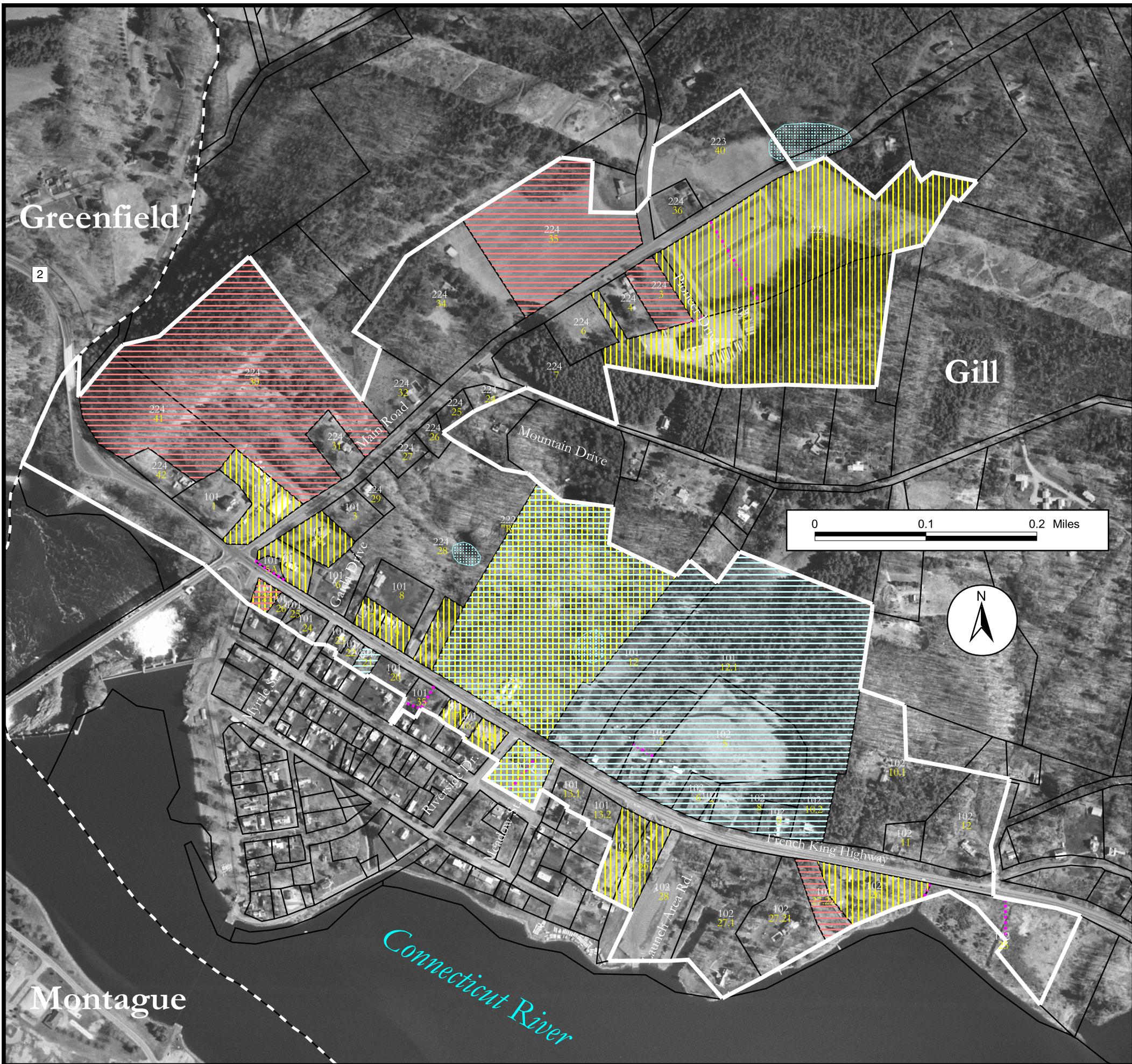
Route 2 and Main Road Parcel Study Area

Greenfield

Gill

Montague

Connecticut River



Legend

- Town boundary
- Project Area
- Parcel boundary
- Edited parcel boundary
- National Wetland Inventory wetland
- Potential for Parcel Reuse / Redevelopment
- Potentially Developable Land
- Parcel in Commercial Use

Map Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEA maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEA makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEA maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEA Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department. Town line, rail line, river, stream, pond, orthophoto, and National Wetlands Inventory data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

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Vision for Study Area

To encourage additional commercial activity in the study area will change the way it will look and function. Town officials and residents should consider what they would ideally like for development in the area. If the Route 2 corridor portion of the study area were to be further developed for commercial activity, efforts could be made to make this area more of a commercial center. This would allow for motorists to be more aware of the entering and exiting traffic as well as any potential pedestrian activity. This may be implemented with signage on Route 2 cautioning motorists or with a crosswalk and pedestrian phase to the traffic signal at the Route 2 and Main Road intersection. While the roadway of Route 2 features wide shoulder lanes, there are no sidewalks in the right of way. Due to how close the roadway is to existing structures, it seems unlikely that sidewalks could be installed. It is important to understand that this section of the study area would be extremely difficult to change into a traditional village center; however, efforts like the ones mentioned could be made to create a more appealing and easily managed commercial area.

If more than one commercial venture is developed in the Route 2 corridor, zoning and traffic control issues should be examined. Often one commercial activity will encourage others to develop nearby. For example, if an office building were to be built, workers may want to walk to a local store for coffee or lunch. As another example, customers may want to park at one store to shop and will walk to another nearby store, opposed to getting in their car and driving to the adjacent property.

Town officials and residents need to consider the vision they have for the Main Road portion of the study area too. The parcels that have been identified for potential development are currently open space. At the same time, this portion of the town is home to some of Gill's largest businesses, and may be a more appropriate location for additional development than in other scenic and agricultural areas of the community.

Next Steps & Recommendations for Study Area

If the residents and town officials desire to encourage more business development in the identified study area, the following are some suggested next steps.

- Review and potentially revise zoning regulations to encourage business development and to regulate the commercial activity that is appropriate in the study area. Potential changes could include an overlay district in the study area or performance-based zoning regulations that allow flexibility for business operations while maintaining the town's vision for the area.
- When selected properties identified for development or reuse/redevelopment are put on the real estate market, town officials should work with realtors and prospective land owners to express support for specific potential uses. The Town may also want to consider whether it would like to take a more active role, such as purchasing the land itself and pursuing a plan of action for the parcel's development.
- Town officials should participate in the development of the Mohawk Trail East Scenic Byway to encourage selected commercial activity and potential infrastructure projects that also serves to encourage economic development.

Municipal Taxes

The services a municipality provides is funded through the combination of State aid programs, and revenue generated from local receipts (fees) and the tax levy (property taxes), as well as other funds (free cash or reserves). Of these revenue sources, the largest amount of funds generated is by the payment of taxes by property owners. Property is assessed to determine its value for the purpose of levying taxes. A tax rate is applied to that assessment to determine the overall tax payment due.

The average single family tax bill in the Town of Gill is lower than the State median single family tax bill and has consistently been lower than other areas of the Commonwealth. In the past five years, the tax rate has been in the \$15 to \$16 per thousand range, with the exception of 2001 when it rose to \$16.54 per thousand. The reduction of the tax rate to \$15.37 in 2002 is most likely related to increases in assessed values. Presently and in the future, there will be increased pressure for property tax revenue due to factors such as rising education costs as well as statewide fiscal constraints that limit local aid.

Table 2-22: Gill Selected Municipal Single Family Tax Information

Fiscal Year	Total Assessed Value	Number of Parcels	Average Assessed Value	Tax Rate (per \$1,000 assessed value)	Average Single Family Tax Bill	High to Low Rank*	State Median Single-Family Tax Bill
1990	\$36,008,550	367	\$98,116	\$10.36	\$1,016	284 of 323	\$1,504
1991	\$35,405,750	359	\$98,623	\$11.00	\$1,085	237 of 265	\$1,640
1992	\$36,023,250	359	\$100,343	\$11.00	\$1,104	308 of 339	\$1,663
1993	\$35,682,100	354	\$100,797	\$11.72	\$1,181	300 of 339	\$1,747
1994	\$36,135,600	361	\$100,099	\$12.24	\$1,225	304 of 340	\$1,808
1995	\$37,110,800	366	\$101,396	\$13.20	\$1,338	297 of 340	\$1,872
1996	\$38,501,300	374	\$102,945	\$13.70	\$1,410	294 of 340	\$1,959
1997	\$38,591,300	374	\$103,185	\$13.90	\$1,434	301 of 340	\$2,031
1998	\$39,558,500	381	\$103,828	\$14.24	\$1,479	302 of 340	\$2,121
1999	\$41,531,563	379	\$109,582	\$15.20	\$1,666	278 of 340	\$2,191
2000	\$42,388,700	383	\$110,675	\$15.24	\$1,687	282 of 340	\$2,297
2001	\$42,824,700	386	\$110,945	\$16.54	\$1,835	270 of 340	\$2,418
2002	\$47,849,300	390	\$122,691	\$15.37	\$1,886	280 of 340	\$2,577
2003	\$49,259,400	395	\$124,707	\$15.80	\$1,970	271 of 320	\$2,734

* High to low rank of municipalities in Massachusetts ranked in a given fiscal year. Total number of municipalities in Massachusetts is 351.

Source: Massachusetts Department of Revenue – Division of Local Services; 2003.

As mentioned previously, the tax revenue raised in Gill is primarily from homeowners' residential property tax assessment. With few businesses in Town, the business sector does not offset the high residential tax burden. Commercial and industrial areas are important for two reasons. First, they are the locales of economic activity in a community, which provide services and employment opportunities. Secondly, commercial and industrial property is often very valuable and the taxes generated every year from these uses can often help pay for a portion of the expenses of municipal services.

The amount of money needed to fund schools, highway maintenance, public safety, libraries and municipal government is always rising. Careful planning about how to generate this

money must be examined. Property taxes for some types of land uses generate revenue for a community, while other land uses may generate the need for more services. One process to determine whether a land use has a positive or negative fiscal impact is called a Cost of Community Services analysis.

In 1991 the American Farmland Trust (AFT) conducted a Cost of Community Services analysis for several towns in the region, including Deerfield and Gill. The results of that study showed that protection of farmland and open space is an effective strategy for promoting a stable tax base. The AFT study found that for every dollar generated by farmland and open space, the municipal services required by that land cost only twenty-nine cents (\$0.29) resulting in a positive fiscal impact to the town. Similarly, for every dollar generated by commercial and industrial tax revenues, only thirty-eight cents (\$0.38) were spent by the town in municipal services. In contrast, the AFT study found that for every dollar generated by residential development, the municipal services required by that land cost one dollar and sixteen cents (\$1.16) indicating that residential development costs more in terms of town services than it generates in tax revenues.

In 1995, the Southern New England Forest Consortium (SNEFC) commissioned a study of 11 southern New England towns that confirmed the findings of the earlier AFT study. The purpose of the SNEFC study was to evaluate the fiscal contribution of developed land versus that of open space using the methodology developed by AFT. This study was based on allocating one year's worth of income and expenses to different land use sectors to show the impact of these land uses on the local economy. The results of the study concluded that for eleven southern New England towns, the conversion of open space for residential development is not advisable on a financial basis alone. For every dollar of tax revenue raised from the residential sector, these towns spent an average of one dollar and fourteen cents (\$1.14) on residential services, which was a negative fiscal impact. The commercial and industrial development sectors on average cost the towns forty-three cents (\$0.43) on services for each dollar of tax revenues received which generated a positive fiscal impact. However, according to the study, this figure did not take into account other costs associated with commercial and industrial development, such as the potential for increased residential development, increased traffic and noise pollution, the loss of open space to filter water and air, or the need to provide recreation opportunities. Finally, in comparison, farm, forestland and open space cost on average forty-two cents (\$0.42) in municipal services. This is an interesting statistic demonstrating that the protection of farmland and open space not only plays an important role in protecting natural resources, but like commercial and industrial land, it also has a function in balancing the municipal tax base. For Gill, an approach that encompasses both appropriate business development with conservation of natural resources may best meet the desires of residents to maintain their community character while offsetting the tax burden.

An additional consideration, when examining the municipal tax base of Gill, is the impact of non-profit and tax exempt properties. For example, private education properties do not generate tax revenues for a community but use community services, such as fire and police department services. However, payments in lieu of taxes may voluntarily be given to the community in such a circumstance. Other properties that are owned by the school but are not

used for education purposes and not located on the campus (such as faculty housing) does pay property taxes to the town.

Transportation

Gill is located between three major employment centers in the Franklin County region; Greenfield, Turners Falls and Orange. New developments, such as the new Randall Pond Industrial Park in Orange, and successful revitalization efforts, such as in downtown Greenfield, as well as changes in commuter patterns (commuters willingness to drive longer distances to work) may influence future housing and commercial development in Gill. The transportation network will be impacted by these factors.

There are two perspectives when considering a community's transportation infrastructure: the level of ease and safety of moving people and goods *to and from* the community and the level of ease and safety of moving people and goods *within* the community. In terms of the transport of people and goods to and from the community, the most significant transportation feature in Gill is Route 2 which is the Commonwealth's primary northern tier east-west corridor. According to MassHighway, in 2002 the average daily traffic count on Route 2 at the town-line of Greenfield and Gill was 12,400 vehicles. Route 2 is also part of the historic "Mohawk Trail" which originates in central Massachusetts and follows Route 2 to the New York border. In the coming years, a corridor management plan will be developed by for the eastern part of the Mohawk Trail in Franklin County by a volunteer committee and facilitated by the Franklin Regional Council of Governments. The plan will include an inventory of scenic, historic and cultural resources as well as recommendations to maintain the character of the corridor while also encouraging tourism. The corridor management plan will also address pertinent transportation issues that relate to the efficiency and safety of the corridor while promoting visitors. Once a corridor management plan is created, recommended projects may be eligible for specific state and federal funding programs.

Nearby to Gill, Route 2 connects to the major north-south corridor of Interstate 91 in Greenfield, as well as other north-south corridors such as Route 63 in neighboring Northfield. It is important to note that Route 63 in Erving and Northfield is part of the Connecticut River Scenic Farm Byway. This is a designated scenic byway which starts in Sunderland, Massachusetts and continues into Vermont and New Hampshire along the Connecticut River. Presently, tourism development and natural resource protection projects are being pursued through state and federal funding programs. In terms of the transport of people and goods within Gill, there are some limitations of the transportation system due to the rural character of the road network.

As for transit services, the Franklin Regional Transit Authority offers the "G Link", a fixed bus route connecting Greenfield and Athol (with further connections to Gardner). The G Link makes several stops throughout the weekday in the Riverside area of Gill. While the G Link is a relatively new service (established in 1999), it has experienced increased usage each year. An additional transit service provided by the Franklin Regional Transit Authority to Gill residents is the demand-response transportation services for the elderly and disabled residents within their jurisdiction.

According to the 2000 Census, 87% of Gill residents that commute to work drove alone, while 9% carpooled, 2% walked, 1% used public transportation and the remaining 1% commuted by other means. Please note that given the timing of this survey, it probably does not reflect the number of riders using the G Link public transit service presently.

In terms of aviation, there are three international airports located approximately two hours drive away from Gill by car. They are Albany International Airport in Albany, New York; Logan International Airport in Boston, Massachusetts; and Bradley International Airport in Windsor Locks, Connecticut. Locally, the transportation network includes the municipal airports of Orange Municipal Airport and Turners Falls Municipal Airport, both located adjacent to industrial parks. They serve some private passenger as well as recreational services.

Water Supply & Sewer Treatment Systems

Two areas within the Town of Gill have both water supply and sewer treatment systems. The Gill campus of the Northfield Mount Hermon School has both a water supply system and a sewage system. In addition, the Riverside area near Turners Falls and Greenfield, has a Riverside Water District that has water supplied from the Town of Greenfield and contracts with the Montague Wastewater Treatment Facility. The remaining households of Gill have individual private wells and septic systems.⁶

Telecommunications

The telecommunications infrastructure and services available in Gill and in many of the rural areas of the greater Franklin County region are inadequate for present day business functions. Issues of reliability, affordability and access are major obstacles for both large and small businesses. Access to broadband services has been cited as an important economic development objective.

Access to advanced, affordable broadband and telephone services is stifled by the absence of competition in the telecommunications services sector. Telecommunications services are critical to the region to attract and cultivate new employers as well as keep existing businesses competitive. Services such as satellite technology, cable internet, digital subscriber lines (DSL) and T-1 class broadband allow for “always on”, high speed access to the Internet and private networks. As more business to business transactions are occurring electronically, this is important for large manufacturers to communicate with their suppliers. For smaller businesses and at-home workers, affordable broadband access is important for efficient communication to retailers and clients.

For Gill, the most widely accessible form of telecommunications broadband service is cable broadband through the cable television provider, Comcast. This allows users greater than dial-up speed service; however, this technology has some limitations. Gill residents and businesses may also purchase satellite-based telecommunications services, however, this

⁶ Information regarding water supply and sewage treatment systems is from the Open Space and Recreation Plan for Gill, Spring 2000.

technology has some limitations as well. Gill does not have access to DSL through the telephone network because of the distance from the Montague Central Office, where the equipment is located to provide such services.

A larger regional project underway sponsored by the Franklin Regional Council of Governments, is called Pioneer Valley Connect. This project has resulted in business and community leaders from Franklin, Hampshire and Hampden Counties joining together to advocate for services and to implement strategies to create a competitive telecommunications marketplace in the region. Active participation in this effort is one way to support the development of broadband deployment.

Local Entrepreneurship and Business Development Resources

Economic growth is created through the development of new businesses and the expansion of existing businesses. In Gill, it is important to residents that business activity be consistent with the community's character. Some home-based businesses fit this requirement, as do specific commercial uses that are permitted in appropriately zoned areas. Two examples of businesses that are small in size and expected to have a minimal impact on the landscape of the community are arts and crafts- related businesses and home-based professional offices.

In Gill, these types of economic activities already exist. There is an advantage to having locally created businesses, because they are more likely to stay in the area where they originated. Often a community will have greater success in keeping businesses that were developed in an area, than to try to recruit businesses from outside the area.

The entrepreneurs behind these ventures understand the markets they are in, and they have thrived due to their ability to identify trends and adapt to them. They need resources to move their business plans forward. Access to a skilled labor force is necessary to lower training costs, which is a great expense for smaller firms. Access to financial and technical resources to help these businesses grow is vital. Another element is the support of these establishments by local residents. Creating linkages between local producers and retailers is one way to encourage local business development. Several regional and statewide organizations are available to assist with these types of efforts. Contact information for economic development organizations is included in the appendix.

Home-Based Businesses

The Town of Gill, through, the Community Development Planning process, requested that special attention be given to home-based businesses. Home-based businesses have an important role in local economies. They provide employment and entrepreneurial business opportunities to residents, for they are typically small in size and have little impact to the landscape. It is important to note that they do not contribute significantly to the tax base of a community; however, they also do not require substantial municipal services for their operation.

Home-based businesses may not be readily recognizable as a business operation to those driving past. They may be the primary occupation for the business-owner or a part-time business venture. Home-based businesses can include a wide variety of businesses, such as child-care provider, professional consultant, or artist. Technological changes and shifts in employment trends have changed the work environment to allow more opportunities for individuals to work at home by telecommuting. In addition, home-based businesses represent an opportunity for a community to foster future commercial growth as these businesses expand.

According to the Town of Gill Zoning Bylaws, certain home-based businesses are allowed within specific parameters. According to the Zoning Bylaws, a professional office or a customary home occupation conducted by a resident of the premise in a room (or rooms) of the dwelling or accessory building, with no more than two employees, is allowed by right in the Residential-Agricultural district and may be allowed by special permit in the Residential district (an area of Main Road and Mountain Road). As part of the description of a customary home operation or cottage industry, it states that no significant exterior changes to the structure are allowed.

Other commercial activities are allowed by special permit that may relate to the home such as “tourist homes” or a bed & breakfast. The Zoning Bylaws also addresses educational, recreational, and agricultural uses. Educational uses that are non-profit are allowed by right in both the Residential and Residential-Agricultural districts; however, profit educational organizations are required to have a special permit. Non-profit and profit recreational uses require a special permit in both zoning districts. Agricultural uses such as farm uses, roadside stands, and commercial greenhouses and nurseries are allowed by right in the Residential-Agricultural district. In the Residential district, farm uses and commercial greenhouses and nurseries are allowed by special permit, and roadside stands are not allowed.

As part of the Community Development Planning process, a survey was conducted to identify the types of home-based businesses in Gill and to determine their needs now and in the future. The survey was distributed through the Town Newsletter in August 2003, and mailed to specific business addresses identified by the Town Clerk in November 2003. Survey respondents were asked to either mail their completed survey to the Franklin Regional Council of Governments or to drop them off in boxes at select locations in Gill. Fourteen surveys were returned in all. The survey respondents included individuals with the businesses in the following industries:

- 4 child or elder-care business,
- 3 agriculture or natural resource related businesses,
- 2 education related/non-profit business,
- 2 construction trade business,
- 1 consulting or professional business,
- 1 interior design business, and
- 1 sales or marketing service business.

Ten of the 14 businesses were 10 years old or greater, while 3 were 1-5 years old, and 1 was less than a year old. They totaled 9 part-time employees (18 during peak harvest season), and 17 full-time employees (11 during peak harvest season) working out of the home location. Survey recipients were asked about their business' gross revenues over the past two years. Responses indicated growth for most of the businesses. Three businesses increased their gross revenues by 1%-10% in the past two years, while 2 businesses increased their revenue by 10%-20%, and another 3 businesses increased their gross revenues by 20% or greater. Of the remaining respondents, 4 businesses remained stable and 2 had their revenues decrease over the past two years.

Home-based business owners were asked a series of questions regarding the current space used to operate their business and to estimate their future space needs. Two of the businesses used less than 500 square feet to operate their business, while 6 of the survey respondents used 500-1,000 square feet of building space. Three respondents used between 1,000 to 5,000 square feet of space. The 3 remaining respondents were the farming operations that used greater than 5,000 square feet of building space. Eleven of the 14 businesses required yard space for the operation of the business. Yard space was not required for the consulting/professional business, the sales/marketing service business, or the interior design business. When asked about whether they anticipate the need to expand their space in the future, only two respondents answered that they do expect to need additional space in the next 1-5 years. However, they expect to expand at their present location and to employ an additional 1-3 part or full time employees.

The survey also had questions regarding the businesses' infrastructure needs and the types of business-related services that would be helpful if they were located in Gill. Respondents could select as many items that applied to their business. The results were the following:

- 8 responses related to telecommunications services (specifically cable or DSL broadband, voice mail services, cellular phone service, and caller ID),
- 5 responses for a public water supply system,
- 4 responses for an improved road network,
- 3 responses for a public sewer system,
- 1 response for improved access to air transportation, and 1 response for more public transit options.

In response to the question about the types of business-related services these business-owners would find helpful, the most responses were regarding postal service. In order of most requested, the following is a list of requested business-related services:

- U.S. Post Office in Gill or a separate zip code for Gill (8 responses),
- Public access to a photocopier (4 responses),
- U.S. Postal Service or express mail drop-box (3 responses),
- Community or region-wide networking mechanism to interact with other home-based businesses (2 responses),
- Increase transit services (2 responses),
- A meeting room for public use were also selected (2 responses), and
- A telecommunications center (1 response).

The provision of some of these business-related services would not only encourage the development of home-based businesses, but would benefit many other residents and businesses as well.

Home-based business survey respondents were asked to identify the advantages and disadvantages being located in Gill. The top advantages identified were the proximity to a major highway that connected them easily to business centers, the beautiful landscape, and the strong community feeling in Gill. In addition, good interaction and services from the Town were noted as an advantage. No one disadvantage was commonly identified. Instead, there were a variety of responses, including speeding in the Riverside neighborhood, need to diversify the tax base, no broadband internet access available, and poor transportation options for people without cars.

Despite the limited number of responses, some general conclusions may be made regarding the home-based business survey. A variety of home-based businesses exist in Gill. They are service-based companies and generally employ more than one person. The majority of these businesses has been in operation for many years and continues to operate well financially, as indicated by revenue growth over the past two years. Improved telecommunications services are needed as well as other basic infrastructure enhancements, such as expansion of the public water supply system. The transportation access combined with the natural landscape and overall community character are important assets to these business owners. Negative factors were with the postal service, access to telecommunications, and limited access to small business resources (such as photocopiers and meeting rooms). According to survey respondents, there presently is not a demand for locations for these home-based businesses to expand. However, this may change in time due to economic and population forces. The potential for office property development should be examined to address potential future needs to serve local businesses as well as diversify the tax base.

Summary of Economic Development Assets & Issues

Through the community development plan visioning process and from the information given in this chapter, a brief list of assets and issues regarding economic development in the Town of Gill has been assembled. These identified circumstances reflect potential opportunities and constraints to be addressed when forming recommendations for future action.

Table 2-23: Summary of Assets and Issues

<u>Assets</u>	<u>Issues</u>
<ul style="list-style-type: none"> - Beautiful rural landscape with rolling hills and vistas of the Connecticut and Falls Rivers. - Presence of Northfield Mount Hermon School (as a major employer and the location for a specific customer base). - Route 2 access and business activity in the corridor. - Community situated among the three largest employment centers in Franklin County. - Presence of entrepreneurs, self-employed and at-home workers. - Outdoor recreation opportunities (ex. boating on Connecticut River). - Route 2/Mohawk Trail as a designated scenic byway and known tourist route. - Farms in operation. - Scenic town center. - Space exists for development, if so desired. - Public water and sewer is available in Riverside Village area. - Overall, higher household incomes. Low poverty rate. - Cable broadband available to many residents. 	<ul style="list-style-type: none"> - Reported population loss (according to 2000 U.S. Census). - Older workforce. - Increased commuting distance and time to work (according to the 2000 U.S. Census data). - Narrow tax base, primarily dependent on residential property taxes. Many tax exempt properties. - Limited water and sewer infrastructure outside of Riverside area. - Lack of access to higher capacity and higher speed broadband telecommunications (such as DSL). - No specific commercial or light industrial zoned property. - Concentration of employment by one employer.

Economic Development Recommendations

The following list identifies recommendations to forward economic development in the Town of Gill.

- **Assign an existing or new Town Committee to encourage the pursuit and/or implementation of the economic development recommendations of this Community Development Plan.**
- **Support the continued operation of farms and other agricultural-based businesses.** Town support of programs that preserve agricultural land, such as the Agricultural Protection Restriction Program, is one way to support the operation of existing agricultural businesses. Residents purchasing local farm products are another way a community may support farms.
- **Examine Zoning Bylaws to address business development.** Examine and potentially revise Zoning Bylaws to encourage appropriate business development, such as an overlay district over a select area(s) that has specific guidelines for commercial uses. To accomplish this task, select businesses should be identified that are compatible with town character and factors that are important for the development of these businesses should be addressed in the zoning regulations.
- **Encourage the development of commercial activities, such as tourism-related services or offices, in appropriate areas.** Town officials may want to encourage business development of tourism-related services, such as a restaurant, retail store, or an outdoor recreation store or service provider. Visitor-related services would capture the significant tourism traffic that travels the Mohawk Trail as well as many local and regional customers traveling between major population centers. A small-scale office park developed in an area located with convenient access to Route 2 may appeal to expanding home-based business operators as well as other small businesses in the region. The development of such an area would also provide additional tax revenue.
- **Participate in the Mohawk Trail East Scenic Byway project.** Participation by Gill residents, town officials and/or business-people in the development in the corridor management plan for the eastern portion of the Mohawk Trail will allow Gill's economic development vision to be part of the broader project as well as promote tourism opportunities specific to Gill.
- **Encourage the development of home-based businesses.** Identify resources that will assist entrepreneurs and home-based businesses in their business activities, such as having access to a public photocopier or meeting room.
- **Support local entrepreneurship by encouraging participation in regional business development efforts.** Town participation in regional economic development efforts, such as the Franklin Regional Council of Governments, the

Franklin County Community Development Corporation, and other organizations. Activities could include workshops in Town about entrepreneurship or the creation of a community bulletin board to provide information about available business development assistance on local products for sale.

- **Maintain relationships with large organizational property owners.** Both the Northfield Mount Hermon School and Northeast Generation (previous Northeast Utilities) own a significant amount of property in the community. A continued dialogue with these organizations will identify issues and potential partnering opportunities for the both the organizations' and the community's mutual benefit. Possibilities for economic development include the identification of needed business services that complement their organizations, such as an outdoor recreation supply store related to Barton Cove activities, or outsourcing of services for the Northfield Mount Hermon School or its students.
- **Continue to advocate for advanced telecommunications broadband services to be made available throughout Gill.** Support local and regional efforts to pursue broadband telecommunications services.
- **Pursue independent zip code or improved postal service for Gill.** Efforts have been conducted in the past to establish an independent zip code for Gill. A review of these efforts and an examination of their status should be organized. Based on this information, a plan can be created to determine potential options to remedy this situation. An option to consider may be having a postal pick-up box in Gill Center for afternoon service.

Economic Development Chapter Appendix

APPENDIX 2A: Surrounding Communities' Demographics

APPENDIX 2B: Home-Based Business Survey Form & Newspaper Article

APPENDIX 2C: Economic Development and Business Assistance Resources

APPENDIX 2A: Surrounding Communities' Demographics

Appendix Table 2-24: Total Population from 1970, 1980, 1990 and 2000

Geography	1970 Population	1980 Population	1990 Population	2000 Population
Bernardston	1,659	1,750	2,048	2,155
Erving	1,260	1,326	1,372	1,467
Gill	1,100	1,259	1,583	1,363
Greenfield	18,116	18,436	18,666	18,168
Montague	8,451	8,011	8,316	8,489
Northfield	2,631	2,386	2,838	2,951
Franklin County	59,233	64,317	70,092	71,535
Massachusetts	5,689,377	5,737,037	6,016,425	6,349,097

Source: U.S. Census Bureau – 1970 Census, 1980 Census, 1990 Census and 2000 Census

Note: See discussion in chapter regarding U.S. Census Bureau population statistics for Gill.

Appendix Table 2-25: Population Change from 1970 to 2000

Geography	1970-1980 Change	1980-1990 Change	1990-2000 Change	1970-2000 Change
Bernardston	5.5%	17.0%	5.2%	29.9%
Erving	5.2%	3.5%	6.9%	16.4%
Gill	14.5%	25.7%	-13.9%	23.9%
Greenfield	1.8%	1.2%	-2.7%	0.3%
Montague	-5.2%	3.8%	2.1%	0.4%
Northfield	-9.3%	18.9%	4.0%	12.2%
Franklin County	8.6%	9.0%	2.1%	20.8%
Massachusetts	0.8%	4.9%	5.5%	11.6%

Source: U.S. Census Bureau – 1970 Census, 1980 Census, 1990 Census and 2000 Census

Note: See discussion in chapter regarding U.S. Census Bureau population statistics for Gill.

Appendix Table 2-26: Age Distribution in 1990 and 2000

Geography	Total Population	% 9 Years & Under	% 10-19 Years	% 20-24 Years	% 25-44 Years	% 45-64 Years	% 65-74 Years	% 75 Years & Over
Bernardston								
1990	2,048	13.6%	14.8%	4.6%	32.9%	19.4%	8.5%	6.2%
2000	2,155	9.6%	15.6%	3.6%	26.9%	28.1%	8.5%	7.7%
Erving								
1990	1,375	12.8%	15.9%	5.7%	30.4%	17.4%	10.1%	7.6%
2000	1,467	12.1%	13.2%	4.1%	30.5%	26.3%	6.7%	7.1%
Gill								
1990	1,580	15.0%	12.7%	5.2%	33.9%	21.7%	6.6%	4.9%
2000	1,363	12.3%	14.5%	3.4%	26.8%	30.2%	5.9%	6.8%
Greenfield								
1990	18,666	13.9%	12.2%	6.5%	32.6%	16.1%	9.7%	9.0%
2000	18,168	11.2%	13.2%	5.8%	28.7%	23.5%	6.7%	10.8%
Montague								
1990	8,155	14.7%	11.3%	6.1%	32.1%	19.1%	10.4%	6.3%
2000	8,489	12.1%	13.3%	5.4%	29.3%	23.4%	8.2%	8.4%
Northfield								
1990	2,838	14.6%	13.9%	4.4%	32.1%	20.9%	7.9%	6.2%
2000	2,951	12.2%	16.9%	3.5%	27.5%	26.4%	7.0%	6.4%
Franklin County								
1990	70,092	14.5%	12.6%	6.4%	34.2%	17.7%	8.2%	6.3%
2000	71,535	11.5%	14.3%	5.4%	28.5%	25.9%	6.7%	7.5%
Massachusetts								
1990	6,016,425	13.1%	12.6%	8.4%	33.6%	18.6%	7.7%	5.9%
2000	6,349,097	13.0%	13.3%	6.4%	31.3%	22.4%	6.7%	6.8%

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Appendix Table 2-27: Highest Educational Attainment Level in 1990 and 2000*

Geography	Population 25 years and over	% Less than High School Graduate	% High School Graduate	% Some College	% Associate Degree	% Bachelor Degree	% Graduate Degree
Bernardston							
1990	1,372	15.2%	41.9%	16.7%	9.7%	11.1%	5.4%
2000	1,531	8.1%	40.0%	22.1%	10.3%	13.5%	6.0%
Erving							
1990	901	22.6%	44.3%	13.0%	10.4%	6.7%	3.0%
2000	1,036	15.5%	48.2%	15.7%	9.0%	8.3%	3.3%
Gill							
1990	1,060	13.7%	32.9%	17.0%	7.4%	14.4%	14.6%
2000	956	9.6%	37.8%	18.5%	6.2%	15.5%	12.4%
Greenfield							
1990	12,575	19.7%	34.9%	18.3%	9.3%	12.0%	5.9%
2000	12,680	14.0%	30.2%	21.7%	9.9%	14.1%	10.2%
Montague							
1990	5,539	22.7%	39.7%	14.3%	6.9%	9.6%	6.8%
2000	5,849	16.0%	37.3%	19.1%	8.6%	11.4%	7.6%
Northfield							
1990	1,903	13.6%	29.4%	18.5%	9.4%	17.1%	12.1%
2000	1,992	6.7%	30.7%	21.1%	10.7%	15.8%	15.0%
Franklin County							
1990	46,559	17.6%	33.2%	16.9%	8.0%	14.5%	9.8%
2000	49,121	12.0%	31.2%	19.0%	8.6%	16.2%	12.9%
Massachusetts							
1990	3,962,223	20.0%	29.7%	15.8%	7.2%	16.6%	10.6%
2000	4,273,275	15.2%	27.3%	17.1%	7.2%	19.5%	13.7%

* All data are for persons 25 years and over.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Appendix Table 2-28: Selected 2000 Income and Poverty Statistics

Geography	Per Capita Income in 1999	Median Household Income in 1999	Individuals Below Poverty Level*
Bernardston	\$20,959	\$45,259	4.4%
Erving	\$19,107	\$40,039	6.7%
Gill	\$23,381	\$50,750	4.4%
Greenfield	\$18,830	\$33,110	14.0%
Montague	\$17,794	\$33,750	13.1%
Northfield	\$21,517	\$49,141	5.0%
Franklin County	\$20,672	\$40,768	9.4%
Massachusetts	\$25,952	\$50,502	9.3%

* For whom poverty status was determined.

Please note that income data were reported for the previous year, in this case 1999, of when the Census survey was taken.

Source: U.S. Census Bureau – 2000 Census SF3

Appendix Table 2-29: Worker Commute Patterns 1990 and 2000

Geography	Total Workers*	Worked in Town of Residence	Worked out of Town but in County of Residence	Worked out of County but in State of Residence	Worked out of State of Residence
Bernardston					
1990	1,005	19.2%	71.9%	0.4%	8.5%
2000	1,130	12.4%	68.4%	11.5%	7.7%
Erving					
1990	681	18.2%	65.1%	13.1%	3.7%
2000	748	15.0%	59.4%	23.1%	2.5%
Gill					
1990	899	16.0%	73.2%	8.0%	2.8%
2000	757	13.3%	66.2%	16.8%	3.7%
Greenfield					
1990	8,650	66.1%	21.9%	8.9%	3.1%
2000	8,762	47.9%	25.7%	21.7%	4.7%
Montague					
1990	3,924	28.3%	47.9%	21.7%	2.1%
2000	4,111	22.5%	45.3%	30.5%	1.8%
Northfield					
1990	1,467	34.9%	53.2%	2.7%	9.2%
2000	1,643	28.2%	46.3%	13.9%	11.6%
Franklin County					
1990	34,674	35.8%	35.8%	24.9%	3.4%
2000	37,053	27.6%	34.9%	33.4%	4.1%
Massachusetts					
1990	2,979,594	36.5%	35.9%	24.5%	3.1%
2000	3,102,837	31.3%	35.4%	30.1%	3.3%

* Employed workers 16 years and over.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Appendix Table 2-30: Travel Time to Work in 1990 and 2000

Geography	Total Workers*	Work at home	Less than 10 Min.	10 - 19 Min.	20 - 29 Min.	30 - 39 Min.	40 - 59 Min.	60 - 89 Min.	90 or More Min.
Bernardston									
1990	1,005	4.6%	12.1%	47.3%	22.0%	7.4%	3.5%	2.8%	0.4%
2000	1,130	2.0%	13.4%	50.7%	18.8%	6.2%	4.5%	2.7%	1.7%
Erving									
1990	681	1.9%	19.1%	34.5%	20.6%	14.5%	7.5%	1.6%	19.1%
2000	748	3.2%	13.4%	29.1%	26.7%	15.2%	7.6%	3.3%	1.3%
Gill									
1990	899	5.2%	23.0%	41.0%	13.9%	8.3%	6.0%	1.6%	23.0%
2000	757	3.7%	14.4%	44.3%	15.1%	10.8%	6.5%	2.9%	2.4%
Greenfield									
1990	8,650	2.6%	36.7%	36.0%	8.5%	8.1%	5.2%	2.1%	36.7%
2000	8,762	4.4%	24.6%	31.7%	16.4%	11.7%	6.8%	2.1%	2.2%
Montague									
1990	3,924	3.5%	18.7%	38.1%	19.8%	10.9%	6.0%	2.3%	0.8%
2000	4,111	3.2%	16.2%	32.4%	18.7%	14.6%	10.3%	2.4%	2.0%
Northfield									
1990	1,467	5.8%	19.2%	22.3%	28.2%	14.4%	7.0%	1.9%	19.2%
2000	1,643	4.3%	16.2%	21.8%	29.0%	13.0%	10.6%	1.9%	3.2%
Franklin County									
1990	34,674	4.7%	21.8%	32.1%	17.8%	11.5%	7.7%	3.2%	1.1%
2000	37,053	5.1%	16.3%	30.0%	19.1%	14.2%	9.7%	3.3%	2.3%
Massachusetts									
1990	2,979,594	2.5%	15.6%	31.3%	18.7%	15.5%	10.7%	4.7%	1.0%
2000	3,102,837	3.1%	12.6%	27.4%	18.6%	16.3%	13.0%	6.5%	2.4%

* Employed workers 16 years and over.

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Appendix Table 2-31: Selected Labor Force Characteristics

Geography	Population 16 Years and Over	Labor Force (Civilian)	Total Employed	Unemploy- ment rate	Participation Rate	Female Participation Rate
Bernardston						
1990	1,584	1,083	1,025	5.4%	68.4%	60.2%
2000	1,742	1,193	1,147	3.9%	68.5%	65.4%
Erving						
1990	1,083	734	703	4.2%	67.8%	60.1%
2000	1,181	809	765	5.4%	68.5%	66.6%
Gill						
1990	1,221	951	909	4.4%	77.9%	75.0%
2000	1,081	786	761	3.2%	72.7%	67.8%
Greenfield						
1990	14,775	9,293	8,741	5.9%	63.2%	56.2%
2000	14,687	9,325	8,866	4.9%	63.5%	57.5%
Montague						
1990	6,352	4,343	4,003	7.8%	68.5%	60.6%
2000	6,777	4,448	4,191	5.8%	65.6%	60.2%
Northfield						
1990	2,153	1,552	1,495	3.7%	72.1%	62.8%
2000	2,265	1,690	1,659	1.8%	74.6%	71.5%
Franklin County						
1990	54,597	37,723	35,245	6.6%	69.1%	62.1%
2000	56,950	39,357	37,577	4.5%	69.1%	64.4%
Massachusetts						
1990	4,809,772	3,245,950	3,027,950	6.7%	67.5%	60.3%
2000	5,010,241	3,312,039	3,161,087	4.6%	66.1%	60.4%

Source: U.S. Census Bureau – 1990 Census STF3A and 2000 Census SF3

Appendix Table 2-32: Regional Unemployment Rates

Geography	1990 Unemp. Rate	1991 Unemp. Rate	1992 Unemp. Rate	1993 Unemp. Rate	1994 Unemp. Rate	1995 Unemp. Rate	1996 Unemp. Rate	1997 Unemp. Rate	1998 Unemp. Rate	1999 Unemp. Rate	2000 Unemp. Rate	2001 Unemp. Rate	2002 Unemp. Rate
Bernardston	5.6%	9.0%	7.1%	6.2%	6.3%	4.8%	3.4%	4.1%	3.3%	3.5%	2.7%	3.7%	4.3%
Erving	3.7%	7.8%	7.6%	5.3%	3.4%	3.6%	2.8%	3.1%	3.1%	2.9%	2.7%	3.9%	6.1%
Gill	4.0%	6.9%	3.7%	3.6%	3.3%	3.1%	2.8%	2.5%	2.0%	1.9%	1.5%	1.6%	1.8%
Greenfield	4.8%	8.3%	8.4%	6.4%	5.3%	5.0%	3.9%	3.7%	3.5%	3.3%	2.7%	3.5%	4.4%
Montague	4.7%	8.2%	9.3%	6.7%	5.8%	6.4%	4.6%	4.4%	3.7%	3.2%	3.0%	3.5%	4.6%
Northfield	5.2%	6.0%	6.3%	3.6%	3.3%	3.2%	3.2%	2.8%	2.6%	2.0%	2.0%	2.4%	3.2%
Franklin County	4.9%	8.1%	7.8%	6.0%	5.2%	4.7%	3.8%	3.8%	3.3%	2.9%	2.6%	3.2%	4.1%
Massachusetts	6.0%	9.1%	8.0%	6.9%	6.0%	5.4%	4.3%	4.0%	3.2%	3.2%	2.6%	3.7%	5.3%

Source: Massachusetts Division of Employment & Training

Appendix Table 2-33: 2000 Class of Worker

Geography	Total Employed *	Private Wage and Salary Workers	Government Workers	Self-employed Workers**	Unpaid Family Workers ***
Bernardston	1,130	76.6%	14.5%	8.9%	0.0%
Erving	748	75.6%	17.9%	6.5%	0.0%
Gill	757	70.2%	18.7%	10.9%	0.3%
Greenfield	8,762	75.6%	16.4%	7.8%	0.2%
Montague	4,191	71.3%	19.3%	8.9%	0.5%
Northfield	1,643	76.5%	14.7%	8.8%	0.0%
Franklin County	37,577	70.5%	19.3%	9.8%	0.3%
Massachusetts	3,161,087	80.0%	13.5%	6.4%	0.2%

*Employed Civilian Population 16 years of age and over.

** Self-employed workers in own, non-incorporated business.

*** Unpaid family workers are individuals who work 15 or more hours without pay in a business or on a farm operated by a relative

Source: U.S. Census Bureau – 2000 Census SF3

Appendix Table 2-34: 2000 Employment by Sector

Employment Sector	Bernardston	Erving	Gill	Greenfield	Montague	Northfield	Franklin County	Massachusetts
Educational, Health & Social Services	22.3%	20.9%	30.7%	28.0%	33.1%	36.1%	30.4%	23.7%
Manufacturing	14.1%	18.8%	15.9%	15.5%	14.3%	12.3%	15.0%	12.8%
Retail Trade	10.6%	14.4%	10.2%	12.3%	12.8%	10.1%	11.0%	11.2%
Other Services (except Public Administration)	5.9%	5.2%	7.8%	5.7%	4.4%	3.6%	4.8%	4.4%
Finance, Insurance, & Real Estate	4.9%	3.4%	5.9%	4.9%	4.4%	4.2%	4.1%	8.2%
Construction	8.2%	6.7%	5.8%	4.0%	6.6%	5.7%	6.0%	5.5%
Public Administration	5.8%	5.9%	5.5%	4.0%	3.8%	3.3%	4.4%	4.3%
Transportation, Warehousing & Utilities	5.4%	4.7%	4.7%	4.0%	4.6%	5.2%	4.2%	4.2%
Arts, Entertainment, Recreation, Accommodation & Food Services	8.7%	6.8%	3.9%	7.7%	5.2%	5.0%	6.5%	6.8%
Professional, Scientific, Management, & Administrative Services	3.7%	6.0%	2.9%	6.4%	5.3%	4.2%	6.4%	11.6%
Information Services	3.3%	3.4%	2.4%	3.9%	1.6%	2.4%	2.6%	3.7%
Wholesale Trade	2.1%	2.1%	2.4%	3.1%	2.6%	4.3%	2.8%	3.3%
Agriculture, Forestry, Fishing, Hunting, & Mining	4.8%	1.7%	1.8%	0.5%	1.3%	3.6%	1.8%	0.4%
Total Employed*	1,147	765	761	8,866	4,191	1,659	37,577	3,161,087

Source: U.S. Census Bureau – 2000 Census SF3

Appendix Table 2-35: Selected Single Family Municipal Tax Information

Town	Fiscal Year	Total Assessed Value	Number of Parcels	Average Assessed Value	Tax Rate (per \$1,000)	Average Single Family Tax Bill	High to Low Rank **	State Median Single Family Tax Bill
Bernardston								
	1999	\$73,148,800	657	\$111,338	\$18.10	\$2,015	202 of 340	\$2,191
	2000	\$74,722,500	665	\$112,365	\$17.42	\$1,957	229 of 340	\$2,297
	2001	\$79,649,800	665	\$119,774	\$17.41	\$2,085	230 of 340	\$2,418
	2002	\$81,362,700	676	\$120,359	\$21.00	\$2,528	182 of 340	\$2,577
	2003	\$82,334,800	680	\$121,081	\$18.40	\$2,228	235 of 320	\$2,734
Erving *								
	1999	\$39,412,000	445	\$88,566	\$9.40/\$13.41	\$833	334 of 340	\$2,191
	2000	\$41,260,600	446	\$92,513	\$3.54/\$5.64	\$327	340 of 340	\$2,297
	2001	\$42,184,700	451	\$93,536	\$3.67/\$5.85	\$343	340 of 340	\$2,418
	2002	\$43,532,990	463	\$94,024	\$5.34/\$8.52	\$502	339 of 340	\$2,577
	2003	<i>No information available</i>						\$2,734
Gill								
	1999	\$41,531,563	379	\$109,582	\$15.20	\$1,666	278 of 340	\$2,191
	2000	\$42,388,700	383	\$110,675	\$15.24	\$1,687	282 of 340	\$2,297
	2001	\$42,824,700	386	\$110,945	\$16.54	\$1,835	270 of 340	\$2,418
	2002	\$47,849,300	390	\$122,691	\$15.37	\$1,886	280 of 340	\$2,577
	2003	\$49,259,400	395	\$124,707	\$15.80	\$1,970	271 of 320	\$2,734
Greenfield								
	1999	\$388,952,718	3,804	\$102,248	\$20.47	\$2,093	196 of 340	\$2,191
	2000	\$385,826,500	3,772	\$102,287	\$21.68	\$2,218	187 of 340	\$2,297
	2001	\$414,416,704	3,776	\$109,750	\$22.36	\$2,454	165 of 340	\$2,418
	2002	\$440,618,400	3,784	\$116,442	\$21.23	\$2,472	188 of 340	\$2,577
	2003	\$480,622,100	3,793	\$126,713	\$21.21	\$2,688	166 of 320	\$2,734
Montague *								
	1999	\$179,123,400	1,887	\$94,925	\$16.73/\$22.08	\$1,588	291 of 340	\$2,191
	2000	\$181,958,200	1,906	\$95,466	\$16.74/\$22.26	\$1,598	298 of 340	\$2,297
	2001	\$198,614,600	1,914	\$103,769	\$16.74/\$22.31	\$1,737	286 of 340	\$2,418
	2002	\$200,337,300	1,922	\$104,234	\$17.36/\$22.90	\$1,810	296 of 340	\$2,577
	2003	\$218,355,900	1,927	\$113,314	\$19.08/\$24.13	\$2,162	242 of 320	\$2,734
Northfield								
	1999	\$101,810,200	996	\$102,219	\$16.08	\$1,644	280 of 340	\$2,191
	2000	\$103,530,500	1,006	\$102,913	\$14.46	\$1,488	311 of 340	\$2,297
	2001	\$120,491,700	1,019	\$118,245	\$12.85	\$1,519	311 of 340	\$2,418
	2002	\$123,033,900	1,029	\$119,566	\$14.60	\$1,746	304 of 340	\$2,577
	2003	\$125,470,900	1,039	\$120,761	\$13.77	\$1,663	301 of 320	\$2,734

* Erving and Montague have two different tax rates depending on the type of property. The first tax rate listed is for residential and open space land. The second tax rate listed is for commercial and industrial land.

** For the fiscal years 1999, 2000, 2001 and 2002 the high to low rank was determined for 340 municipalities in Massachusetts. For fiscal year 2003, the high to low rank was determined for 320 municipalities. There are 351 municipalities in Massachusetts.

Source: Massachusetts Department of Revenue – Division of Local Services

APPENDIX 2B: Town of Gill - Home-Based Business Survey

Dear Residents and Operators of Home-based Businesses,

If you operate a business from your home, we would greatly appreciate your help by completing this survey. It should take less than 10 minutes of your time to complete this survey. Our definition for “home-based business” is a business, either for-profit or non-profit, that is operated on the same property as your residence. Generally, these businesses tend to be small in size and may not be readily recognizable as a business operation to those driving by. This survey is being conducted to learn about the businesses that are operating in Gill and to determine if the Town can provide additional support to local home-based businesses.

Sincerely,
Gill Community Development Planning Committee

Survey to Existing Home-based Businesses

1. What industry is your home-based business in? *(Please select one that best represents your business. If none apply, please select “Other” and explain.)*
 - a. Agriculture, forestry, or other natural resource related business (including farm stands and greenhouses)
 - b. Food production or processing
 - c. Bed & breakfast or other accommodations
 - d. Tourism or recreation related business (please specify _____)
 - e. Arts & crafts creation/production
 - f. Construction trades (including plumbing and carpentry)
 - g. Auto repair or sales
 - h. Light assembly/manufacturing
 - i. Publishing, graphic design, computer programming, or other information services
 - j. Sales or marketing services
 - k. Consulting or professional services
 - l. Health care, beauty or fitness related business
 - m. Child or elder day-care
 - n. Education related business
 - o. Non-profit/Not-for-profit organization
 - p. Other: _____

2. How long has your company been in business?

<input type="checkbox"/> a. Less than 1 year	<input type="checkbox"/> c. 5 to 10 years
<input type="checkbox"/> b. 1 to 5 years	<input type="checkbox"/> d. 10 years or greater

3. How many employees do you have working out of your home location?
(Please include yourself as well as any family members, if applicable.)

Part-time: _____ Full-time: _____

4. Over the past two years, have your business' gross revenues:
- a. Increased 20% or greater
 - b. Increased 10% to 20%
 - c. Increased 1% to 10%
 - d. Remained stable
 - e. Decreased
5. How much building space do you require to operate your business?
- a. Less than 500 square feet
 - b. 500 to 1,000 square feet
 - c. 1,000 to 5,000 square feet
 - d. Greater than 5,000 square feet
- Do you need yard space to operate your business as well?
- Yes No
- If yes, approximately how much area? _____
6. Do you anticipate the need to expand your space to adequately operate your business?
- Yes No
- (If yes, please answer questions 7, 8 and 9. If no, please proceed to question 10.)*
7. If yes, what are your top 3 preferred locations for expansion:
(Examples: at your present location; along Route 2 corridor in Gill; an industrial park; an office park; downtown office space; a redeveloped mill building; or a specific location, such as Greenfield or Orange; or outside of Franklin County or Massachusetts.)
- Location 1: _____
- Location 2: _____
- Location 3: _____
8. If yes, when do you estimate you will need this additional space?
- a. Less than 1 year from now
 - b. 1-5 years from now
 - c. 5-10 years from now
 - d. 10 + years from now
9. If yes, how many people (including yourself) do you expect to employ when you expand?
- a. 1 part-time
 - b. 1-3 full/part-time
 - c. 3-10 full/part-time
 - d. 10-15 full/part-time
 - e. 15+ full/part-time

10. Of the following infrastructure needs, which do you think are most important to your business? *(Please select all that apply to your business.)*
- a. Public water supply system
 - b. Public sewer system
 - c. Telecommunications
 - 1. Cable modem
 - 2. DSL
 - 3. T1
 - 4. Satellite broadband
 - 5. Voice mail
 - 6. Caller ID
 - 7. Cellular phone service
 - d. Improved road network (ex: easy access to major highways, paved roadways, etc.)
 - e. Improved access to air transportation
 - f. More public transit options
 - g. Other:

11. Which of the following business-related services would you find helpful being located in Gill? *(Please select all that apply to your business.)*
- a. US Postal Service or express mail service drop-box (i.e. FedEx)
 - b. US Post Office in Gill or separate zip code for Gill
 - c. Telecommunications center (i.e. public computer terminal with high-speed broadband)
 - d. Access to a photocopier
 - e. Meeting room for public use
 - f. Available office space for lease in Gill
 - g. Community or region-wide networking mechanism to interact with other home-based businesses
 - h. Transit service
 - i. Other:

12. What are the advantages and disadvantages to being a home-based business located in Gill?

Advantages

Disadvantages

Thank you for your participation in this effort. Your responses will be used to help guide the economic development planning process in Gill. Please note that your individual survey responses will be kept confidential. If you have additional comments you would like to share, please attach an additional page to this survey.

Mail completed survey form to: **Franklin Regional Council of Governments**
Attn: Jessica Atwood
425 Main Street, Suite 20
Greenfield, MA 01301

Or drop off your completed survey form at the following locations:

Gill Town Hall (Hours: Monday through Friday, 8:30 am – 4:40 pm)

Gill Library (Hours: Mondays 2:00 pm – 6:00 pm, Thursdays 2:00 pm – 8:00 pm;
and Saturdays 10:00 am – 2:00 pm)

The Gill Store (Hours: Monday through Friday, Noon – 8:00 pm; Saturdays 9:00 am
– 8:00 pm)

Route To Convenience (Hours: Daily 6:00 am – 9:00 pm; except Friday closes at
10:00 pm)

Please postmark or drop off your survey response by the end of **Sunday, August 31st**.
Thank you.

APPENDIX 2C: Economic Development and Business Assistance Resources

Organization: Center for Economic Development - UMASS

Address: 109 Hills North, UMASS, Amherst, MA 01003

Telephone: (413) 545-6628

Website: www.umass.edu/larp/CED

Description: CED offers technical assistance to conduct workshops or complete economic development plans. In addition, applied research projects services are available as well as training for municipal board members.

Organization: Cooperative Development Institute

Address: 277 Federal Street, Greenfield, MA 01301

Telephone: (413) 774-7599

Website: www.cooplife.com/aboutcdi.htm

Description: CDI is a non-profit organization that offers fee-based services to assist in the development of cooperative businesses and organizations.

Organization: Economic Development Council of Western Massachusetts (EDC)

Address: 255 Padgette Street, Suite 1, Chicopee, MA 01022

Telephone: (413) 593-6421

Website: www.ecdev-wma.com

Description: The EDC coordinates economic development initiatives amongst a variety of partners, including chambers of commerce and the RTC networks.

Organization: Franklin County Chamber of Commerce (FCCC)

Address: P.O. Box 790, 395 Main St., Greenfield, MA 01302

Telephone: (413) 773-5463

Website: www.co.franklin.ma.us

Description: FCCC provides services to large and small businesses throughout Franklin County, including health insurance, networking opportunities, lobbying representation, and assistance with town events.

Organization: Franklin County Community Development Corporation (FCCDC)

Address: The Venture Center, 324 Wells Street Greenfield, MA 01301

Telephone: (413) 774-7204

Website: www.fccdc.org

Description: The FCCDC offers business training, consulting, direct lending, community organizing, and real estate development services. The FCCDC also operates the Venture Center business incubator and the Western Mass. Food Processing Center.

Organization: Franklin Regional Council of Governments (FRCOG)

Address: 425 Main Street, Suite 20, Greenfield, MA 01301-3313

Telephone: (413) 774-3167

Website: www.frcog.org

Description: The FRCOG provides services to the 26 towns of Franklin County including regional planning and community development, engineering, municipal and human services. Also, as a State Data Center affiliate free economic and demographic information is offered.

Organization: Franklin/Hampshire Career Center

Address: One Arch Place, Greenfield, MA 01301

Telephone: (413) 774-4361

Website: www.fhcc-onestop.com

Description: The Center's mission is to help job seekers secure employment and/or education to improve their economic situation as well as helping employers become more competitive and find workers with skills and abilities to be productive on the job.

Organization: Franklin/Hampshire Regional Employment Board (FHREB)

Address: One Arch Place, Greenfield, MA 01301

Telephone: (413) 774-1835

Website: www.fhcc-onestop.com/reb.html

Description: FHREB is the local administrator of public employment and training programs and services for area employers and residents overseen by the Mayors of Northampton and Greenfield, and the Private Industry Council.

Organization: Greenfield Community College - Office of Resource and Workforce Development

Address: 270 Main Street, Greenfield, MA 01301

Telephone: (413) 775-1607

Website:

www.gcc.mass.edu/foldergeninfo/wd/index.html

Description: GCC's Office of Resource and Workforce Development offers employers a resource for enhancing the skills of their employees through programs targeted to entry-level employee training, job enhancement workshops, and industry related workshops.

Organization: HiddenTECH

Address: www.hidden-tec.net

Telephone: (413) 253-4124

Website: www.hidden-tec.net

Description: A membership-based network of professionals and small businesses (including home-based and virtual companies) located in the western Massachusetts region, which offers a variety of networking and informational events and workshops.

Organization: Massachusetts Chapter of the American Planning Association

Address: c/o Devens Enterprise Commission, 43 Buena Vista Street, Devens, MA 01432

Telephone: (978) 772-8831 x313

Website: www.massapa.org

Description: As part of the national American Planners Association, the MassAPA offers workshops, materials and other resources to assist planners.

Organization: Massachusetts Department of Revenue - Business Information

Address: 436 Dwight Street, Springfield, MA 01103

Telephone: (413) 784-1000

Website:

www.dor.state.ma.us/business/businesshome.htm

Description: The DOR Business Information web page offers an explanation of tax obligations and electronic forms and filing for taxes and licensing and regulations.

Organization: Massachusetts Development Finance Agency - Western Office

Address: 1441 Main Street, Springfield, MA 01103

Telephone: (413) 731-8848

Website: www.massdevelopment.com

Description: MassDevelopment programs include funding for pre-construction analyses, direct loans for projects with clear community development or job creation/retention potential, and issuing tax-exempt and taxable bonds for applicable entities.

Organization: Massachusetts Municipal Association (MMA)

Address: 60 Temple Place, Boston, MA 02111

Telephone: (800) 882-1498

Website: www.mma.org

Description: The MMA is a non-profit, statewide organization that brings municipal officials together to establish unified policies and to share information for the benefit of the community residents.

Organization: Massachusetts Rural Development Council, Inc. (MRDC)

Address: 216 Draper Hall, UMASS, Amherst, MA 01003

Telephone: (413) 545-4404

Website: www.mrdc.org

Description: The MRDC is committed to securing the future of rural Massachusetts by building enduring public/private sector partnerships.

Organization: Massachusetts Small Business Development Centers Network - Western Office

Address: Springfield Enterprise Center, 1 Federal St., Springfield, MA 01105-1160

Telephone: (413) 737-6712

Website: http://msbdc.som.umass.edu/

Description: The Regional Office provides assistance to prospective and existing small businesses on topics such as business plan development, financing, personnel issues and marketing. MSBDC staff hold office hours at the Franklin County Chamber of Commerce.

Organization: Mount Grace Land Conservation Trust

Address: 1461 Old Keene Road, Athol, MA 01331

Telephone: (978) 248-2043

Website: www.mountgrace.org

Description: The Trust works to protect significant natural, agricultural, and scenic areas, and encourages land stewardship in north central and western Massachusetts.

Organization: New England Forestry Foundation (NEFF)

Address: PO Box 1346, Littleton, MA 01460-4346

Telephone: (978) 448-8380

Website: www.newenglandforestry.org

Description: NEFF works to provide support for the conservation and sustainable management of private forestlands.

Organization: Office of Industry Liaison and Economic Development - UMASS

Address: UMASS, Amherst, MA 01003

Telephone: (413) 545-2706

Website: www.umass.edu/iled

Description: ILED works to connect the UMASS community with business and industry such as through the promotion of innovation and advancement of research.

Organization: Pioneer Valley Connect
Address: c/o Franklin Regional Council of Governments, 425 Main Street, Suite 20, Greenfield, MA 01301
Telephone: (413) 774-1194 ext 101
Website: *Under construction*
Description: The Connect is focused on the advancement of broadband services and deployment in three-county Pioneer Valley region.

Organization: Regional Technology Corporation (RTC)
Address: 1441 Main Street, Suite 136, Springfield, MA 01006
Telephone: (413) 587-2195
Website: www.rtacentral.com
Description: The RTA is a collaboration of industry, academia and public/non-profit sectors to increase the pace of innovation and technology commercialization in the western Massachusetts region.

Organization: Service Corps of Retired Executives (SCORE)
Address: c/o Franklin County Chamber of Commerce, P.O. Box 790, 395 Main St., Greenfield, MA 01301
Telephone: (413) 773-5463
Website: www.score.org
Description: The Franklin County Chamber of Commerce host SCORE services of technical assistance to area businesses at no charge through retired executives. The SCORE website also offers an extensive web-links page of online resources.

Organization: Technology Enterprise Council (TEC)
Address: 1441 Main Street, Suite 136, Springfield, MA 01103-1449
Telephone: (413) 755-1301
Website: www.tecouncil.org
Description: TEC is a private, regional, industry-led organization created to advance the success of companies driven by information and communications technologies (affiliated with the Regional Technology Corporation).

Organization: United States Rural Development Agency – Western Massachusetts Office
Address: 195 Russell Street, Suite B7, Hadley, MA 01035-9521
Telephone: (413) 586-1000 x4
Website: www.rurdev.usda.gov/ma
Description: USDA Rural Development offers technical assistance and financial backing to rural businesses and cooperatives to create quality jobs in rural areas.

Organization: United States Small Business Administration - Springfield Office (SBA)
Address: Springfield, MA
Telephone: (413) 785-0484
Website: www.sba.gov/ma
Description: The SBA provides financial, technical and management assistance to help start, run, and grow businesses. SBA has a portfolio of business loans, loan guarantees and disaster loans, in addition to a venture capital portfolio.

Organization: Western Massachusetts Enterprise Fund (WMEF)
Address: PO Box 1077, 308 Main Street, Greenfield, MA 01302
Telephone: (413) 774-4033
Website: www.wmef.org
Description: The WMEF is a non-profit organization that provides financing and technical assistance to entrepreneurs and small businesses in the five counties of western Massachusetts. Loan programs with competitive interest rates range from \$1,000 to \$100,000.

Organization: Young Entrepreneurs Society, Inc. (YES)
Address: 26 South Main Street, Orange, MA 01364-0426
Telephone: (978) 544-1869
Website: www.yes-inc.org
Description: YES offers training on business plan development and technical assistance to support youth entrepreneurship.

CHAPTER 3

CHAPTER 3: TRANSPORTATION – PAVEMENT MANAGEMENT SYSTEM REPORT

Executive Summary

The Franklin Regional Council of Governments (FRCOG) has been involved in pavement management since the early 1990s. In 1997 the FRCOG concluded a three year contract with the Massachusetts Highway Department (MassHighway) that completed the survey and analysis of nearly 500 miles of Federal-Aid and State Transportation Program (STP) funded roads in the 26 Franklin County communities. Since the completion of that contract, the FRCOG has continued its commitment to assist Franklin County communities who are interested in establishing a Pavement Management System for their community. The Town of Gill requested that a portion of their Executive Order 418 funding be utilized to produce a pavement management analysis of the town maintained paved road network. The results of the analysis are contained within this report.

The Town of Gill maintains 34.35 miles of roadway, of which 25.98 miles are paved. The FRCOG conducted a pavement surface survey during the Fall of 2003 and analyzed the data. The survey indicates that the Town is implementing sound pavement management practices with the limited funds that are available. The paved road network is currently in a “good” overall condition.

An analysis of future conditions indicates that existing levels of Chapter 90 funding are not sufficient to allow the Town to improve or even maintain the existing level of pavement conditions through 2013. A second analysis looked at the impacts on the paved road network conditions if Chapter 90 funds were restored to an annual \$150 million statewide program. This analysis showed that not only would the existing condition of the paved road network be maintained, but additional improvements could be made. A final analysis was used to try and predict the impacts on the paved road network if funding is not secured for the reconstruction of Main Road. This analysis using existing Chapter 90 funding levels showed an accelerated decline in pavement conditions and increases in Backlog of Repairs. These budgetary analyses show that in the absence of an increase in Chapter 90 funding, an alternative source roughly equivalent to \$30,000 per year is needed to maintain the paved road network in its current conditions.

The Town already does an excellent job of utilizing available funding sources, but for it to protect the investment it has already made, additional maintenance funds must be found. In these tough economic times it is difficult to leverage additional funds, but with Governor Romney’s new Road and Bridge Policy of “Fix It First”, this report could be used as justification when lobbying for additional funding now or in the future.

The Town now has the base data that will allow it to monitor its progress with maintaining the road network through the regular survey of its paved road network and the FRCOG will continue to provide support to the extent possible.

Introduction

The Franklin Regional Council of Governments (FRCOG) has been involved in pavement management since the early 1990s. In 1997 the FRCOG concluded a three-year contract with the Massachusetts Highway Department (MassHighway) that completed the survey and analysis of nearly 500 miles of Federal-Aid and State Transportation Program (STP) funded roads in the 26 Franklin County communities. Since the completion of that contract, the FRCOG has continued its commitment to assist Franklin County communities who are interested in establishing a Pavement Management System for their community. Since 1997 the FRCOG has completed pavement management studies for the towns of Ashfield, Buckland, Heath, Orange, Shelburne and Shutesbury. The Town of Gill requested that a portion of their Executive Order 418 funding be utilized to produce a pavement management analysis of the town maintained paved road network. The FRCOG was contracted to complete the study and the results of the analysis are contained within this report.

A Pavement Management System (PMS), as defined by the American Public Works Association (APWA), is “a systematic method for routinely collecting, storing, and retrieving the kind of decision-making information needed (about pavement) to make maximum use of limited maintenance and construction dollars.” Historically, road maintenance funds were channeled to those roads that were perceived by local highway superintendents to be in the worst condition, or where political influence dictated. Various studies have indicated that a pavement maintained in a perpetual “good” to “excellent” condition, requires one-fourth to one-fifth the investment of a pavement that is un-maintained and rehabilitated once it reaches a “poor” or “failed” condition. A PMS is designed to provide quantitative information to support repair and budget decisions which reflect this thinking.

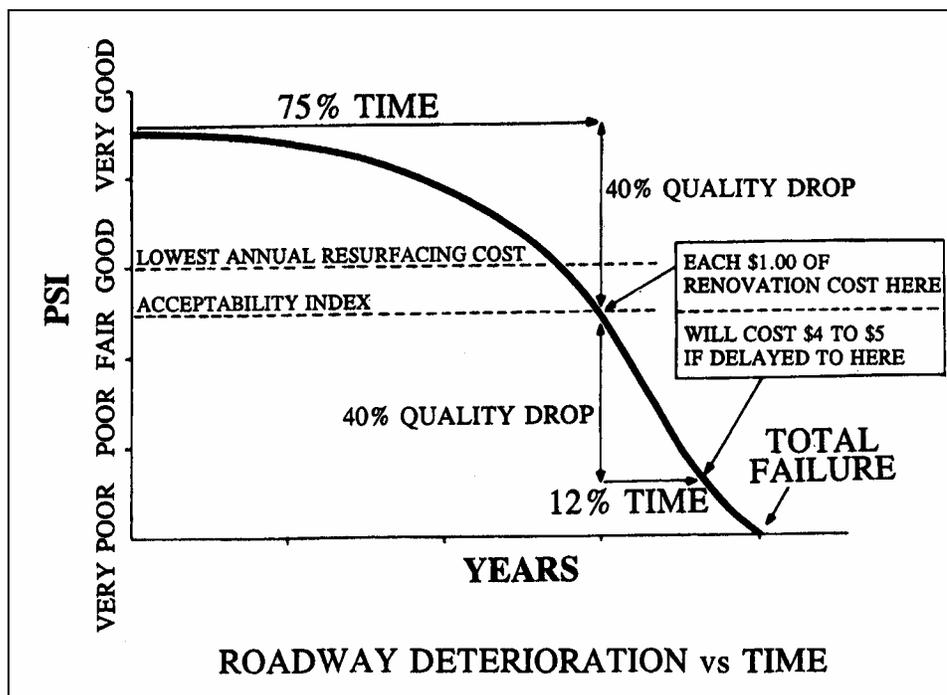
Figure 3-5 gives a graphical depiction of the general life cycle of an asphalt pavement. Under normal conditions of consistent weather and traffic patterns, a pavement will deteriorate by 40 percent in the first 75 percent of its life. During the next 12 percent of its life, the pavement will deteriorate by a further 40 percent. With proper timing of preventative maintenance measures during the first 75 percent of a pavement’s life, many years can be added to the functionality of the road at a lower overall cost.

With limited availability of transportation funding, it is more important than ever to make cost-effective decisions. A formalized PMS improves on the existing practices that most highway departments already employ by enhancing professional judgment through guidelines and a standardized approach. It also provides highway departments and Town officials with information that can be used to levy additional funding either from Town Meeting or State and Federal sources. A PMS is generally based on a computer software database that has been developed from years of research into the function and longevity of pavement materials and the effects of timed repair strategies. A PMS can help in determining the most appropriate time for

repair action, the most cost-effective methods, and the cost of maintaining the roadway at the desirable condition level.

This pavement management study provides the core information and a starting point to formalize a pavement management system for the Town.

Figure 3-5: Life Cycle of Asphalt Pavement



Source: 1996 Pavement Management Program Technical Report, MassHighway

Background

The FRCOG utilizes the RoadManager (RM) pavement management software for its pavement management studies and extracts basic geometric and administrative information about roads from the MassHighway maintained Road Inventory File (RIF). The RIF is a computerized database containing information on all public roads and highways within the Commonwealth of Massachusetts. It was originally compiled from field data collected between 1969 and 1974 and has become an important reference source for transportation planning and administration at the Federal, State and local levels. In conjunction with this study, the FRCOG has worked with the Highway Superintendent, to update the information contained in the latest version of the RIF. For Gill this amounted to some minor road name corrections and the addition of a couple of short lengths of roadway. The FRCOG will be working with the Town and MassHighway to ensure that all updates identified will be reflected in future versions of the RIF.

The road network in the Town of Gill is comprised of both paved and gravel surfaced roadways. According to the 2002 year end release of the RIF with the subsequent updates, the Town is responsible for the maintenance of 34.35 miles of roadway and MassHighway is responsible for

the maintenance of 3.94 miles of roadway (Route 2, Route 10 & Gill-Montague Bridge). Unaccepted (abandoned or privately maintained) roadways account for an additional 5.21 miles, and the State Park or Forest Service is responsible for the maintenance of another 0.13 miles (Boat Ramp) of roadway within the town. This produces a total of 43.63 miles of both paved and gravel recognized roadways in the Town of Gill. It should be noted that these mileages are provisional until MassHighway has accepted the submitted updates. Map 3-9 shows the Gill road network by Maintenance Authority (i.e. Town, MassHighway, etc.)

Functional Classification of roadways was mandated under the Federal Intermodal Surface Transportation Efficiency Act (ISTEA) legislation passed in 1991, and was completed in 1993 by MassHighway in cooperation with the 13 Regional Planning Agencies. The Federal Highway Administration states that, "Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network."⁷ The classification ranks roads according to a hierarchy and determines which roads are eligible for Federal Aid and State Transportation Program (STP) funds for improvements through the Transportation Improvement Program (TIP) coordinated by the Franklin Regional Council of Governments.

The four basic categories of functional classification based on the hierarchical system are:

- Interstates: Highways that serve interstate travel;
- Arterials: Roads that link cities to towns or provide interstate/intercounty service;
- Collectors: Roads that serve towns outside of the arterial system, lead to the arterial system, or link towns; and
- Local: Roads that primarily serve residential areas or adjacent land uses.

Arterials and Collectors have further sub-classifications of "Urban" or "Rural", and "Major" or "Minor" based on population density characteristics. All roadways in Gill are termed "Rural".

Gill's road network is made up of Arterial, Collector and Local classified roadways. Map 3-10 shows the road network and the assigned functional classifications. Of the 35.34 miles of roadway maintained by the Town, 6.60 miles are classified as Rural Major Collector, and 27.75 miles as Rural Local. Town maintained roadways classified as Rural Major Collector are eligible for Federal Aid and STP funds for reconstruction or rehabilitation through the TIP Process. The Town maintained roadways eligible to apply to the TIP process are Main Road and Mount Hermon Station Road. The northern 3 miles of Main Road is currently waiting funding for its reconstruction under this process. The procedures for applying for this source of funding are discussed later in this report. Route 2 (French King Highway) maintained by MassHighway is functionally classed as Rural Principal Arterial, while Route 10 is functionally classified as Rural Minor Arterial and the Gill Montague Bridge is functionally classified as Rural Major Collector. All the unaccepted and State Park roadways are functionally classified as Rural Local.

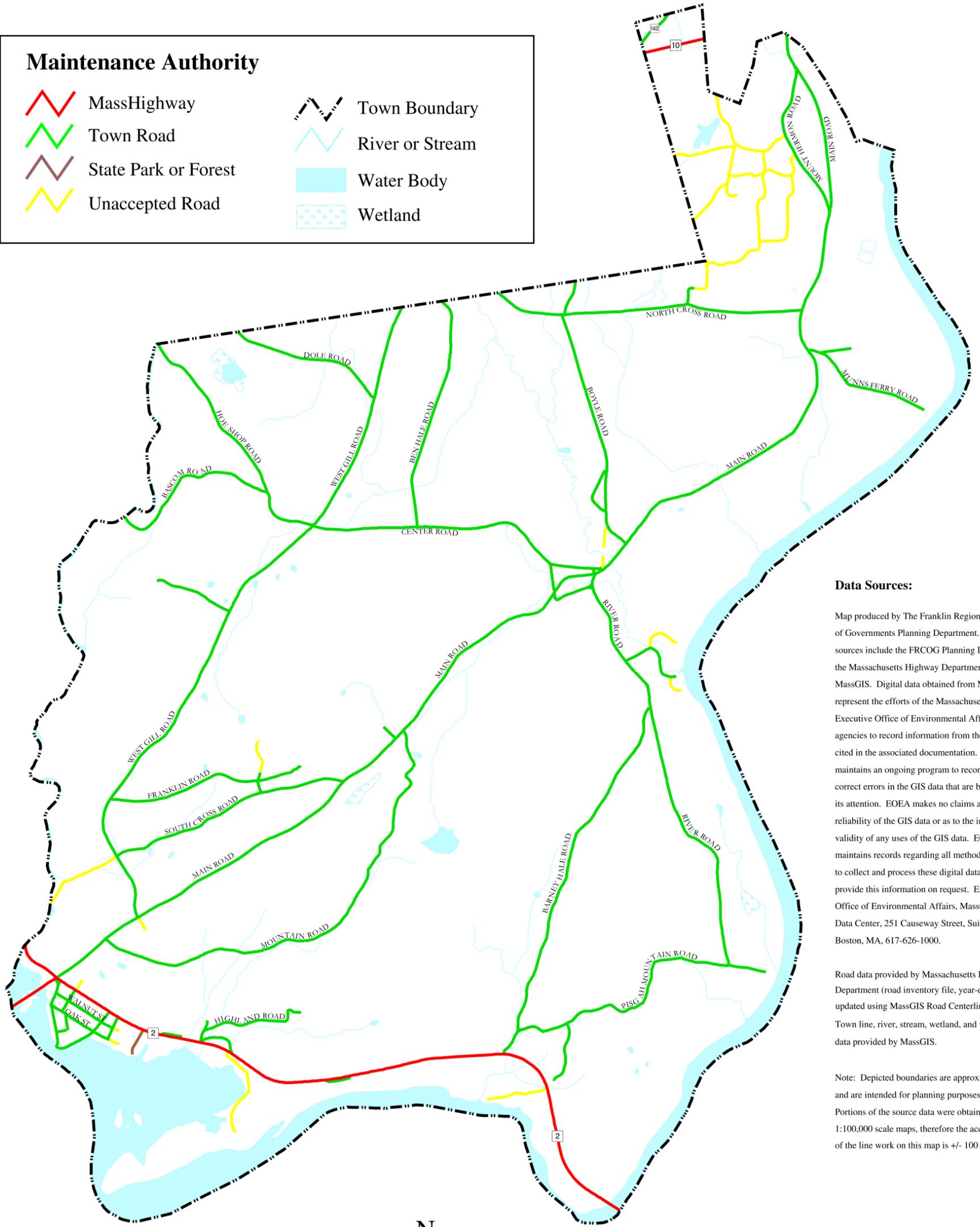
⁷ Highway Functional Classification: Concepts, Criteria and Procedures. U.S. Department of Transportation, Federal Highway Administration. March 1989. Publication number FHWA-ED-90-006

TOWN OF GILL PAVEMENT MANAGEMENT STUDY

Map 1 - Maintenance Authority

Maintenance Authority

	MassHighway		Town Boundary
	Town Road		River or Stream
	State Park or Forest		Water Body
	Unaccepted Road		Wetland

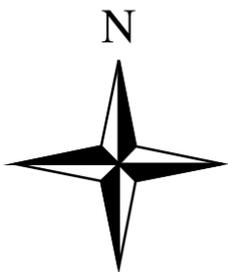


Data Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEAO maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEAO makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEAO maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEAO Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department (road inventory file, year-end 2002) and updated using MassGIS Road Centerline data layer. Town line, river, stream, wetland, and water body data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.



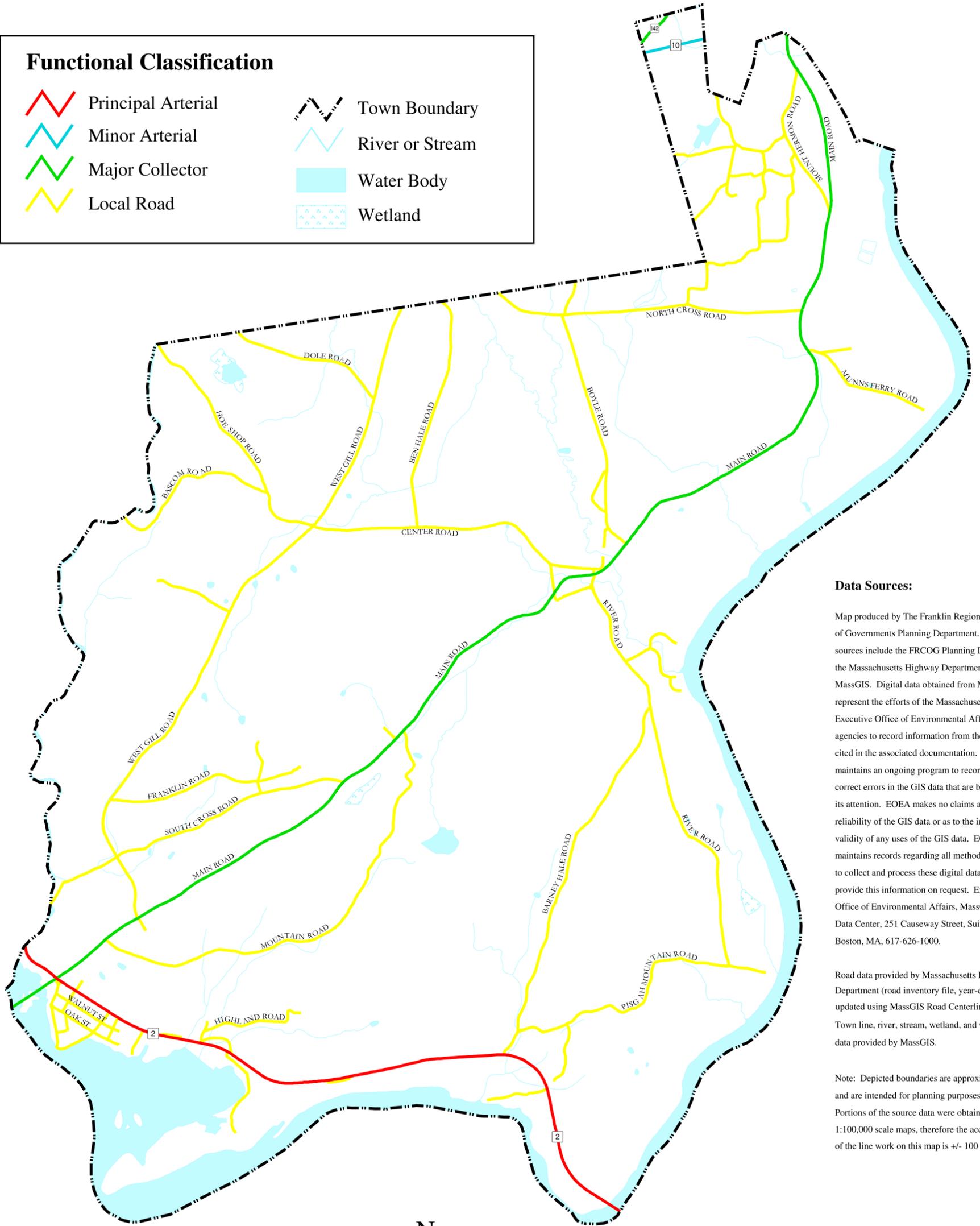

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TOWN OF GILL PAVEMENT MANAGEMENT STUDY

Map 2 - Functional Classification

Functional Classification

	Principal Arterial		Town Boundary
	Minor Arterial		River or Stream
	Major Collector		Water Body
	Local Road		Wetland

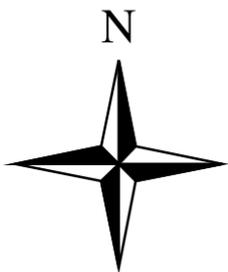


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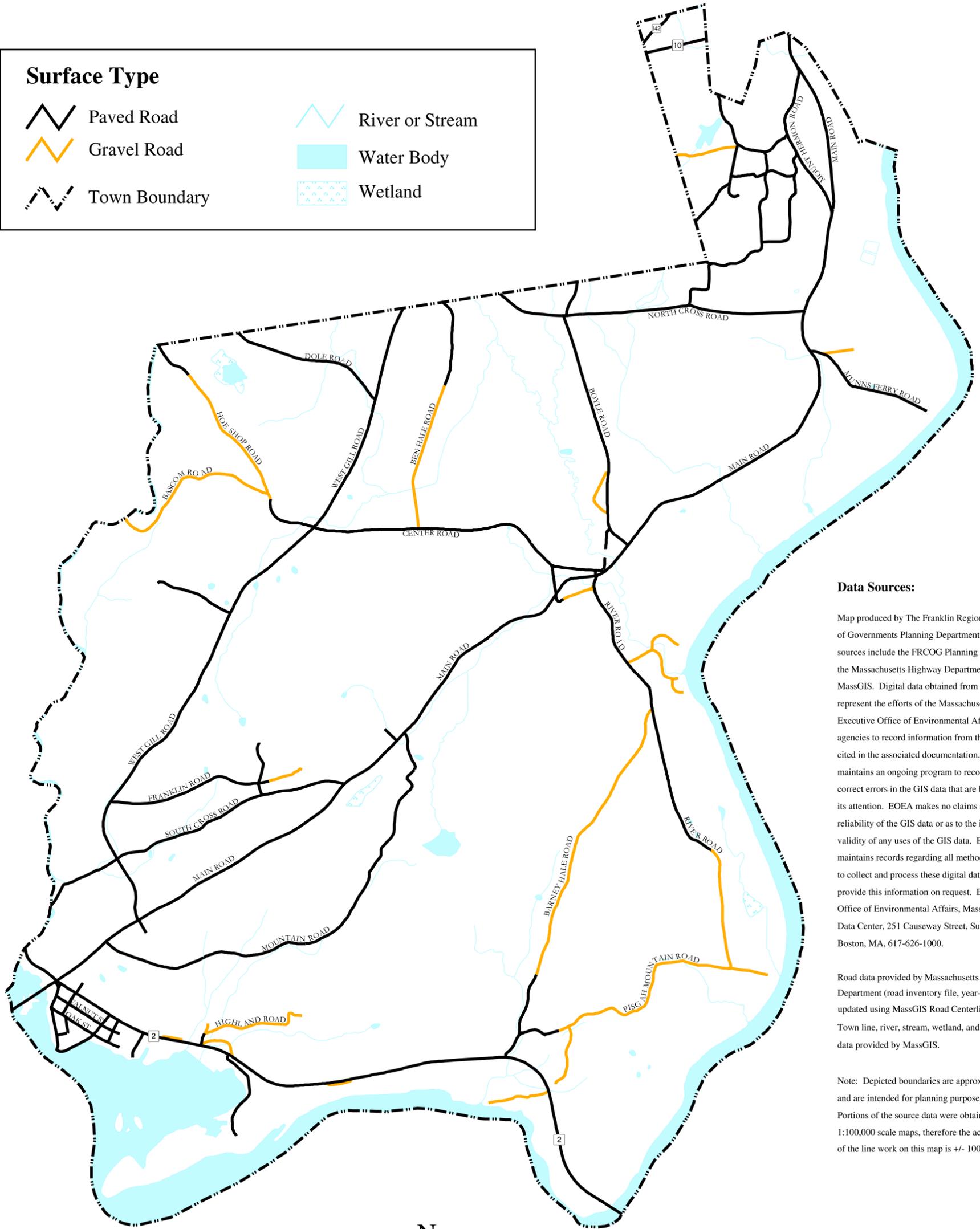



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TOWN OF GILL PAVEMENT MANAGEMENT STUDY

Map 3 - Surface Type

Surface Type	
	Paved Road
	Gravel Road
	Town Boundary
	River or Stream
	Water Body
	Wetland

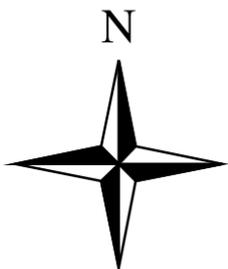


Data Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEAO maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEAO makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEAO maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEAO Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

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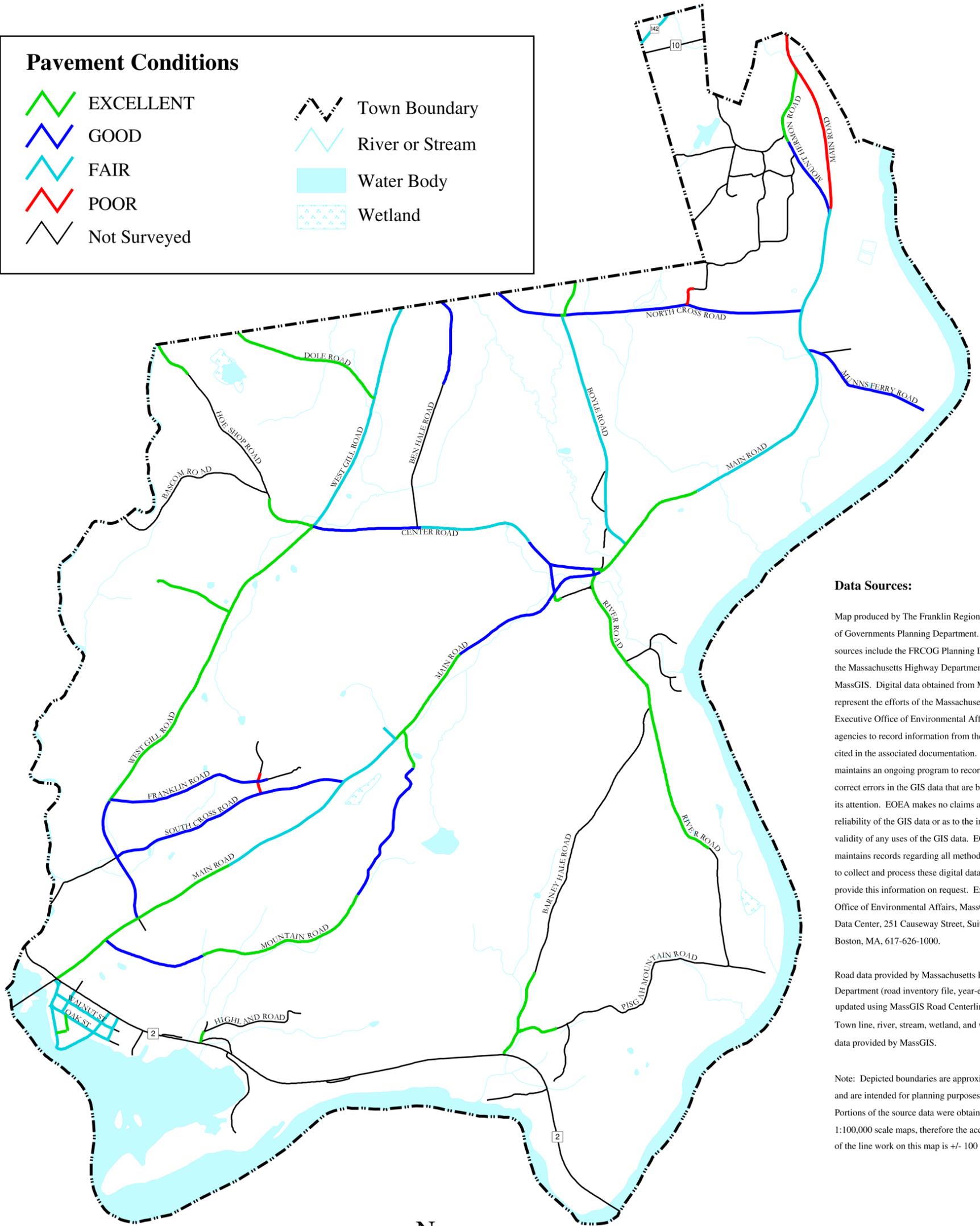



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TOWN OF GILL PAVEMENT MANAGEMENT STUDY

Map 4 - Existing Pavement Conditions [2003]

Pavement Conditions			
	EXCELLENT		Town Boundary
	GOOD		River or Stream
	FAIR		Water Body
	POOR		Wetland
	Not Surveyed		



Data Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEAO maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEAO makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEAO maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEAO Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department (road inventory file, year-end 2002) and updated using MassGIS Road Centerline data layer. Town line, river, stream, wetland, and water body data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.



0.4 0 0.4 0.8 Miles



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Methodology

As mentioned previously, there are 34.35 miles of Town maintained paved and gravel roads within the Town of Gill. This report deals only with the paved road network. This study identified 25.98 miles of town maintained paved roadway and 8.37 miles of town maintained gravel roads. Map 3-11 distinguishes the paved road network from the gravel surfaced roadways. The 3.94 miles of MassHighway maintained roadways are all paved, but these roadways were not surveyed as part of this study.

The methodology used for data collection and analysis was designed to maximize the effectiveness of the RM software. For each paved road, section breaks were defined based on the following criteria: at a change in pavement surface type; at a pavement width change of more than five feet; or if the pavement conditions changed dramatically. All data collection was conducted by a field survey. This involved driving each road twice. The first pass identified the start and end points of each section, additionally the section length and representative width were recorded along with the pavement type. The second pass was made at low speed (5 mph) during which the average pavement distresses seen on the surface were noted.

The RM software requires the identification of nine categories of distresses, which are:

1. Potholes and Non-Utility Patches
2. Travel Lane Alligatoring
3. Distortion
4. Rutting
5. Weathering/Block Cracking
6. Transverse and Longitudinal Cracking
7. Bleeding/Polished Aggregate
8. Surface Wear and Raveling
9. Corrugation, Shoving or Slippage

Distress categories 1 to 4 are known as base distresses. These distresses show up in the pavement surface because of a failure in the road base and can only be permanently repaired by reconstruction to the full depth of the road structure. Distress categories 5 to 9 are known as surface distresses. These distresses are generally caused by a failure in the pavement surface due to the result of aging and/or vehicle loading and can be repaired with relatively low cost maintenance methods such as crack sealing or overlaying with a few inches of asphalt.

The average severity and extent of each distress was noted for each section and then input into the software. On completion of the data entry for each section, the software conducted three sets of analyses:

1. Calculation of a Pavement Condition Index (PCI)
2. Assignment of a Repair Strategy
3. Calculation of a Benefit Value

The Pavement Condition Index (PCI) is based upon a scale between 100 (best) and 0 (worst). A section with no distresses will have a PCI equal to 100 and as the number, severity and extent of distresses increase the lower the PCI becomes. A general evaluation of a pavement's condition is as follows:

- **PCI between 95 and 100** means that the pavement is in **excellent** condition and generally requires no immediate pavement maintenance.
- **PCI between 85 and 94** means that the pavement is in **good** condition and generally requires no immediate to preventative maintenance pavement surface maintenance.
- **PCI between 65 and 84** means the pavement is in **fair** condition and will generally need minor to extensive pavement surface maintenance and/or rehabilitation.
- **PCI between 0 and 64** means the pavement is in **poor** condition and will generally need extensive rehabilitation or reconstruction.

Repair strategies are assigned to sections through a matrix, which takes into account the PCI, condition of the pavement base associated with the observed surface distresses, the average curb height, functional class and the pavement type. Five generalized repair categories are used. The costs associated with each of these categories were discussed with the Highway Superintendent and provide a fair estimate of the total costs involved in designing, bidding, conducting and overseeing each of the repairs.

The five repair strategies are as follows:

1. **Reconstruction or Reclamation** (\$30 per sq/yd)
Complete removal and replacement of a failed pavement and base by excavation or reclamation, which may include widening and realignment, installation of drainage and culverts, and safety hardware such as guardrails and signage.
2. **Rehabilitation** (\$10 per sq/yd)
Full depth patching, partial depth patching, joint and crack sealing, grouting and under-sealing, grinding or milling in conjunction with overlays over 2 inches in depth. Edge work and drainage would likely also be required in conjunction with an overlay.
3. **Preventative Maintenance** (\$7.50 per sq/yd)
Localized crack sealing and full/partial depth patching in conjunction with Chip sealing, or Micro Surfacing, or overlays less than 2 inches in depth. Edge work would likely also be required in conjunction with an overlay.
4. **Routine Maintenance** (\$2.50 per sq/yd)
Crack sealing and localized patching.
5. **No Immediate Action** (\$0 per sq/yd)
No maintenance

The existing pavement area (section length multiplied by section width) is multiplied by the assigned repair strategy cost to provide an estimated total cost of conducting the repair on the road section.

The “Benefit Value” (BV) reflects the Cost/Benefit of doing the repair and is used in the budgetary analysis to prioritize sections for repair. There is no scale for the BV, only that those sections with the highest values are more beneficial and cost effective. The following formula is used to calculate the BV.

$$BV = \frac{365 \times ADT \times \text{Section Length} \times \text{Estimated Life of Repair}}{\text{Current Cost of Repair} \times \text{Pavement Condition Index}}$$

It can be seen from this formula that roads with higher Average Daily Traffic (ADT) volumes will be assigned higher BV’s, which provides priority for higher volume roads. On roadways where no traffic volume data was available, volumes were estimated based on road use and the number of homes and businesses located along them. Appendix A contains a table of the ADT volumes collected in Gill from 1992 through 2003 by the FRCOG and MassHighway and a corresponding map showing the locations with existing traffic volume data.

Additionally, Routine and Preventative Maintenance repairs receive higher weighting than Rehabilitation and Reconstruction repairs to reflect the principles of pavement management.

Existing Conditions Analysis Results

The following section summarizes the results of the analysis of the existing conditions surveyed in the Fall of 2003. It should be noted that the information contained in the tables and figures was created from a visual evaluation of the pavement surface in which the severity and extent of the observed distresses were estimated. The recommended repair strategies and the associated costs are not final. A more detailed engineering evaluation must be conducted before finalizing any repairs and their associated costs. The information presented here can be used as a tool for preliminary evaluation and prioritization of the paved road network as a whole.

Existing Pavement Conditions

Data collection was initially conducted during September 2003 and then updated in December 2003. Appendix B contains detailed information on the existing conditions of the paved road network. Table 3-36 and Figure 3-6 summarize the results of the pavement management analysis of existing conditions for town maintained paved roadways, while Map 3-12 shows the existing conditions broken down into the four condition categories: excellent, good, fair, and poor for all the surveyed Town Maintained paved roadways.

Overall, the conditions of the town maintained paved road network in Gill could be considered as Good, with an average PCI equal to 88. The majority of the mileage is concentrated in the top three condition categories (Excellent, Good and Fair), while just over a mile of roadway would be characterized as in Poor condition. Prominent sections of town maintained roadways in

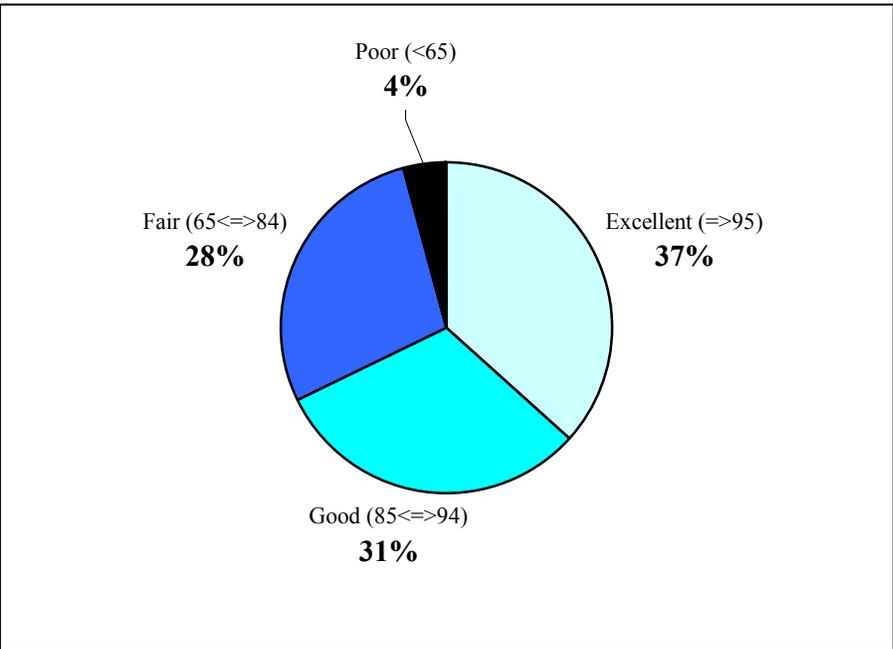
excellent condition include the first mile of Main Road, north of Route 2, and West Gill Road between Franklin Road and Center Road. The sections of town maintained roadways in poor condition are Main Road between Mount Herman Road (South) and the Northfield Town Line, Green Hill Road and the Back Road to Mount Hermon. It should be noted that the northern 3 miles of Main Road from Gill Center to the Northfield Town Line has been identified for reconstruction and has been designed and is currently waiting for funding. Because improvements have been made to sections of this roadway while awaiting the start of the reconstruction and the survey process only identifies distresses evident on the road surface, some sections have received a good or excellent PCI rating.

Table 3-36: Summary of Existing Pavement Conditions for Town Maintained Paved Roads

Pavement Condition (PCI Range)	Number of Miles	% of Total Mileage
Excellent (≥ 95)	9.54	37%
Good ($85 \leq \text{PCI} < 94$)	8.09	31%
Fair ($65 \leq \text{PCI} < 84$)	7.27	28%
Poor (< 65)	1.08	4%
Total Mileage	25.98	100%

Source: Franklin Regional Council of Governments

Figure 3-6: Summary of Existing Pavement Conditions for Town Maintained Paved Roads



Source: Franklin Regional Council of Governments

Assignment of Repair Strategies

With the existing conditions documented and the road segments grouped into the four condition categories, a breakdown of the assigned repairs and their estimated costs are presented. This information is summarized in Table 3-37 for town maintained paved roads. This table includes the results of a calculation called “Backlog of Repair”. The Backlog of Repair reflects the estimated cost of conducting all the prescribed repairs to bring the paved network up to an excellent condition. This Backlog of Repair is estimated to equal \$1,062,108 for town maintained paved roadways. The good overall condition of the town maintained paved road network in Gill is reflected in the relatively low Backlog of Repair Total. Almost half of the network currently requires no immediate maintenance and of the remaining mileage all but one and a three-quarter miles require low cost Routine and Preventative repairs.

The distribution of the mileage across the assigned repair strategies indicates that the Town has been following excellent pavement management practices in that over 80% of the mileage requires either no immediate action or minor routine maintenance.

Table 3-37: Summary of Suggested Repairs for Town Maintained Paved Roads

Repair Type	Number of Miles	% of Total Mileage	Estimated Cost of Repair
5. No Immediate Action	11.95	46%	\$0
4. Routine Maintenance	9.33	36%	\$302,210
3. Preventative Maintenance	2.98	11%	\$309,488
2. Rehabilitation	0.74	3%	\$95,270
1. Reconstruction	0.98	4%	\$355,140
Total	25.98	100%	\$1,062,108

Calculation of a Benefit Value

Of the 68 town maintained road sections surveyed, 34 (14 miles) require some form of repair. The remaining 24 (12 miles) sections require no immediate maintenance at this time. As mentioned previously, a Benefit Value (BV) reflects the Cost/Benefit of doing a suggested repair, and is used to help prioritize sections for repair. There is no scale for the BV, but sections with the highest values are generally more beneficial and cost effective. BV can then be translated into a ranking system to indicate repair priorities. It should be noted that this ranking system does not take into account social factors such as the need to maintain suitable emergency vehicle access.

Therefore, the roadway section with the highest BV has received a rank of 1 and the lowest has received a rank of 34. Appendix B contains this information for all surveyed road sections. Table 3-38 on the next page shows the Top 10 ranked road sections for repair in prioritized order according to the calculated Benefit Value.

Table 3-38: Top 10 Town Maintained Road Sections for Repair

Street Name	Section ID#	Section From:	Section To:	Length (ft)	PCI	Repair Code	Est. Cost	Rank	Est. ADT	Survey Date
West Gill Rd.	1	Main Rd.	Franklin Rd.	3168	90	4	\$23,760	1	2200	12/10/03
Main Rd.*	6	House #253	WMECO Pole 84/158	2640	90	4	\$18,333	2	1700	12/10/03
Main Rd.*	7	WMECO Pole 84/158	North of River Rd.	1584	90	4	\$11,000	2	1700	12/10/03
Main Rd.*	3	WMECO Pole 238/40	House #153	2640	79	3	\$55,000	4	2000	12/10/03
Main Rd.*	4	House #153	Wyart Rd.	2640	79	3	\$55,000	4	2000	12/10/03
West Gill Rd.	6	WMECO Pole 99/58	Bernardston Town Line	3010	80	4	\$20,067	6	1250	12/10/03
Mt Hermon Station Rd*	1	Bernardston Town Line	Northfield Town Line	845	66	2	\$23,472	7	2000	12/10/03
West Gill Rd.	5	Center Rd.	WMECO Pole 99/58	3168	65	3	\$63,360	8	1250	12/10/03
Main Rd.*	10	House #440	North Cross Rd.	3590	73	3	\$68,808	9	1200	12/10/03
Main Rd.*	11	North Cross Rd.	Mt Hermon Rd. (Sth)	2640	76	3	\$50,600	10	1000	12/10/03

Street Name - Street Name. * Indicates the road section is eligible to receive Federal Aid or Non-Federal Aid for Reconstruction or Rehabilitation.

Section From - Start point of the individual section.

Section To - End point of the individual section.

Length (ft) - The length of the section, measured in feet.

PCI - Pavement Condition Index: 95 - 100 indicates the pavement is in **excellent** condition,
85 - 94 indicates the pavement is in **good** condition;
65 - 84 indicates the pavement is in **fair** condition;
0 - 64 indicates the pavement is in **poor** condition.

Repair Code -
1. Reconstruction; (\$30 sq/yd)
2. Rehabilitation; (\$10 sq/yd)
3. Preventative Maintenance; (\$7.50 sq/yd)
4. Routine Maintenance; (\$2.50 sq/yd)
5. No Immediate Maintenance. (\$0 sq/yd)

Rank - A ranking of all the sections requiring repair, based on a cost/benefit produced by the RoadManager software through the Benefit Value. The section with the highest Benefit Value has received a PMS Ranking of 1. Sections with equal Benefit Values have received the same ranking. In total there are 28 ranked sections.

Estimated ADT - Average Daily Traffic traveling on each section of road. Generally, traffic count data was available on the higher volume roads. Where data was not available, estimates were made based on the functionality of the road and the number of houses or businesses they served.

Survey Date - Date on which the pavement distress data was collected.

Source: Franklin Regional Council of Governments

Budgetary Analysis

The top ten list is monopolized by sections of the major roadways (Main Road and West Gill Road) in town. This has occurred for two reasons; these sections have been prescribed Routine or Preventative Maintenance repairs, which following the principals of good pavement management practices should receive a higher priority. Secondly these roadways carry much higher traffic volumes than the other town maintained roadway and since this is one of the factors used to measure the cost effectiveness of conducting a repair, their receive a higher ranking. The traffic volumes also accounts for Mount Hermon Station Road, which is prescribed a Rehabilitation repair, being ranked seventh above several other less used roadways requiring Routine or Preventative Maintenance.

The primary source of funding for road repairs and reconstruction in the Town of Gill is its Chapter 90 allocation from the State. Each municipality in the Commonwealth receives Chapter 90 funding through the Transportation Bond. Funding levels are based on a formula that takes into account the number of miles of town maintained roadways, population, and level of employment. Approved Chapter 90 projects are 100% reimbursable. However, a town must receive written approval from their MassHighway District Director before beginning a project. Eligible Chapter 90 projects are highway construction or improvement projects that extend the life of a roadway or bridge. Other eligible Chapter 90 uses are engineering services for projects on the TIP or other transportation projects, pavement management services, and the purchase of road machinery, equipment, or tools.

The Town of Gill's allocation of Chapter 90 funding for FY 2004 totals \$77,296. Even though Massachusetts is currently facing a budget crisis where many programs are facing cuts in funding, when this analysis was conducted in January 2004 there was no indication the current \$100 million statewide Chapter 90 program would be reduced. The Highway Superintendent expects to spend the entire Chapter 90 allocation each year on maintenance of the paved road network.

Roadways that are functionally classified as a Major Collector or higher are eligible to receive Federal Aid and Non-Federal Aid for reconstruction or rehabilitation projects through the Transportation Improvement Program (TIP). An explanation of the TIP process appears later in this report. The full length of Main Road is eligible for funding under the TIP process as well as the section of Mount Hermon Station Road between the Bernardston and Northfield town lines. In fact, 3.1 miles of Main Road from Gill Center to the Northfield Town Line is currently listed on the Franklin County TIP. The Town has completed the design portion of the project, which has an estimated cost of \$3 million, and is currently awaiting allocation of funding. Although this project is a regional priority, the \$3 million cost is greater than the target allocated to Franklin County and because the TIP must be financially constrained cannot be programmed at this time. If Franklin County's allocation of Federal Aid is raised to above \$3 million in the future this project could be programmed locally. In the meantime, this project has been waiting for funding under the statewide pool of "Non-Federal Aid" (State money). Allocation of funds under this source is very competitive due to limited availability of funds throughout the state. The Town recently received encouraging news indicating that the project may move forward and be advertised in the Spring of 2004.

The RM software can be used to predict the potential effect funding levels will have on the future conditions of the paved road network. The RM software creates a prioritized list of sections requiring repair by ranking them based on the BV. When assigning funds to repair sections of roadway, the software starts at the top of the ranked list and works its way down. As the budget limit nears and the next ranked section has too high a cost to remain within the budget, the software continues to scan down the list, choosing sections for repair until the budget limit is reached or there are no more ranked sections. Those sections chosen for repair then assume a PCI of 99 (Excellent condition). For planning and forecasting purposes, those sections not selected are then evaluated by the software based on performance curves developed from research into the life cycles of pavements under differing traffic loading characteristics. The performance curves resemble the generic curve shown in Figure 3-5 at the beginning of the report. Each year that a section is not chosen for repair its PCI value drops down the curve. At the end of each year the repair strategies are reassigned based on the decreased PCI and the costs and BVs are recalculated producing a new list of ranked sections for the next year's budget allocation.

Existing Funding Levels

To predict the potential impacts the existing funding projections will have on the condition of the town maintained paved road network over a ten-year period between 2004 and 2013, a budgetary analysis was run using the following assumptions:

- Chapter 90 funding would remain at existing levels over the ten years and would be the sole source of funding for paved road maintenance. Therefore, \$77,256 was allocated each year for pavement maintenance. (Since the software only allows input of thousands of dollars, \$77,000 was input and in 2007 and 2011 \$78,000 was input)
- The 3.1 miles of Main Road from Gill Center to the Northfield Town Line currently in the TIP process would get funded and be completed in 2006 at a cost of \$3,000,000. It is also assumed that no additional expenditure will be made on this roadway prior to the reconstruction. It should be noted that this completion date is just an estimation based on the information available at this time.

For each future year of the analysis, output from the software provides a list of the projects allocated funding and also allows for the calculation of a number of benchmark measures such as Backlog of Repair, miles per repair category, and average PCI for the whole road network.

Table 3-39 provides a general projection of the future condition of the paved road network as a whole that could be expected under the above funding assumptions. It can be seen that the average PCI slowly declines in the years prior to the completion of the reconstruction on Main Road from an existing PCI of 88 to 86. After the reconstruction is completed the average PCI increases several points to 90 before beginning a slow decline ending at 85 in 2013. The Backlog of Repair shows a minor reduction (\$80,000) prior to the reconstruction of Main Road. Following the reconstruction is completed in 2006 the Backlog of Repair shows a more significant reduction. It should be noted at this point that the reduction in Backlog of Repair is not equivalent to the cost of the reconstruction. This is because the current condition of Main

Road based on the observed surface distresses means that the prescribed repairs are not equivalent to the reconstruction of the whole 3.1 miles. The Backlog of Repair marginally declines further in 2007 and 2008 before increasing gradually each year to \$750,500 in 2013. The Backlog of Repair shows a more substantial increase between 2012 and 2013 than the previous years because in 2013 it is predicted that the road sections reconstructed in 2006 would have deteriorated to a point where routine maintenance activities would be prescribed. It should be noted that this analysis does not account for inflation.

Table 3-39: Projected Backlog of Repair and Average PCI to 2013 with Existing Chapter 90 Funding Plus the Completion of the Reconstruction of Main Road

Future Year	Funding Level	Backlog of Repair	Average PCI
2003	Existing Conditions	\$1,062,108	88
2004	\$77,000	\$1,008,186	87
2005	\$77,000	\$ 980,875	86
2006	\$3,077,000 ¹	\$ 503,508	90
2007	\$78,000	\$ 473,149	90
2008	\$77,000	\$ 467,646	89
2009	\$77,000	\$ 574,919	88
2010	\$77,000	\$ 563,960	88
2011	\$78,000	\$ 569,673	87
2012	\$77,000	\$ 618,204	86
2013	\$77,000	\$ 750,469	85

¹ – Assumes completion of the reconstruction of 3.1 miles of Main Road from Gill Center to Northfield Town Line at a cost of \$3,000,000 using Federal Funds through the TIP process or Non-Federal Aid through the State.
Total Funding allocated over ten years equals \$3,772,000

Table 3-40 provides a comparison between the existing conditions and the projected conditions of the paved road network in 2013 under the existing funding assumptions. This comparison shows a decrease of over two and a half miles of roadway in excellent condition, while an increase of just over a mile of roadway in good condition. More significant, this scenario shows an increase of almost two miles in roadways in poor condition.

Table 3-40: Comparison of Existing and Projected Pavement Conditions for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Plus the Completion of the Reconstruction of Main Road.

Pavement Condition (PCI Range)	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
Excellent (>=95)	9.54	6.85	-2.69
Good (85<=>94)	8.09	9.25	+1.16
Fair (65<=>84)	7.27	6.88	-0.39
Poor (<65)	1.08	3.00	+1.92
Total Mileage	25.98	25.98	-

Source: Franklin Regional Council of Governments

It should be noted at this point that there is not a direct correlation between the pavement condition categories and the prescribed repairs, as in addition to the PCI, the type of distresses

are used to assign a repair strategy. Tables 3-41 and 3-42 show the projected change in assigned repair strategies and estimated Backlog of Repair for the road sections analyzed between 2003 and 2013 under expected existing funding levels. It can be seen that there would likely be minimal changes in the distribution of the mileage across the repair strategies. The reduction in mileage prescribed a reconstruction repair is accounted for by the reconstruction of Main Road and is reflected in the increases in mileage requiring no or Routine Maintenance. The increase in mileage requiring a rehabilitation repair indicates that the funding levels are not sufficient to keep pace with all of the required repairs resulting in some roads deteriorating passed the critical point where decline in pavement condition accelerates. The \$250,000 reduction in Backlog of Repair is primarily related to the reduction in mileage requiring reconstruction as a result of the reconstruction of Main Road.

Table 3-41: Comparison of Existing and Projected Required Repairs for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Plus the Completion of the Reconstruction of Main Road.

Repair Type	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
5. No Immediate Action	11.95	12.26	+0.31
4. Routine Maintenance	9.33	9.94	+0.61
3. Preventative Maintenance	2.98	1.91	-1.07
2. Rehabilitation	0.74	1.67	+0.93
1. Reconstruction	0.98	0.20	-0.78
Total Mileage	25.98	25.98	-

Source: Franklin Regional Council of Governments

Table 3-42: Comparison of Existing and Projected Backlog of Repairs for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Plus the Completion of the Reconstruction of Main Road.

Repair Type	Existing 2003 Backlog	Projected 2013 Backlog	Change in Backlog
5. No Immediate Action	\$0	\$0	\$0
4. Routine Maintenance	\$302,210	\$314,097	+\$11,887
3. Preventative Maintenance	\$309,488	\$176,470	-\$133,018
2. Rehabilitation	\$95,270	\$208,862	+\$113,592
1. Reconstruction	\$355,140	\$51,040	-\$304,100
Total Backlog of Repair	\$1,062,108	\$750,469	-\$311,639

Source: Franklin Regional Council of Governments

This analysis shows if existing Chapter 90 funding levels are sustained and the northern 3 miles of Main Road is reconstructed using Federal Funds or Non-Federal Aid, that although the Backlog in Repairs would be reduced the average condition of the paved road network would still slowly decline, indicating that the Chapter 90 funding levels will not be sufficient to keep pace with all of the required repairs. This is confirmed by the fact the by 2013 mileage in poor condition has increased as has the mileage assigned a rehabilitation repair.

Increased Chapter 90 Funding

In the late 1990s, the statewide Chapter 90 program was funded at a \$150 million level statewide, which equated to approximately \$116,000 in Chapter 90 funding to the Town of Gill. Since this program was reduced to the \$100 million level there have been many efforts to restore the program to the previous \$150 million level. Unfortunately, these efforts have thus far failed and seem less likely than ever to be successful given the current economic climate in Massachusetts. However, to illustrate the difference that an increase in Chapter 90 funding would make to the future conditions of the paved road network, a new analysis was conducted using the following assumptions:

- Chapter 90 funding would immediately increase to reflect a \$150 million statewide program and remain at that level for the ten years analyzed. Therefore, \$116,000 was allocated each year for pavement maintenance.
- The 3.1 miles of Main Road from Gill Center to the Northfield Town Line currently in the TIP process would get funded and be completed in 2006 at a cost of \$3,000,000. It is also assumed that no additional expenditure will be made on this roadway prior to the reconstruction. It should be noted that this completion date is just an estimation based on the information available at this time.

Table 3-43 summarizes the projected conditions of the paved road network using the above funding assumptions that reflect an increase in Chapter 90 funding to the former \$150 million level. It can be seen from this table that under this funding scenario the average condition of the paved road network would marginally decline from an existing PCI of 88 to 87 prior to the completion of the reconstruction of Main Road in 2006. With the completion of the reconstruction the average PCI jumps up to 92 and then shows a marginal increase to 93 where it stays through 2013. The Backlog of Repair shows a reasonable reduction (\$180,000) prior to the reconstruction of Main Road. Following the completion of the reconstruction in 2006 the Backlog of Repair shows a more significant reduction of over \$500,000. It should be noted at this point that the reduction in Backlog of Repair is not equivalent to the cost of the reconstruction. This is because the current condition of Main Road based on the distresses seen on the surface means that the prescribed repairs are not equivalent to the reconstruction of the whole 3.1 miles. The Backlog of Repair declines further in 2007 and 2008 before leveling off to between \$225,000 and \$250,000 through 2012. In 2013, the Backlog of Repair shows a reasonable increase because in that year it is predicted that the road sections reconstructed in 2006 would have deteriorated to a point where routine maintenance activities would be prescribed. It should be noted that this analysis does not account for inflation.

Table 3-43: Projected Backlog of Repair and Average PCI to 2013 with Increased Chapter 90 Funding, Plus the Completion of the Reconstruction of Main Road.

Future Year	Funding Level	Backlog of Repair	Average PCI
2003	Existing Conditions	\$1,062,108	88
2004	\$116,000	\$ 969,442	87
2005	\$116,000	\$ 884,512	87
2006	\$3,116,000 ¹	\$ 347,600	92
2007	\$116,000	\$ 280,488	92
2008	\$116,000	\$ 236,855	93
2009	\$116,000	\$ 255,038	93
2010	\$116,000	\$ 224,026	93
2011	\$116,000	\$ 224,043	93
2012	\$116,000	\$ 246,177	93
2013	\$116,000	\$ 342,983	93

¹ – Assumes completion of the reconstruction of 3.1 miles of Main Road from Gill Center to Northfield Town Line at a cost of \$3,000,000 using Federal Funds through the TIP process or Non-Federal Aid through the State.
Total Funding allocated over ten years equals \$4,160,000

Table 3-44 provides a comparison between the existing conditions and the projected conditions of the paved road network in 2013 under the above funding assumptions. This comparison shows that the mileage of roadways in excellent condition would remain the same. The mileage in good conditions would increase substantially by well over 6 miles. This table shows a shift in the distribution of mileage from primarily fair to good, indicating that funding would be sufficient to not only maintain those roadways currently in excellent and good condition, but also be able to make improvements to those roadways currently in fair condition. The reduction of mileage in poor condition is primarily accounted for by the reconstruction of Main Road paid for with Federal Funds or Non-Federal Aid.

Table 3-44: Projected Backlog of Repair and Average PCI to 2013 with Increased Chapter 90 Funding, Plus the Completion of the Reconstruction of Main Road.

Pavement Condition (PCI Range)	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
Excellent (≥ 95)	9.54	9.54	0.00
Good ($85 \leq \text{PCI} < 94$)	8.09	14.70	+6.61
Fair ($65 \leq \text{PCI} < 84$)	7.27	1.34	-5.93
Poor (< 65)	1.08	0.40	-0.68
Total Mileage	25.98	25.98	-

Tables 3-45 and 3-46 show the projected assigned repair strategies and Backlog of Repair for the road sections analyzed to 2013 under the above funding assumptions. These tables indicate that there would be a decrease in mileage across all the repair categories with that mileage shifting to requiring no immediate maintenance because the available funding has been able to keep pace with almost all of the required repairs. By 2013, all except 0.4 miles of the paved road network would require routine or no maintenance activities. This means that the Town would be in a good position to continue to be able to maintain the paved road network in a perpetual good to excellent condition at a relatively low cost.

Table 3-45: Projected Backlog of Repair and Average PCI to 2013 with Increased Chapter 90 Funding, Plus the Completion of the Reconstruction of Main Road.

Repair Type	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
5. No Immediate Action	11.95	17.03	+5.08
4. Routine Maintenance	9.33	8.55	-0.78
3. Preventative Maintenance	2.98	0.00	-2.98
2. Rehabilitation	0.74	0.20	-0.54
1. Reconstruction	0.98	0.20	-0.78
Total Mileage	25.98	25.98	-

Source: Franklin Regional Council of Governments

Table 3-46: Projected Backlog of Repair and Average PCI to 2013 with Increased Chapter 90 Funding, Plus the Completion of the Reconstruction of Main Road.

Repair Type	Existing 2003 Backlog	Projected 2013 Backlog	Change in Backlog
5. No Immediate Action	\$0	\$0	\$0
4. Routine Maintenance	\$302,210	\$269,650	-\$32,560
3. Preventative Maintenance	\$309,488	\$0	-\$309,488
2. Rehabilitation	\$95,270	\$22,293	-\$72,977
1. Reconstruction	\$355,140	\$51,040	-\$304,100
Total Backlog of Repair	\$1,062,108	\$342,983	-\$719,125

Source: Franklin Regional Council of Governments

This analysis indicates that if the Chapter 90 funding levels were raised back to the \$150 million statewide level that the decline in the condition of the paved road network in Gill would not only be stopped, but significant improvements would be made. The additional funds provided by a 50% increase in Chapter 90 funding would be sufficient to bring almost all of the paved road network up to an excellent or good condition and maintain it there.

Existing Chapter 90 Funding Only

Although it appears that funding of the reconstruction of Main Road is finally moving forward it was thought it would be valuable to conduct a budgetary analysis showing the possible impacts to the paved road network if this project did not receive funding. Therefore a budgetary analysis was run with the following assumptions:

- Chapter 90 funding would remain at existing levels over the ten years and would be the sole source of funding for paved road maintenance. Therefore, \$77,256 was allocated each year for pavement maintenance. (Since the software only allows input of thousands of dollars, \$77,000 was input and in 2007 and 2011 \$78,000 was input)

Table 3-47 summarizes the projected conditions of the paved road network using the above funding assumptions. It can be seen from this table that under this funding scenario the average pavement conditions would gradually decline from an 88 (Good) to 80 (Fair) in 2013. The Backlog of Repair is equally impacted. After initially declining through 2005, the Backlog of Repair gradually increases through 2013 resulting in an increase of \$600,000 over existing conditions. Under this scenario the sections of Main Road currently prescribed a reconstruction repair do not receive funding either because there is not sufficient funding or they do not receive a high enough ranking. It should be noted that this analysis does not account for inflation.

Table 3-47: Projected Backlog of Repair and Average PCI to 2013 with Existing Chapter 90 Funding Only

Future Year	Funding Level	Backlog of Repair	Average PCI
2003	Existing Conditions	\$1,062,108	88
2004	\$77,000	\$1,008,186	87
2005	\$77,000	\$ 980,875	86
2006	\$77,000	\$1,052,697	86
2007	\$78,000	\$1,335,342	85
2008	\$77,000	\$1,464,772	84
2009	\$77,000	\$1,572,045	83
2010	\$77,000	\$1,561,086	82
2011	\$78,000	\$1,588,626	82
2012	\$77,000	\$1,634,102	81
2013	\$77,000	\$1,664,748	80

Total Funding allocated over ten years equals \$772,000

Source: Franklin Regional Council of Governments

Table 3-48: Comparison of Existing and Projected Pavement Conditions for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Only

Pavement Condition (PCI Range)	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
Excellent (=>95)	9.54	6.72	-2.82
Good (85<=>94)	8.09	7.14	-0.95
Fair (65<=>84)	7.27	6.58	-0.69
Poor (<65)	1.08	5.54	+4.46
Total Mileage	25.98	25.98	-

Source: Franklin Regional Council of Governments

Table 3-48 provides a comparison between the existing conditions and the projected conditions of the paved road network in 2013 under the above funding assumptions. This comparison shows that the mileage of roadways in excellent, good and fair conditions would decline resulting in an increase of almost 4.5 miles of roadway in poor condition.

Tables 3-49 and 3-50 show the projected assigned repair strategies and Backlog of Repair for the road sections analyzed to 2013 under the above funding assumptions. These tables show a minimal increase in road mileage requiring no immediate maintenance, but more significantly almost 2/7 miles currently requiring low cost Routine and Preventative Maintenance activities would not receive funding and would decline in condition to a point where more expensive

Rehabilitation or Reconstruction repairs would be required. This shift accounts for the \$600,000 increase in the Backlog of Repair.

Table 3-49: Comparison of Existing and Projected Required Repairs for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Only

Repair Type	Existing 2003 Mileage	Projected 2013 Mileage	Change in Mileage
5. No Immediate Action	11.95	12.13	+0.18
4. Routine Maintenance	9.33	7.53	-1.80
3. Preventative Maintenance	2.98	1.91	-1.07
2. Rehabilitation	0.74	1.67	+0.93
1. Reconstruction	0.98	2.74	+1.76
Total Mileage	25.98	25.98	-

Source: Franklin Regional Council of Governments

Table 3-50: Comparison of Existing and Projected Backlog of Repairs for Town Maintained Paved Roads in 2013 with Existing Chapter 90 Funding Only

Repair Type	Existing 2003 Backlog	Projected 2013 Backlog	Change in Backlog
5. No Immediate Action	\$0	\$0	\$0
4. Routine Maintenance	\$302,210	\$231,250	-\$70,960
3. Preventative Maintenance	\$309,488	\$176,470	-\$133,018
2. Rehabilitation	\$95,270	\$208,862	+\$113,592
1. Reconstruction	\$355,140	\$1,048,166	+\$693,026
Total Backlog of Repair	\$1,062,108	\$1,664,748	+\$602,640

Source: Franklin Regional Council of Governments

This analysis indicates that if the Chapter 90 funding level remains at its existing level and the reconstruction of Main Road does not receive funding that the paved road network would see a decline in conditions and an increase in Backlog of Repairs indicating that the funding levels would not be sufficient to keep pace with repair needs. Most significant is the decline of mileage requiring low cost Routine and Preventative maintenance and the increase in mileage require more expensive Rehabilitation and Reconstruction repairs.

Conclusion

Based on the pavement surface survey conducted in the Fall of 2003, the paved road network maintained by the Town of Gill is currently in a “Good” condition with an average pavement condition index (PCI) of 88. The distribution of the mileage by repair type indicates that the Town’s highway department has been practicing excellent pavement management practices with the limited funding that has been available. The Town currently faces an estimated Backlog of Repair of almost \$1.1 million. Three funding scenarios were analyzed to predict their potential impacts on the paved road conditions over a ten-year period. The first scenario used the existing Chapter 90 funding levels plus assumed that the reconstruction of the northern 3 miles of Main

Road would be reconstructed in 2006 using Federal Funds or Non-Federal Aid. This scenario showed an overall decline in the average condition of the paved road network even after an increase with the completion of the reconstruction of Main Road. With the decline in conditions the Backlog of Repairs begin to increase, even though an over reduction of \$300,000 is seen in 2013. The second scenario used Chapter 90 funding levels as if the statewide program had been increased back to \$150 million and included the Main Road reconstruction. This scenario showed that funding levels would be sufficient to keep pace with the repair needs of the paved road network and most importantly maintaining the higher average pavement conditions following the reconstruction of Main Road in 2006. The final scenario used the existing Chapter 90 funding levels only. This scenario showed a faster decline in the average pavement conditions and results in an increase of \$600,000 in the Backlog of Repairs. Insufficient funds would be available to reconstruct Main Road or keep pace with the repair needs, resulting in the paved road network declining to a fair condition from the present good.

These budgetary analyses show that in the absence of an increase in Chapter 90 funding, an alternative source roughly equivalent to \$30,000 per year is needed to maintain the paved road network in its current conditions.

The Town now has the base data that it needs to monitor pavement conditions over time and continue to prioritize repairs in the most cost effective way. The FRCOG will continue to provide support to the extents possible.

Alternative Funding Sources

Transportation Improvement Program

Approximately eight miles of the town maintained paved road network is functionally classified as Rural Major Collector making these road sections eligible for Federal Funds for reconstruction or rehabilitation under the Transportation Improvement Program (TIP). The TIP is a prioritized, fiscally constrained listing of all transportation projects in the region eligible to receive federal funding. The TIP is created every year and lists projects for the six upcoming federal fiscal years. The federal fiscal year runs from October 1 to September 30. The FRCOG is responsible for the creation and maintenance of the TIP. The creation and maintenance of the TIP is mandated by the Federal Highway Administration (FHWA). In addition, the FHWA requires that the federal aid portion of the TIP be fiscally constrained and only list projects within the funding levels expected for the subject TIP year.

To the extent possible, non-federal aid (excluding Chapter 90) projects are also included in the TIP, allowing a more complete picture of transportation needs in the region to be reflected. Regional Planning Agencies are working closely with their MassHighway Districts to prioritize and fiscally constrain non-federal aid projects and provide a realistic picture of non-federal aid funding availability.

The Franklin Regional Council of Governments solicits TIP projects each year from Franklin County Towns. At the same time, the FRCOG asks the Towns to provide a status report of

projects already on the TIP. Additionally, the FRCOG contacts both MassHighway Districts for a listing of new projects and for the status of existing projects. With this information, projects are placed in the appropriate fiscal year of the TIP. The Franklin Regional Planning Board Transportation Subcommittee is responsible for prioritizing all of the projects in each fiscal year. The ranking procedure is based on the regional and local priority of each project and the status of the project's design and permitting. The Franklin Regional Planning Board (FRPB) then considers the recommendations of the FRPB Transportation Subcommittee before voting to approve the TIP for that period. The TIP is then reviewed at MassHighway Planning in Boston before being officially endorsed by the FRCOG Executive Committee, the Franklin Regional Transit Authority (FRTA), the Greenfield-Montague Transportation Area (GMTA), the Commissioner of MassHighway and the Secretary of the Executive Office of Transportation and Construction.

Bridge projects listed on the TIP are designed, engineered and constructed by MassHighway. Towns usually do not get involved in bridge projects, unless the project design is unacceptable to the Town. For bridges, the Town's responsibilities are to: (1) attend all design public hearings; and (2) acquire any necessary rights-of-way. For road projects initiated by the Town, the Town is responsible for the design and engineering of the project. Design and engineering is a Chapter 90 reimbursable cost once the Town has received approval for the project from the MassHighway District and the MassHighway Project Review Committee.

Towns sometimes view the TIP route of funding unfavorably, due to the small regional funding targets in recent years, and the length of time it can take to work through the process.

An additional concern of using this funding source is that these projects must meet MassHighway Design Standards, which in the past has meant designs with wider roadways requiring land takings, tree removal and a resulting impact to an area's rural appearance. In 1997 MassHighway produced the Low Speed/Low Volume Design Standards, which allow for narrower travel lane widths and shoulders for roadways with speeds less than 40mph and traffic volumes of less than 2000 vehicles per day. The reconstruction of Williamsburg Road in 2002 was completed using the Low Speed/Low Volume Design Standards. The traffic volumes on Spruce Corner Road and Plainfield Road would meet the low volume requirements, but speeds on the roads may exceed the 40mph threshold.

That being said, MassHighway is currently piloting a new program, the Footprint Roads Program, which if fully adopted will allow communities to use the TIP process while still maintaining the existing roadway footprint. Additionally, this program allows for the use of Federal Funds, previously limited to reconstruction, for resurfacing and rehabilitation projects also. The Footprint Road Program Guidelines have been included in Appendix C. For additional details on this program, call Maureen Mullaney, FRCOG Transportation Program Manager at 413-774-1194 (Ext 108).

The Public Works Economic Development Program

The Public Works Economic Development (PWED) Program was established through and is funded by the Transportation Bond. It provides funding to assist Towns in their efforts to create economic development through infrastructure improvement projects.

Eligible PWED projects include roadway and bridge improvements, sidewalk or lighting installation, traffic control facilities, and drainage or culvert work. The project must, however, retain, expand or establish industrial or commercial facilities, create or retain long-term employment opportunities, have a positive impact on the local tax base, or strengthen the partnership between the public and private sector. Ineligible PWED projects include sewage systems, water systems, or projects on which construction has been initiated. PWED projects can not exceed \$1 million unless the Secretary of the Executive Office of Transportation and Construction deems the project to have regional impact.

Funding for the PWED program is allocated on a first come-first served basis. The total cost of a PWED project is funded, there is no local match requirement. Towns interested in pursuing a PWED project should contact the transportation planning staff at the Franklin Regional Council of Governments for an application.

The Small Town Road Assistance Program

The Small Town Road Assistance Program (STRAP) was established through and is funded by the Transportation Bond. It provides funding to towns with populations less than 3,500 for transportation improvement projects.

Eligible STRAP projects are transportation projects that improve public safety or emphasize economic development. Right-of-way takings cannot be funded with STRAP funds. Projects cannot exceed \$500,000. Towns approved to receive STRAP funds will receive 70% of the total cost of the project as a grant. The remaining project cost (30%) is given to the town in the form of a loan, which the town must repay within ten years of the project's completion. The Massachusetts Department of Revenue arranges the repayment plan. The loan payment is deducted from the town's Local Aid Cherry Sheet over the ten-year period. A town may receive a STRAP grant once every five years. STRAP funding is allocated on a first come-first served basis. Applications for STRAP funding are available at the MassHighway District offices. However, STRAP application submittals should be sent directly to the Secretary of the Executive Office of Transportation and Construction at the Transportation Building, Ten Park Plaza, Suite 3170, Boston, MA 02116.

Conclusion

In the absence of an annual \$150 million Chapter 90 program, the Town should continue to explore and utilize alternative funding sources such as the TIP to ensure that the existing conditions can be maintained and possibly improved.

Transportation Chapter Appendix

APPENDIX 3A: Average Daily Traffic (AADT) Count Data 1991-2003

APPENDIX 3B: Existing Pavement Conditions Analysis Results

Glossary of Terms for Data Format

Existing Pavement Conditions (Fall 2003)

By Alphabetical List of Town Maintained Paved Roads

By Ranked List of Town Maintained Paved Roads

APPENDIX 3C: Footprint Roads Pilot Program Guidelines & Application Form

Appendix Table 3-51: Average Annual Daily Traffic (AADT) Count Data 1991-2003

StationID	Street/Route	Location	Average Annual Daily Traffic (AADT) Volumes													
			1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
1060016	Barney Hale Rd.	² / ₁₀ Mile South of River Rd.														110
1060017	Barney Hale Rd.	¹ / ₁₀ Mile North of Pisgah Mountain														160
1060001	Boyle Rd.	¹ / ₁₀ Mile North of Cross Rd.								330						
1060002	Main Rd.	North of Route 2	3200					3800								
1060003	Main Rd.	¹ / ₁₀ Mile South of Wyart Rd.							1650				1640			
1060009	Main Rd.	Northfield Town Line								1270				1560		1760
1060010	Main Rd.	Between Nth & Sth Entry to NMH								830						
1060012	Main Rd.	500ft South of West Gill Rd.											3900	4300		
1060013	Main Rd.	200ft North of Boyle Rd.											1170			
1060015	Main Rd.	² / ₁₀ Mile South of Mt. Hermon Rd.												960		
1060018	Main Rd.	¹ / ₁₀ Mile South of South Cross Rd.														2000
1062014	North Cross Rd.	Bernardston Town Line	350		260					370	280					
1060006	Route 2	Erving Town Line	7900			7600				7200			8400			
1060007	Route 2	Greenfield Town Line	11800			12200				8400			12700		12400	
1060008	Route 2	East of Barton Cove							8700							
1060004	West Gill Rd.	North of Main Rd.	2100													
1060005	West Gill Rd.	¹ / ₄ Mile North of Atherton Rd.								1710			1410			
1060014	West Gill Rd.	Bernardston Town Line												1220		
1060019	West Gill Rd.	100ft East of South Cross Rd.														2200

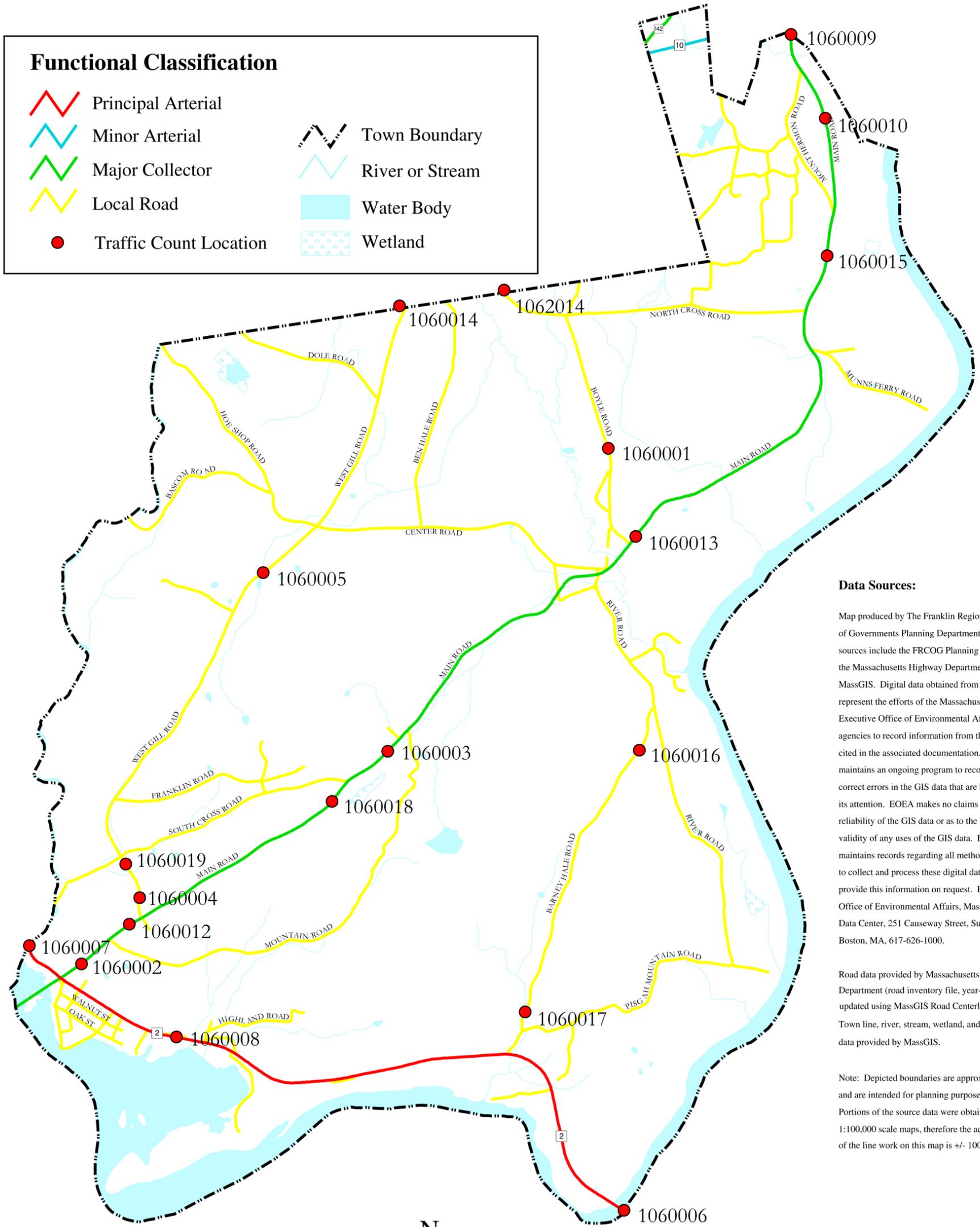
Source: Franklin Regional Council of Governments Traffic Count Database

TOWN OF GILL PAVEMENT MANAGEMENT STUDY

Appendix A - Traffic Count Locations

Functional Classification

	Principal Arterial		Town Boundary
	Minor Arterial		River or Stream
	Major Collector		Water Body
	Local Road		Wetland
	Traffic Count Location		



Data Sources:

Map produced by The Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEAO maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEAO makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEAO maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEAO Data Center, 251 Causeway Street, Suite 900, Boston, MA, 617-626-1000.

Road data provided by Massachusetts Highway Department (road inventory file, year-end 2002) and updated using MassGIS Road Centerline data layer. Town line, river, stream, wetland, and water body data provided by MassGIS.

Note: Depicted boundaries are approximate and are intended for planning purposes only. Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.



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Appendix 3B: Existing Pavement Conditions Analysis Results

Glossary of Terms for Data Format

Street Name - * Indicates the road section is eligible to receive Federal Aid for Reconstruction or Rehabilitation.

Section From - Start point of the individual section.

Section To - End point of the individual section.

Length (ft) - The length of the section, measured in feet.

PCI - Pavement Condition Index

95 - 100	indicates the pavement is in excellent condition,
85 - 94	indicates the pavement is in good condition;
65 - 84	indicates the pavement is in fair condition;
0 - 64	indicates the pavement is in poor condition.

Repair Code -

1. Reconstruction; (\$30 sq/yd)
2. Rehabilitation; (\$10 sq/yd)
3. Preventative Maintenance; (\$7.50 sq/yd)
4. Routine Maintenance; (\$2.50 sq/yd)
5. No Immediate Maintenance. (\$0 sq/yd)

PMS Ranking - A ranking of all the sections requiring repair, based on a cost/benefit produced by the RoadManager software through the Benefit Value. The section with the highest Benefit Value has received a PMS Ranking of 1. Sections with equal Benefit Values have received the same ranking. In total there are 34 ranked sections.

Estimated ADT - Average Daily Traffic traveling on each section of road. Generally, traffic count data was available on the higher volume roads. Where data was not available, estimates were made based on the functionality of the road and the number of houses or businesses they served.

Survey Date - Date on which the pavement distress data was collected.

NOTE:

The information contained in these tables was created from a visual evaluation of the pavement surface in which the severity and extent of the observed distresses were estimated. The recommended repair strategies and the associated costs are not final. A more detailed engineering evaluation must be conducted before finalizing any repairs and their associated costs. The information presented here can be used as a tool for preliminary evaluation and prioritization of the paved road network as a whole.

Appendix 3B: Existing Pavement Conditions (Fall 2003)
Alphabetical List of Town Maintained Paved Roads

STREET NAME	SECTION		LENGTH (ft)	PCI	REPAIR CODE	ESTIMATED COST	PMS RANK	ESTIMATED ADT	SURVEY DATE	
	ID #	SECTION FROM:								SECTION TO:
ATHERTON ROAD	1	WEST GILL ROAD	DEAD END	2006	95	5	\$0	50	12/10/03	
BACK ROAD TO MT HERM	1	NORTH CROSS ROAD	CHANGE IN PAVEMENT	528	61	2	\$7,040	29	50	12/10/03
BARNEY HALE ROAD	1	PISGAH MOUNTAIN ROAD	CHANGE TO GRAVEL	1584	100	5	\$0	160	12/10/03	
BEN HALE ROAD	2	CHANGE FROM GRAVEL	BERNARDSTON T.L.	2270	93	5	\$0	75	12/10/03	
BICKFORD LANE	1	FRENCH KING HIGHWAY	HIGHLAND ROAD	264	95	5	\$0	25	12/10/03	
BOYLE ROAD	1	BERNARDSTON T.L.	NORTH CROSS ROAD	1003	99	5	\$0	25	12/10/03	
BOYLE ROAD	2	NORTH CROSS ROAD	WMECO POLE 17/153	3168	81	4	\$21,120	13	350	12/10/03
BOYLE ROAD	3	WMECO POLE 17/153	MAIN ROAD	2904	83	4	\$20,973	14	350	12/10/03
CENTER ROAD	1	MAIN ROAD	DOUGS AUTO BUSINESS	2006	94	5	\$0	250	12/10/03	
CENTER ROAD	2	DOUGS AUTO BUSINESS	HOUSE 103	2904	82	4	\$16,133	16	250	12/10/03
CENTER ROAD	3	HOUSE #103	WEST GILL ROAD	2904	89	4	\$15,327	18	250	12/10/03
DOLE ROAD	1	WEST GILL ROAD	HOUSE #41	2112	95	5	\$0	150	12/10/03	
DOLE ROAD	2	HOUSE #41	BERNARDSTON T.L.	2006	95	5	\$0	150	12/10/03	
FRANKLIN ROAD	1	WEST GILL ROAD	HOUSE #44	2112	87	4	\$12,320	27	100	12/10/03
FRANKLIN ROAD	2	HOUSE #44	CHANGE TO GRAVEL	2006	87	4	\$11,702	27	100	12/10/03
GILL-MONTAGUE CONNE	1	GILL MONTAGUE BRIDGE	RIVERVIEW DRIVE	106	77	4	\$471	31	25	12/10/03
GREEN HILL ROAD	1	SOUTH CROSS ROAD	END OF TOWN MAINT	528	58	1	\$29,920	34	20	12/10/03
GROVE STREET	1	OAK STREET	PINE STREET	317	95	5	\$0	30	12/10/03	
HOE SHOP ROAD	1	WEST GILL ROAD	CHANGE TO GRAVEL	1478	95	5	\$0	75	12/10/03	
HOE SHOP ROAD	3	CHANGE FROM GRAVEL	BERNARDSTON T.L.	1214	95	5	\$0	75	12/10/03	
LYONS HILL ROAD	2	CHANGE FROM GRAVEL	MAIN ROAD	370	95	5	\$0	25	12/10/03	
LYONS HILL ROAD	3	MAIN ROAD	CENTER ROAD	686	85	4	\$3,811	26	100	12/10/03
MAIN ROAD*	1	FRENCH KING HIGHWAY	WEST GILL ROAD	2534	99	5	\$0	4300	12/10/03	
MAIN ROAD*	2	WEST GILL ROAD	WMECO POLE 23B/40	2640	99	5	\$0	2200	12/10/03	
MAIN ROAD*	3	WMECO POLE 23B/40	HOUSE #153	2640	79	3	\$55,000	4	2000	12/10/03
MAIN ROAD*	4	HOUSE #153	WYART ROAD	2640	79	3	\$55,000	4	2000	12/10/03
MAIN ROAD*	5	WYART ROAD	HOUSE #253	2640	95	5	\$0	1700	12/10/03	
MAIN ROAD*	6	HOUSE #253	WMECO POLE 84/158	2640	90	4	\$18,333	2	1700	12/10/03
MAIN ROAD*	7	WMECO POLE 84/158	NORTH OF RIVER RD	1584	90	4	\$11,000	2	1700	12/10/03
MAIN ROAD*	8	NORTH OF RIVER ROAD	WOOD AVENUE	3274	100	5	\$0	1200	12/10/03	
MAIN ROAD*	9	WOOD AVENUE	HOUSE #444	2534	70	2	\$64,758	11	1200	12/10/03
MAIN ROAD*	10	HOUSE #444	NORTH CROSS ROAD	3590	75	3	\$68,808	9	1200	12/10/03
MAIN ROAD*	11	NORTH CROSS ROAD	MT HERMON RD (Sth)	2640	76	3	\$50,600	10	1000	12/10/03
MAIN ROAD*	12	MT HERMON RD (Sth)	MT HERMON RD (Nth)	3696	55	1	\$258,720	15	850	12/10/03
MAIN ROAD*	13	MT HERMON RD (Nth)	NORTHFIELD TOWN LINE	950	56	1	\$66,500	12	1600	12/10/03
MEADOW STREET	1	OAK STREET	FRENCH KING HIGHWAY	528	70	3	\$9,240	30	75	12/10/03
MT HERMON STATION*	1	BERNARDSTON T.L.	NORTHFIELD T.L.	845	66	2	\$23,472	7	2000	12/10/03
MOUNT HERMON ROAD	1	MAIN ROAD (Sth)	MT HERMON SCHOOL RD	2112	94	5	\$0	200	12/10/03	
MOUNT HERMON ROAD	2	MT HERMON SCHOOL RD	MAIN ROAD (Nth)	1901	95	5	\$0	750	12/10/03	

Appendix 3B: Existing Pavement Conditions (Fall 2003)
Alphabetical List of Town Maintained Paved Roads

STREET NAME	SECTION		LENGTH (ft)	PCI	REPAIR CODE	ESTIMATED COST	PMS RANK	ESTIMATED ADT	SURVEY DATE	
	ID #	SECTION FROM:								SECTION TO:
MOUNTAIN ROAD	1	MAIN ROAD (Sth)	MOUNTAIN RD ESTATES	2640	94	5	\$0	250	12/10/03	
MOUNTAIN ROAD	2	MOUNTAIN RD ESTATES	0.5 MILE NORTH	2640	95	5	\$0	150	12/10/03	
MOUNTAIN ROAD	3	0.5 MILE NORTH	CHANGE IN PAVEMENT	1848	95	5	\$0	100	12/10/03	
MOUNTAIN ROAD	4	CHANGE IN PAVEMENT	CHANGE IN PAVEMENT	1584	89	5	\$0	100	12/10/03	
MOUNTAIN ROAD	5	CHANGE IN PAVEMENT	CHANGE IN PAVEMENT	2112	91	5	\$0	100	12/10/03	
MOUNTAIN ROAD	6	CHANGE IN PAVEMENT	MAIN ROAD (Nth)	739	95	5	\$0	100	12/10/03	
MUNNS FERRY ROAD	1	MAIN ROAD	DEAD END	3485	89	4	\$19,361	32	25	12/10/03
MYRTLE STREET	1	FRENCH KING HIGHWAY	OAK STREET	634	82	4	\$3,698	23	200	12/10/03
NORTH CROSS ROAD	1	MAIN ROAD	GATE TO FIELD	2640	89	4	\$16,867	19	300	12/10/03
NORTH CROSS ROAD	2	GATE TO FIELD	HOUSE #103	2640	90	4	\$16,867	20	300	12/10/03
NORTH CROSS ROAD	3	HOUSE #103	BERNARDSTON T.L.	2640	95	5	\$0		300	12/10/03
OAK STREET	1	RIVERVIEW DRIVE	MEADOW STREET	1690	80	4	\$9,389	25	100	12/10/03
PINE STREET	1	GROVE STREET	RIVERVIEW DRIVE	264	95	5	\$0		25	12/10/03
PISGAH MOUNTAIN ROAD	1	FRENCH KING HIGHWAY	CHANGE TO GRAVEL	634	100	5	\$0		225	12/10/03
RIVER ROAD	1	MAIN ROAD	GRIST MILL ROAD	2376	95	5	\$0		175	12/10/03
RIVER ROAD	2	GRIST MILL ROAD	WMECO POLE 16/32	2904	95	5	\$0		175	12/10/03
RIVER ROAD	3	WMECO POLE 16/32	CHANGE TO GRAVEL	2059	95	5	\$0		75	12/10/03
RIVERVIEW DRIVE	1	FRENCH KING HIGHWAY	FRENCH KING HIGHWAY	3379	84	4	\$18,772	17	250	12/10/03
SOUTH CROSS ROAD	1	WEST GILL ROAD	HOUSE #57	3168	90	4	\$17,600	22	250	12/10/03
SOUTH CROSS ROAD	2	HOUSE #57	MAIN ROAD	2957	88	4	\$16,428	21	250	12/10/03
TOWN HALL DRIVE	1	CENTER STREET	DEAD END	211	99	5	\$0		25	12/10/03
WALNUT STREET	1	RIVERVIEW DRIVE	MEADOW ROAD	1478	78	4	\$8,211	24	100	12/10/03
WEST GILL ROAD	1	MAIN ROAD	FRANKLIN ROAD	3168	90	4	\$23,760	1	2200	12/10/03
WEST GILL ROAD	2	FRANKLIN ROAD	HOUSE #133	3168	99	5	\$0		1750	12/10/03
WEST GILL ROAD	3	HOUSE #133	ATHERTON ROAD	2640	99	5	\$0		1750	12/10/03
WEST GILL ROAD	4	ATHERTON ROAD	CENTER ROAD	2904	99	5	\$0		1400	12/10/03
WEST GILL ROAD	5	CENTER ROAD	WMECO POLE 99/58	3168	65	3	\$63,360	8	1250	12/10/03
WEST GILL ROAD	6	WMECO POLE 99/58	BERNARDSTON T.L.	3010	80	4	\$20,067	6	1250	12/10/03
WYART ROAD	1	MAIN ROAD	DEAD END	528	70	3	\$7,480	33	10	12/10/03

Appendix 3B: Existing Pavement Conditions (Fall 2003)
Ranked List of Town Maintained Paved Roads

STREET NAME	SECTION		LENGTH (ft)	PCI	REPAIR CODE	ESTIMATED COST	PMS RANK	ESTIMATED ADT	SURVEY DATE	
	ID #	SECTION FROM:								SECTION TO:
WEST GILL ROAD	1	MAIN ROAD	FRANKLIN ROAD	3168	90	4	\$23,760	1	2200	12/10/03
MAIN ROAD*	6	HOUSE #253	WMECO POLE 84/158	2640	90	4	\$18,333	2	1700	12/10/03
MAIN ROAD*	7	WMECO POLE 84/158	NORTH OF RIVER RD	1584	90	4	\$11,000	2	1700	12/10/03
MAIN ROAD*	3	WMECO POLE 23B/40	HOUSE #153	2640	79	3	\$55,000	4	2000	12/10/03
MAIN ROAD*	4	HOUSE #153	WYART ROAD	2640	79	3	\$55,000	4	2000	12/10/03
WEST GILL ROAD	6	WMECO POLE 99/58	BERNARDSTON T.L.	3010	80	4	\$20,067	6	1250	12/10/03
MT HERMON STATION*	1	BERNARDSTON T.L.	NORTHFIELD T.L.	845	66	2	\$23,472	7	2000	12/10/03
WEST GILL ROAD	5	CENTER ROAD	WMECO POLE 99/58	3168	65	3	\$63,360	8	1250	12/10/03
MAIN ROAD*	10	HOUSE #444	NORTH CROSS ROAD	3590	75	3	\$68,808	9	1200	12/10/03
MAIN ROAD*	11	NORTH CROSS ROAD	MT HERMON RD (Sth)	2640	76	3	\$50,600	10	1000	12/10/03
MAIN ROAD*	9	WOOD AVENUE	HOUSE #444	2534	70	2	\$64,758	11	1200	12/10/03
MAIN ROAD*	13	MT HERMON RD (Nth)	NORTHFIELD TOWN LINE	950	56	1	\$66,500	12	1600	12/10/03
BOYLE ROAD	2	NORTH CROSS ROAD	WMECO POLE 17/153	3168	81	4	\$21,120	13	350	12/10/03
BOYLE ROAD	3	WMECO POLE 17/153	MAIN ROAD	2904	83	4	\$20,973	14	350	12/10/03
MAIN ROAD*	12	MT HERMON RD (Sth)	MT HERMON RD (Nth)	3696	55	1	\$258,720	15	850	12/10/03
CENTER ROAD	2	DOUGS AUTO BUSINESS	HOUSE 103	2904	82	4	\$16,133	16	250	12/10/03
RIVERVIEW DRIVE	1	FRENCH KING HIGHWAY	FRENCH KING HIGHWAY	3379	84	4	\$18,772	17	250	12/10/03
CENTER ROAD	3	HOUSE #103	WEST GILL ROAD	2904	89	4	\$15,327	18	250	12/10/03
NORTH CROSS ROAD	1	MAIN ROAD	GATE TO FIELD	2640	89	4	\$16,867	19	300	12/10/03
NORTH CROSS ROAD	2	GATE TO FIELD	HOUSE #103	2640	90	4	\$16,867	20	300	12/10/03
SOUTH CROSS ROAD	2	HOUSE #57	MAIN ROAD	2957	88	4	\$16,428	21	250	12/10/03
SOUTH CROSS ROAD	1	WEST GILL ROAD	HOUSE #57	3168	90	4	\$17,600	22	250	12/10/03
MYRTLE STREET	1	FRENCH KING HIGHWAY	OAK STREET	634	82	4	\$3,698	23	200	12/10/03
WALNUT STREET	1	RIVERVIEW DRIVE	MEADOW ROAD	1478	78	4	\$8,211	24	100	12/10/03
OAK STREET	1	RIVERVIEW DRIVE	MEADOW STREET	1690	80	4	\$9,389	25	100	12/10/03
LYONS HILL ROAD	3	MAIN ROAD	CENTER ROAD	686	85	4	\$3,811	26	100	12/10/03
FRANKLIN ROAD	1	WEST GILL ROAD	HOUSE #44	2112	87	4	\$12,320	27	100	12/10/03
FRANKLIN ROAD	2	HOUSE #44	CHANGE TO GRAVEL	2006	87	4	\$11,702	27	100	12/10/03
BACK ROAD TO MT HERM	1	NORTH CROSS ROAD	CHANGE IN PAVEMENT	528	61	2	\$7,040	29	50	12/10/03
MEADOW STREET	1	OAK STREET	FRENCH KING HIGHWAY	528	70	3	\$9,240	30	75	12/10/03
GILL-MONTAGUE CONNEC	1	GILL MONTAGUE BRIDGE	RIVERVIEW DRIVE	106	77	4	\$471	31	25	12/10/03
MUNNS FERRY ROAD	1	MAIN ROAD	DEAD END	3485	89	4	\$19,361	32	25	12/10/03
WYART ROAD	1	MAIN ROAD	DEAD END	528	70	3	\$7,480	33	10	12/10/03
GREEN HILL ROAD	1	SOUTH CROSS ROAD	END OF TOWN MAINT	528	58	1	\$29,920	34	20	12/10/03
ATHERTON ROAD	1	WEST GILL ROAD	DEAD END	2006	95	5	\$0		50	12/10/03
BARNEY HALE ROAD	1	PISGAH MOUNTAIN ROAD	CHANGE TO GRAVEL	1584	100	5	\$0		160	12/10/03
BEN HALE ROAD	2	CHANGE FROM GRAVEL	BERNARDSTON T.L.	2270	93	5	\$0		75	12/10/03
BICKFORD LANE	1	FRENCH KING HIGHWAY	HIGHLAND ROAD	264	95	5	\$0		25	12/10/03
BOYLE ROAD	1	BERNARDSTON T.L.	NORTH CROSS ROAD	1003	99	5	\$0		25	12/10/03

Appendix 3B: Existing Pavement Conditions (Fall 2003)
Ranked List of Town Maintained Paved Roads

STREET NAME	SECTION		LENGTH (ft)	PCI	REPAIR CODE	ESTIMATED COST	PMS RANK	ESTIMATED ADT	SURVEY DATE
	ID #	SECTION FROM:							
CENTER ROAD	1	MAIN ROAD	DOUGS AUTO BUSINESS	2006	94	5	\$0	250	12/10/03
DOLE ROAD	1	WEST GILL ROAD	HOUSE #41	2112	95	5	\$0	150	12/10/03
DOLE ROAD	2	HOUSE #41	BERNARDSTON T.L.	2006	95	5	\$0	150	12/10/03
GROVE STREET	1	OAK STREET	PINE STREET	317	95	5	\$0	30	12/10/03
HOE SHOP ROAD	1	WEST GILL ROAD	CHANGE TO GRAVEL	1478	95	5	\$0	75	12/10/03
HOE SHOP ROAD	3	CHANGE FROM GRAVEL	BERNARDSTON T.L.	1214	95	5	\$0	75	12/10/03
LYONS HILL ROAD	2	CHANGE FROM GRAVEL	MAIN ROAD	370	95	5	\$0	25	12/10/03
MAIN ROAD*	1	FRENCH KING HIGHWAY	WEST GILL ROAD	2534	99	5	\$0	4300	12/10/03
MAIN ROAD*	2	WEST GILL ROAD	WMECO POLE 23B/40	2640	99	5	\$0	2200	12/10/03
MAIN ROAD*	5	WYART ROAD	HOUSE #253	2640	95	5	\$0	1700	12/10/03
MAIN ROAD*	8	NORTH OF RIVER ROAD	WOOD AVENUE	3274	100	5	\$0	1200	12/10/03
MOUNT HERMON ROAD	1	MAIN ROAD (Sth)	MT HERMON SCHOOL RD	2112	94	5	\$0	200	12/10/03
MOUNT HERMON ROAD	2	MT HERMON SCHOOL RD	MAIN ROAD (Nth)	1901	95	5	\$0	750	12/10/03
MOUNTAIN ROAD	1	MAIN ROAD (Sth)	MOUNTAIN RD ESTATES	2640	94	5	\$0	250	12/10/03
MOUNTAIN ROAD	2	MOUNTAIN RD ESTATES	0.5 MILE NORTH	2640	95	5	\$0	150	12/10/03
MOUNTAIN ROAD	3	0.5 MILE NORTH	CHANGE IN PAVEMENT	1848	95	5	\$0	100	12/10/03
MOUNTAIN ROAD	4	CHANGE IN PAVEMENT	CHANGE IN PAVEMENT	1584	89	5	\$0	100	12/10/03
MOUNTAIN ROAD	5	CHANGE IN PAVEMENT	CHANGE IN PAVEMENT	2112	91	5	\$0	100	12/10/03
MOUNTAIN ROAD	6	CHANGE IN PAVEMENT	MAIN ROAD (Nth)	739	95	5	\$0	100	12/10/03
NORTH CROSS ROAD	3	HOUSE #103	BERNARDSTON T.L.	2640	95	5	\$0	300	12/10/03
PINE STREET	1	GROVE STREET	RIVERVIEW DRIVE	264	95	5	\$0	25	12/10/03
PISGAH MOUNTAIN ROAD	1	FRENCH KING HIGHWAY	CHANGE TO GRAVEL	634	100	5	\$0	225	12/10/03
RIVER ROAD	1	MAIN ROAD	GRIST MILL ROAD	2376	95	5	\$0	175	12/10/03
RIVER ROAD	2	GRIST MILL ROAD	WMECO POLE 16/32	2904	95	5	\$0	175	12/10/03
RIVER ROAD	3	WMECO POLE 16/32	CHANGE TO GRAVEL	2059	95	5	\$0	75	12/10/03
TOWN HALL DRIVE	1	CENTER STREET	DEAD END	211	99	5	\$0	25	12/10/03
WEST GILL ROAD	2	FRANKLIN ROAD	HOUSE #133	3168	99	5	\$0	1750	12/10/03
WEST GILL ROAD	3	HOUSE #133	ATHERTON ROAD	2640	99	5	\$0	1750	12/10/03
WEST GILL ROAD	4	ATHERTON ROAD	CENTER ROAD	2904	99	5	\$0	1400	12/10/03

Appendix C: Footprint Roads Pilot Program Guidelines from MassHighway

MASSHIGHWAY FOOTPRINT ROADS PILOT PROGRAM Implementation Plan (June 4, 2003)

The “Footprint Roads Pilot Program” was generated as a result of the efforts of the multi-disciplined, interagency Design Issues Working Group. This three year Pilot Program will help to balance community, historic and environmental needs while performing roadway work in settings of community significance.

The following schedule has been established for implementation and follow-up:

- Roll out the Program on June 4, 2003
- Make applications available June 6, 2003 (MassHighway District Offices and Regional Planning Agencies)
- Accept applications through August 31, 2003 for inclusion on the FY 04 Transportation Improvement Plan (TIP)
- Establish Selection Committee by July 31, 2003
- Establish Program Success Criteria for follow-up action by August 31, 2003
- Select FY 04 projects by September 30, 2003
- Accept applications for FY 05 TIP
- Select Projects for FY 05 TIP by April 15, 2004
- Accept applications for FY 06 TIP through March 1, 2005
- Select Projects for FY 06 TIP by April 15, 2006

Funding

There is no designated funding category for this Program. Surface Transportation Program (STP) eligible funds from regional targets will be used for the selected projects for this Pilot Program. Funding levels will be limited to a statewide total of \$15 million for years 1 – 3 of the Program (TIP years 04 – 06) to ensure continued expenditures to promote statewide improvements under currently funded programs.

Project Distribution

In order to target geographic equity, a minimum of one project will be considered for each region per year of the Pilot. Should there be a remaining balance in the statewide funding limit, additional projects will be considered and selected based upon merit, within existing targets.

Due to time constraints, projects considered for the FY 04 TIP will not be required to have Project Review Committee (PRC) approval for initial inclusion. Projects for the FY 05 and FY 06 TIPs should have PRC approval prior to inclusion on the TIP. Also, it is recognized that project selection for this Pilot Program most likely will not occur prior to

endorsement of the 2004-7 TIPs. Therefore, MPOs may wish to program proposed projects with the understanding that it may not be selected as part of the Pilot Program. If it is not selected, the MPO could choose to keep it on the TIP or conduct an amendment process to substitute other projects.

MassHighway

FOOTPRINT ROADS PILOT PROGRAM

PROGRAM GUIDELINES AND CANDIDATE PROJECT APPLICATION FORM (June 6, 2003)

PROGRAM INTENT, PARAMETERS AND GUIDELINES

Design criteria for projects on existing roadways must often be viewed from a different perspective than design criteria for new roadway construction projects. Many projects on existing roadways are initiated for reasons other than geometric design deficiencies (e.g. pavement deterioration), and, many of these projects are also located within limited rights of way, on main streets in city or town centers, or adjacent to natural resources, public lands or historic resources. Often, projects on existing roadways are initiated in communities where land use and cultural characteristics are already well established. For projects like this, project proponents should consider applying the Footprint Roads Pilot Program guidelines to accomplish identified project goals.

The Footprint Roads Pilot Program guidelines allow project proponents to preserve and enhance historic and community character, extend the service life of the existing facility, enhance safety for all users, reduce maintenance costs, and protect the environment. Work under this program should consist primarily of roadway improvements that follow the existing horizontal and vertical alignments of the project roadways, generally within the existing “footprints” of the project roadways. Additional work may also include elements such as drainage improvements, signing, pavement markings, roadside improvements, guardrail installation or improvements, pedestrian and bicycle improvements, edging installation or adjustment, ADA/AAB elements, and other incidental improvements.

The Footprint Roads Pilot Program is not intended as a replacement or expansion of the Local Aid (Chapter 90) program or as a replacement program for state highway resurfacing and maintenance projects. It is intended to improve and protect roads that contain one or more of the following assets:

- a) Serve as a main street in city or town centers
 - Located in a mixed use community, village, neighborhood, downtown or government service center
- b) Contain historic assets
 - Listed on State or National Register

- Eligible for inclusion in the National Register by the Massachusetts Historic Commission
 - Identified by the local historic commission as an area containing historic resources
- c) Pass through or adjacent to public lands
- Conservation lands
 - Recreational lands
 - Other public lands
- d) Pass through or adjacent to natural resources
- Wetlands
 - Coastal resources
 - Bodies of water
 - Trees of 14" dbh (diameter at breast height) or larger
- e) Are designated as a scenic road or byway
- State or federally designated scenic byway or highway
 - Proposed scenic byway that has a completed corridor management plan or a corridor management plan underway
 - Locally designated scenic road
- f) Pass through or adjacent to agricultural lands
- Prime
 - Unique
 - Other than prime or unique that is of statewide importance
 - Other than prime or unique that is of local importance

Qualified projects under this program are exempt from all of the 13 AASHTO controlling criteria.

PROGRAM ELIGIBILITY CRITERIA

To be eligible under this program, projects must meet all of the following criteria:

1. All project roadways must be part of the Federal Aid System.
2. All project roadways must be Non-National Highway System roadways.
3. All project roadways must have a pavement structure that, through resurfacing, restoration or rehabilitation techniques, can be expected to provide an acceptable level of structural adequacy for a minimum design life of 10 years.
4. All project intersections must have average or lower-than-average crash rates when compared to averages for similar locations (signalized or unsignalized) in similar areas of the state (MHD District regions). Current crash rate averages are available from the Safety Management/Traffic Operations Unit of MHD.

5. All project roadways must not contain high-hazard locations that have been documented to have adversely affected the safety of any user. Any roadways that have experienced at least one fatality attributable to existing substandard design elements shall not be eligible under this program.

ELIGIBLE SCOPE OF WORK

The project scope must include pavement overlay, restoration or rehabilitation. Full-depth or partial-depth roadway reconstruction may also be included in some situations. Roadways should be reconstructed within their existing footprints, generally matching their existing horizontal and vertical alignments, and their existing widths. Pavement widths may be expanded or narrowed in limited areas to allow for a uniform pavement width within the project limits.

The project scope may also include any of the following:

- Drainage improvements,
- Signing,
- Pavement markings,
- Roadside improvements,
- Guardrail installation or improvements,
- Pedestrian improvements (such as sidewalks, crosswalks and public transportation waiting areas),
- Bicycle improvements (such as signs, improved pavement markings and improved shoulders as defined under these guidelines),
- ADA/AAB elements (such as wheelchair ramps),
- Edging installation or adjustment,
- Traffic signal system upgrades (if improvements are incidental to the project),
- Landscaping, street lighting, or other enhancements.

DESIGN CRITERIA

Qualified projects under this program are exempt from all of the 13 AASHTO controlling criteria and from the curb lane width requirements of Engineering Directive E-98-003 (*In Response to MGL Ch 87 Acts of 1996, Bicycle and Pedestrian Accommodation*).

All other relevant MassHighway standards, policies and procedures will apply. Projects must comply with the *Americans with Disabilities Act*, the requirements of the Massachusetts Architectural Access Board, and MassHighway handicapped accessibility standards and policies. Projects must also comply with the *Manual on Uniform Traffic Control Devices* and with Federal Highway Administration and MassHighway requirements for conformance with *National Cooperative Highway Research Program Report 350* and its subsequent revisions (for guardrails, work zone traffic control devices,

sign supports, etc.) No project is exempt from local, state and federal environmental requirements.

PROJECT DOCUMENTATION REQUIREMENTS

Each project under this program must be properly documented in the format outlined in the “Candidate Project Application Form” section of this document.

If the District Highway Director and the Regional Planning Agency both recommend the project for inclusion in this program, they will forward the application materials to the Footprint Roads Pilot Program Selection Committee for prioritization in the selection process. In order to receive construction funding, an approved project must be included in the appropriate Transportation Improvement Program (TIP) and State Transportation Improvement Program (STIP). Any projects not approved for inclusion under this program may still be advanced under the normal procedures outlined in the *Highway Design Manual*. Project proponents/designers must maintain the project application/documentation and any subsequent approval letters in the permanent project file.

MassHighway

FOOTPRINT ROADS PILOT PROGRAM CANDIDATE PROJECT APPLICATION FORM

This form should be completed providing as much detailed information as possible to evaluate the merits of your project. Where necessary, attachments should be labeled and provided for review.

Completed forms should be submitted to the appropriate MassHighway District Office and Regional Planning Agency for concurrent review.

I. Project Identification

City/Town: _____

Street: _____

Physical Limits (stations and coordinates or distances from town lines and/or intersecting streets): _____

Total Length of Project: _____

Project Locus: (Provide attachment)

II. Project Purpose and Scope of Work

Discuss the purpose of the proposed project and the specific proposed elements of work, including the type of improvements and all incidental elements of work. Also, discuss the existing targeted deficiencies with the project roadways and how the proposed scope of work will correct those targeted deficiencies. Any special roadway and/or community characteristics may be included here to enhance the project description and to support the project purpose.

III. Project Proponent Information

Applicant: _____

Primary Contact Person: _____

Title: _____

Telephone Number: _____

Designer/Consultant (if known): _____

IV. Roadway Description

Functional Classification: _____

Number and Types of Lanes: _____

Existing Lane, Shoulder and Sidewalk Widths: _____

Existing Geometry (in general terms): _____

Existing Pavement Condition: _____

Existing Land Use (in general terms): _____

Existing Right of Way: _____

Description of Cultural and/or Natural Resources (applicable assets as identified in “Program Intent, Parameters and Guidelines” section of this document): _____

V. Traffic Data

Current Average Annual Daily Traffic Volume (AADT): _____

Future AADT for 10-year design life: _____

Current Peak Hour Traffic Volume: _____

Current Directional Distribution (D): _____

Current Percentage of Truck Traffic (T): _____

Turning Movements at Major Intersections: (Provide attachments)

VI. Vehicular Level of Service Analysis

Complete Level of Service Analyses in accordance with the guidelines set forth in the *Highway Capacity Manual*. Separate analyses must be completed for the mainline and for each major intersection within the project limits. All analyses should be completed using current-year traffic data and existing conditions. Include any necessary attachments.

Also, document any substandard Levels of Service. This should include a discussion of any locations that have existing Levels of Service of “E” or “F”. Document reasons why improvements to Level of Service are not warranted or practical, and describe any proposed elements of work that will relieve the existing congested conditions. In general, a proposed project should not diminish the existing Level of Service for any project roadways.

VII. Bicycle and Pedestrian Accommodation Analysis

Address bicycle and pedestrian accommodation within the project limits relative to the intent of Chapter 87 of the Acts of 1996. This analysis should include a description of existing bicycle and pedestrian features/conditions and reasonable efforts to improve accommodation for bicyclists and pedestrians. A proposed project should not diminish existing accommodation for bicyclists or pedestrians.

VIII. Crash Data and Crash Analysis

Complete crash (accident) analyses for the mainline and for each major intersection within the project limits. All analyses should be completed using crash data from the most recent 3-year period. Attach any necessary pages. The following information should be collected and documented:

Number and percentage of crashes by type:

- Run-off-road: _____
- Head-on: _____
- Sideswipe: _____
- Rear end (intersection only): _____
- Angle (intersection only): _____
- Left-Turn (intersection only): _____
- Fixed Object: _____
- Overturn: _____
- Pedestrian: _____
- Other: _____
- Unknown: _____

Collision Diagrams for intersections (Provide attachments)

Intersection crash rates for each major intersection (Use Crash Rate Worksheets, attached)

Statewide crash rates for similar facilities: (Available from MassHighway Safety Management/Traffic Operations Unit) _____

Identify specific high-hazard locations (crash analysis by location): _____

IX. Estimated Cost

Provide a reasonable estimate of all construction costs. Factor in any necessary adjustments to present-day costs to account for the anticipated time periods of the programming and design phases.

MassHighway

CRASH RATE WORKSHEET

STANDARD PROCEDURES

The Traffic Operations & Safety Unit of the Massachusetts Highway Department (MassHighway) has been working on developing a database of accident rates since the Fall of 1997. The calculation of the accident (crash) rate for an intersection is an effective tool to measure safety hazards. The goal of this effort is to develop standard crash rates for both signalized and unsignalized intersections throughout the Commonwealth. Added functions will allow detailed analyses by District, City or Town, and for specific roadways.

Crash Rate Worksheet Standard Procedures:

- 1) The MassHighway Crash Rate Worksheet will be provided to all consultants for use in any, and all design report documents that will be reviewed by the Department. This includes, but is not limited to, Environmental Impact Reports, Functional Design Reports, Traffic & Safety Analyses and Mitigation Projects.
- 2) Please specify the City/Town and District that the subject intersection is located in. The date of the volume count data that is used in the project report should be listed as well. Use the most appropriate date should there be multiple years of data utilized. Finally, check off the type of traffic control that exists at the intersection.
- 3) Identify the major street at the subject intersection, along with each of the corresponding minor streets intersecting it. If there is more than one major street, label it as such.
- 4) Sketch out a diagram of the intersection, carefully labeling each approach. Identify north with an arrow in the box provided.
- 5) From the peak hour volume counts collected for the intersection, sum the totals by each approach and fill in the table provided. MassHighway prefers to use the PM Peak hour volumes, however the AM Peak is acceptable if it is the only data available. Please circle "AM" or "PM" to indicate the time period referenced. For a multi-leg intersection (4+ legs) it would be helpful to show the approach numbers on the *Intersection Diagram*.
- 6) Compute the "K" Factor for the intersection or dominant roadway, by reviewing the ATR counts collected. Use the same time period, preferably the PM Peak, that was used in determining the hourly approach volumes. A default value of 0.09 can be assumed for insufficient ATR data. Mark the "K" Factor in the box provided.

- 7) Calculate the intersection approach ADT by summing the directional approach volumes and dividing by the “K” Factor. The result is a measure of the daily entering vehicles for the subject intersection.
- 8) Review the accident (crash) data provided and determine the quantity of accidents occurring at the intersection over the time period presented. The accidents considered valid should occur at the intersection, or within the immediate vicinity. MassHighway requires a minimum of 3 years of accident data for traffic studies. Thus for the calculation of the accident rates, the average number accidents over the length of the study period is used.
- 9) Note that the year of the traffic volumes collected does not usually match the year of the crash data. The MassHighway accident database usually runs about 12 to 18 months behind the actual date due to processing time. We recognize that this creates inconsistencies, however it was deemed acceptable in order to keep an “active” database on *Crash Rates*. Use of more current City and Town accident data is acceptable, and encouraged.
- 10) The *Crash Rate* calculation is the last step in the process. The formula for calculating the accident rate for an intersection is presented below. The “Rate” (R) is expressed in **Million Entering Vehicles (MEV)**, which is standard to the Traffic Engineering profession.

$$R = \frac{A \times 1,000,000}{V * T}$$

Where;

A = Average number of accidents at the study location, during a given time period (usually 1 year = 365 days)

V = Intersection ADT (all approach legs)

T = Time, expressed in the number of days in the study period (365)

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : _____ COUNT DATE : _____ DISTRICT : _____ UNSIGNALIZED : <input style="width: 50px;" type="text"/> SIGNALIZED : <input style="width: 50px;" type="text"/>	MHD USE ONLY Source # <input style="width: 50px;" type="text"/>														
~ INTERSECTION DATA ~															
MAJOR STREET : _____ MINOR STREET(S) : _____ _____ _____	ST # <input style="width: 50px;" type="text"/> ST # <input style="width: 50px;" type="text"/>														
INTERSECTION DIAGRAM (Label Approaches)	INTERSECTION REF # <input style="width: 50px;" type="text"/>														
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> North </div>															
Peak Hour Volumes															
APPROACH : DIRECTION : VOLUMES (AM/PM) :	<table border="1" style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">1</td> <td style="width: 15%; text-align: center;">2</td> <td style="width: 15%; text-align: center;">3</td> <td style="width: 15%; text-align: center;">4</td> <td style="width: 15%; text-align: center;">5</td> <td style="width: 15%; text-align: center;">Total Entering Vehicles</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">0</td> </tr> </table>		1	2	3	4	5	Total Entering Vehicles							0
	1	2	3	4	5	Total Entering Vehicles									
						0									
" K " FACTOR : <input style="width: 50px;" type="text"/>	APPROACH ADT : <input style="width: 50px; background-color: #cccccc;" type="text"/> #DIV/0! ADT = TOTAL VOL/"K" FACT.														
TOTAL # OF ACCIDENTS : <input style="width: 50px;" type="text"/>	# OF YEARS : <input style="width: 50px;" type="text"/> AVERAGE # OF ACCIDENTS (A) : <input style="width: 50px; background-color: #cccccc;" type="text"/> 0.00														
CRASH RATE CALCULATION : <input style="width: 50px; background-color: #cccccc;" type="text"/> #DIV/0! RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$															
Comments : _____ Project Title & Date: _____															

CHAPTER 4

CHAPTER 4: HOUSING

Diverse, affordable housing is important for all communities. After paying housing costs, residents need adequate income to cover other basic expenditures, including food, health care, utilities, and transportation. Housing is generally considered to be affordable when households spend no more than 30% of their gross income on housing costs. The Housing chapter of the Community Development Plan presents an overview of housing in Gill. It discusses how well the current housing supply is meeting demand, evaluates housing affordability, and assesses which areas of Gill may potentially be the most suitable for new residential development to address the community's identified housing needs.

The Housing chapter contains the following main sections:

- Housing goals and objectives established during the Community Development Planning process;
- A discussion of the planning and legislative context for this housing chapter;
- A summary of Gill's current housing characteristics;
- A review of population characteristics that influence housing demand, and a comparison between housing supply and demand to identify potential housing gaps;
- An assessment of housing affordability in Gill, and an analysis of how well Gill's housing supply provides adequate affordable housing choices for individuals and households of different incomes;
- An analysis of areas in Gill which may potentially be the most suitable for new housing development; and
- Recommendations for helping the Town meet the housing goals and objectives presented earlier.

Housing Goals and Objectives

The following housing goals and objectives for the Town of Gill were created by the Community Development Planning Committee.

Goals:

- To promote the creation of affordable housing opportunities for diverse populations in Gill.
- To develop housing that meets the needs of residents while protecting the rural character of Gill.

Objectives:

- To access regional, state and federal resources to assist in meeting the housing needs of Gill residents.
- To adopt innovative planning techniques to address housing needs while also protecting the rural character and qualities of Gill.
- To encourage the development of programs and policies that support resident seniors with low and moderate income levels to meet their housing needs.

Planning and Legislative Context

This section provides background information and context for this Housing chapter. It gives a brief summary of the State’s legislation to encourage affordable housing, including Executive Order 418 (EO418), Chapter 40B and the Community Preservation Act. It also discusses Gill’s current community housing activities. Lastly, it provides a short overview of the Town’s zoning districts and the types of residential development allowed in Gill under its Zoning Bylaws.

State Legislation to Promote Affordable Housing

Executive Order 418 (EO418)

Issued in 2000, Executive Order 418 continues the Commonwealth’s long commitment to encouraging the creation of affordable housing. Executive Order 418, entitled “Assisting Communities in Addressing the Housing Shortage,” provides new incentives and resources for communities to promote affordable housing development. First, EO418 offers municipalities funding to create Community Development Plans, such as this one, which helps communities consider the ways they would like to grow in the future, and assists them to establish options and strategies for addressing future development.

In addition to encouraging the creation of Community Development Plans, EO418 establishes a new affordable housing certification process. Municipalities must obtain housing certification to be eligible to receive funds through certain discretionary grant programs and to receive bonus rating points for other grant programs. The affected programs are administered by the Department of Housing and Community Development (DHCD), the Executive Office of Environmental Affairs (EOEA), the Department of Economic Development (DED), and the Executive Office of Transportation and Construction (EOTC). The grant programs requiring housing certification are expected to provide a total of \$91 million in funding to communities statewide in Fiscal Year (FY) 2004 (which started July 1, 2003), and the competitive grant programs, which give a rating bonus for housing certification, should provide \$487 million. To receive housing certification, communities must demonstrate that they are working to increase their supply of housing that is affordable to individuals and families across a broad range of incomes. Housing certification is

obtained on an annual basis, and Gill achieved housing certification for FY 2001, FY 2002, and FY 2003.

Chapter 40B

In 1969, the Massachusetts Legislature passed the Comprehensive Permit Law (M.G.L. Chapter 40B, Sections 20-23), to promote the statewide creation of affordable housing for low and moderate income households. With Chapter 40B, the Legislature streamlined the development permit process for affordable housing projects, and established the goal of increasing the amount of long-term affordable housing in each community to 10% of its total housing stock. Under Chapter 40B, communities in which less than 10% of the housing units have guaranteed long-term affordability may face new housing developments that override local zoning restrictions, such as density and setback requirements. In these communities, a developer can submit a comprehensive permit application, known as a Chapter 40B application, for an affordable housing development that does not adhere to local zoning. This application is acted upon by the local Zoning Board of Appeals (ZBA). If the ZBA turns down the permit, the developer may be able to appeal the decision to the State Housing Appeals Committee, which can overrule the local ZBA decision, and allow the housing project to proceed.

The Chapter 40B definition of “affordable housing” is more restrictive than the general definition based on housing costs not exceeding 30% of household income. In determining a town’s total number of affordable housing units under Chapter 40B, the State has historically only included State or Federally subsidized units that have guaranteed long-term affordability for low and moderate income households. All unsubsidized units have been excluded from Chapter 40B status, even if their monthly costs are less than 30% of the median household income. This restriction has been a disadvantage to communities in Franklin County where subsidized housing is less likely to be developed, but where housing costs relative to income may be lower than in more urban places. Under the general definition of affordability (less than 30% of income spent on housing), 78% of Gill households have housing, which is affordable based on their incomes. However, under the Chapter 40B definition of “affordable,” as of October 2001, Gill had 2.55% of its housing (14 units) designated “affordable.” As of 2001, only three communities in Franklin County had achieved 10% affordable housing; they were Greenfield, Orange, and Wendell.

The State has recently begun to revise Chapter 40B to provide communities with more flexibility and local control in expanding their affordable housing supply. As a result of these changes, when a community has not yet reached the 10% affordable housing level, but has demonstrated a commitment to increasing its affordable housing supply, the local ZBA has the ability to deny a Chapter 40B development permit. A town’s commitment to increase affordable housing can be demonstrated through the creation of a local housing plan which has been certified by DHCD, and by the community expanding its number of Chapter 40B units for low and moderate-income households by at least 0.75% of the town’s total units every calendar year. In addition, local ZBAs can now refuse to issue permits for large-scale housing projects that are inappropriately sized for their community. Further revisions to Chapter 40B are now under consideration. Governor Romney established a Chapter 40B

Task Force to review the current law and suggest changes. The Task Force's final report and recommendations were released in the Spring 2003, and are now being reviewed by the Governor.

The State has also begun to expand Chapter 40B's definition of "affordable housing" to count additional units towards the 10% goal. Among the units that can now count as affordable are locally subsidized housing units, long-term housing for the mentally ill or mentally retarded, and housing created through the Community Preservation Act. These types of housing now count as affordable as long as they are serving low and moderate-income residents. A town's affordable housing percentage under Chapter 40B could increase as a result of these changes and the expanded "affordable housing" definition. The expanded definition of affordable housing will provide towns with more options and flexibility for increasing the affordable housing supply and for reaching the 10% affordable housing level.

Community Preservation Act

The Massachusetts Community Preservation Act (M.G.L. Chapter 44B), signed into law in 2000, is designed to help communities fund projects to address local needs related to affordable housing, historic preservation, and open space protection. Municipalities adopt the Community Preservation Act (CPA) on a local basis, through a ballot referendum. Communities that approve the CPA can impose a property tax surcharge of up to 3%, with possible exemptions for the first \$100,000 of residential property value, for homes owned by low-income households or seniors of moderate income, or for commercial and industrial properties. The funds collected through this surcharge are set aside in a local Community Preservation Fund. The CPA stipulates that at least 10% of the annual monies raised for the Community Preservation Fund must be spent, or set aside for future spending, on each of the following: open space (excluding recreational purposes), historic preservation, and community housing. Community housing is defined as housing that is affordable to individuals or families earning 100% or less of the area-wide median income.

The remaining 70% of the CPA funds may be allocated to any one or a combination of the three main uses, including public recreational purposes, at the discretion of the town's Community Preservation Committee, and subject to the approval of Town Meeting. This gives communities the flexibility to use the money for community-designated priorities.

To encourage municipalities to adopt the CPA, Massachusetts has established the Massachusetts Community Preservation Trust Fund, which provides a match for local Community Preservation Fund monies. In Fiscal Year 2002, more than \$17 million in matching funds were distributed to local communities through the trust fund. As of May 2003, 61 communities statewide had adopted the CPA. The Town of Gill has not had this referendum included on a ballot, and thus, has not voted to adopt or reject the CPA. In Franklin County, the only town that has adopted the CPA is Leverett.

Regional and Town Initiatives and Policies to Create Affordable Housing

As discussed in Gill's housing certification applications for FY 2001, FY 2002, and FY 2003, the Town has a multi-faceted approach to addressing community housing issues. First, the Town has adopted the Franklin Regional Council of Government's Regional Policy Plan, a policy document to help guide future growth in Franklin County. The Regional Policy Plan contains numerous strategies for promoting appropriate development, including the creation of affordable housing, in the region. Second, like other Franklin County communities, Gill works closely with the Franklin County Regional Housing and Redevelopment Authority (HRA) and its affiliated non-profit, Rural Development, Inc., to facilitate the development of affordable units in the region. For example, the 14-unit Stoughton Village affordable senior housing complex located off Main Road was created by the HRA in collaboration with Gill. In addition, the Town supports appropriate and responsible housing development through its planning initiatives and zoning regulations.

Regional Policy Plan

The Franklin Regional Council of Governments (FRCOG) established a Regional Policy Plan in 1998. The Regional Policy Plan is a policy document to help guide future growth in Franklin County. The Regional Policy Plan includes an assessment of housing affordability on a regional basis. Steps taken to implement the Regional Policy Plan's housing-related recommendations include close coordination between communities and the regional housing authority, the Franklin County Regional Housing and Redevelopment Authority (HRA) (*see the Appendix for a full list of the Regional Policy Plan's housing goals and recommendations*). The Regional Policy Plan also addresses transportation planning and regional land use. It suggests areas that may be suitable for future housing development, and discusses transportation options for serving potential new homes.

Franklin County Regional Housing and Redevelopment Authority and Rural Development Inc. Initiatives

Gill works with the local and regional public housing authority, the Franklin County Regional Housing and Redevelopment Authority (HRA), to address local housing and community development needs. The HRA was created in 1973 by the Massachusetts Legislature as the Commonwealth's first regional public housing authority. At that time, the State recognized that the 26 towns of the Franklin County, as small communities in the State's most rural county, did not have sufficient access to housing and community development resources, and were unlikely to develop and sustain adequate housing and community development capacity independently. The HRA was established to help address housing and development issues and to assist with housing and community development, both for the region as a whole and for local communities.

The HRA accesses numerous funding sources for housing and community projects. It works with Gill and other communities regarding affordable homeownership and homeownership counseling, rental housing and tenant/landlord information and counseling, housing rehabilitation, Title 5 updates, and municipal infrastructure. The HRA also coordinates these

activities with other agencies and organizations, including Rural Development, Inc (RDI), a non-profit HRA spin-off organization that builds affordable first-time homeowner single-family homes and rental housing for seniors, families, and special needs residents.

To date, the HRA has secured more than \$220 million in housing and community development resources for Franklin County towns. In addition, RDI has developed more than \$15 million in single and multi-family housing in the past ten years. Ten to twelve homes are built each year in varying communities, and approximately sixty have been constructed in the past six years countywide. The resources that HRA and RDI use for their projects come from a variety of sources, including Massachusetts Department of Community Development (DHCD) HOME funds, U.S. Department of Agriculture Rural Development funds, and Section 8 Home Ownership Program funds from the Housing Assistance Council. HRA and RDI programs help hundreds of families each year in Franklin County. HRA and RDI are very flexible in working with communities, and tailor their programs and projects in each town to the housing issues identified by the individual community.

In addition to the region-wide housing programs and initiatives, the HRA is administering a housing rehabilitation loan program through the Community Development Block Grant program. The loan program is available to residents in Gill, Amherst, Heath, Montague, and Orange starting in September 2003 and will end in late 2004. The loan program lends up to \$20,000 per house to improve the dwelling to meet appropriate health and building codes. The loan is not repaid until the house is sold.

Gill's Zoning for Residential Development

The Town of Gill has three zoning districts: Residential (R), Residential-Agricultural (R-A), and Village Residential. The R-A is the most prominent zoning district in Gill. The R district is located along the southern portion of Mountain Road and the area where it meets Main Road. In both the R and R-A districts, detached single-family dwellings, and two- or three-family dwellings or semi-detached dwellings are allowed by right. Multi-family homes, and trailer park or mobile homes are allowed by special permit in these two zoning districts. Also stated in the zoning regulations for these districts, "Tourist homes" such as a bed & breakfast require a special permit. Lodging offered by an inn, hotel or motel is not allowed in the R district but is allowed with a special permit in the R-A district.

The Village Residential district is located in the Riverside neighborhood of Gill, which is between Route 2 and the Connecticut River near the Gill-Montague Bridge. The Village Residential district allows by right detached, single-family dwellings. An apartment conversion within existing structures requires a special permit. In the Village Residential district the conforming lot size is ¼ acre with not less than 100 feet of frontage on a public way. No building or structure in this district shall be constructed closer than ten feet from the side or rear lot lines.

All residential development in Gill must adhere to the Town requirements regarding lot size, setbacks, erosion controls, and parking for that zoning district. Residential development allowed only by special permit may also need to meet additional requirements, as specified in

the Town's Zoning Bylaws. In addition, the subdivision of tracts of land for the development of new homes must meet the regulations established in the Town's Subdivision Rules and Regulations. As part of the regulations, a project may apply to use the Small Project Procedures in the Subdivision Regulations which requires less demanding thresholds than for standard projects. A project may be eligible, if it consists of five or fewer lots that were not contiguous to property which has been previously in common ownership and subdivided within the past five years. Also the project must not have access that was previously developed under Small Project Procedures.

Gill's Zoning Bylaws provide standard guidance for future residential development. The Bylaws permit some residential uses by right and others by special permit, and allows for a variety of housing types and densities. This allows the potential for different housing types to be created for varying demographic populations with specific housing needs. The Town may want to consider investigating the possible advantages and disadvantages of other zoning options, such as cluster zoning. In addition, the Town and the HRA have successfully created housing that is affordable and appealing to older residents.

Current Housing Characteristics

This section summarizes Gill's current housing characteristics, including housing type, housing age, tenancy, and new construction trends. The section also compares housing statistics for Gill to those for Franklin County and for Massachusetts overall. The information presented in this section comes primarily from the U.S. Census, which according to Gill municipal officials has some inaccuracies.⁸ These potential inaccuracies, which are discussed further in the text, report a decline in housing units from 1990 to 2000.

Other information sources include Town population figures from the Town Clerk, building permit records provided by the Franklin County Cooperative Inspection Program, and real estate data from the Warren Group. The building permit data, in particular, presents interesting trends that demonstrate the housing growth that has occurred in the past decade.

Housing Supply

During the past three decades, Gill's population has increased from a population of 1,100 in 1970 (U.S. Census) to approximately 1,597 in 2003 (Gill Town Clerk). The main factor behind Gill's population growth has been an in-migration of new residents seeking to experience the Town's scenic beauty, high quality of life, and convenient access to the

⁸According to Gill municipal officials, data from the 2000 U.S. Census is inaccurate due to the survey attributing faculty households located on the Gill campus of the Northfield Mount Hermon School to the Town of Northfield. It is estimated that approximately 200 residents and 80 households were missed. If these missing residents were included, it would indicate that the population level remained steady from 1990 to 2000 as opposed to significantly declining. Another factor that may have influenced population and housing data for the Town is the shared zip code between Gill and Turners Falls. The loss of population experienced in Turners Falls from 1990 to 2000 may have impacted Gill's population and housing counts. While 2000 Census data is flawed, it is important to note that it is the best source of detailed population and housing statistics. The 2000 Census information will be used to estimate trends and patterns. Notes will be made of the discrepancy throughout the chapter.

region’s major transportation corridors. However, in comparison to other areas in eastern Massachusetts, Gill has not had the same high level of residential growth pressure.

When there is an increase in the number of people wanting to move to an area, this leads to growing housing demand, which in turn promotes the creation of new housing units. Unfortunately, inaccurate U.S. Census data from the 2000 Census survey, offers misleading information with regard to population and housing trends when compared to 1990 for the Town of Gill. It is estimated that approximately 200 Gill residents were not included in the federal Census survey as explained in Footnote 1 on page 4-7. This translates to approximately 80 occupied housing units that were not included. It is estimated that the actual count of housing units in 2000 for Gill should be closer to 640, which would create a –4.5% change from 1990 to 2000, and a 32.2% change from 1980 to 2000. An additional consideration regarding the accuracy of federal Census data is that Gill and Turners Falls share the same postal zip code, which could have led to population losses experienced in Turners Falls to also be attributed to Gill. Further in this text building permit data is used to discuss new housing construction. This data indicates that in the 1990s building permits were issued for the construction of 55 new dwelling units and for the demolition of five dwelling units.

Table 4-52: Housing Units in Gill, 1980 to 2000

Geography	Number of Housing Units			Percent Change		
	1980	1990	2000	1980-1990	1990-2000	1980-2000
Gill	484	670	560	38.4%	-16.4%	15.7%
Franklin County	26,832	30,394	31,939	13.3%	5.1%	19.0%
Massachusetts	2,208,146	2,472,711	2,621,989	12.0%	6.0%	18.7%

Note: It is estimated that the actual count of housing units in 2000 for Gill was closer to 640, which would create a –4.5% change from 1990 to 2000, and a 32.2% change from 1980 to 2000. See Footnote 1 on Page 4-7 for more information.

Sources: U.S. Census Bureau, Census of Population & Housing, 1980, 1990 STF3, and 2000 SF3.

While absolute figures are not available to resolve the discrepancy between the 2000 U.S. Census Survey and the actual numbers, the federal Census survey information will be used and appropriately noted. Using the data available, the greatest increase of housing units in Gill occurred in the 1980s, as it did for many communities across the Country. The rate of this increase in Gill was even greater than that experienced in the County and the State (see Table 4-52). Overall the rate of new housing construction in the 1990s declined in comparison to the 1980s for Gill, Franklin County, and Massachusetts.

Types of Housing

Housing in Gill consists primarily of single-family homes (see Table 4-53). According to the 2000 U.S. Census, 86% of Gill’s housing units are single-family residences, a category that include both detached homes and attached units, such as townhouses. The rest of the Town’s housing mix is comprised of duplexes (4% of the Town’s total units), 3-4 unit buildings (5.0%), buildings with 5 units or more (3%), and mobile homes (3%). Gill’s proportion of single-family residences is greater than that for Franklin County or for the State in its entirety. The Census Bureau estimates that 64% of housing units countywide and 52% of housing units statewide consist of single-family homes in 2000.

Table 4-53: Types of Housing Structures, 2000

Structure Type	Gill Housing Units		Franklin County Housing Units		Massachusetts Housing Units	
	Number	Percent	Number	Percent	Number	Percent
Single Units*	479	85.5%	21,176	66.3%	1,478,608	56.4%
Two Unit Building	20	3.6%	3,674	11.5%	304,501	11.6%
3-4 Unit Building	28	5.0%	2,285	7.2%	299,416	11.4%
5 or more Unit Building	14	2.5%	3,568	11.2%	514,724	19.6%
Mobile Home	19	3.4%	1,080	3.4%	24,117	0.9%
Other (RV, van, boat, etc.)	0	0.0%	156	0.5%	623	0.0%
Total of Housing Units	560	100.0%	31,939	100.0%	2,621,989	100.0%

* This includes detached and attached (such as townhouses) single unit structures.

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 4-7 for more information.

Source: U.S. Census Bureau, Census of Population and Housing, 1990 STF3 and 2000 SF3.

Housing Age

According to the 2000 U.S. Census, almost half (44%) of the homes in Gill were built since 1970. Twenty-four percent of Gill's housing units were built between 1940 and 1960, and 32% were built before 1940. (*See the Appendix for more information*). The median year for construction of the current housing stock is 1960 for Gill, 1954 for Franklin County, and 1956 for Massachusetts. It is important to note that there are a number of potential issues related to older housing stocks, including lead paint. New federal regulations for participation in the housing rehabilitation loan program require lead paint abatement to be achieved as part of any improvement project. In addition, the Massachusetts Department of Public Health screens children up to age six for lead paint poisoning and Massachusetts law requires all children to be screened before they enroll in kindergarten.

New Construction

The Franklin County Cooperative Inspection Program (FCCIP) provides building inspection services and permit issuances for Gill and sixteen other towns in Franklin County. Building permit records show that from 1994 to 2002 the FCCIP issued permits to construct 56 new dwelling units, which includes the 14 unit senior housing complex. While building permits for new dwelling units do not confirm construction, predominantly, they are constructed and represent new housing units.

A specific breakdown of this data shows for the calendar years 1994 to 2002, the majority of new dwelling unit construction was for single-family homes. Table 4-54 provides a summary of authorized new housing construction in Gill from the beginning of January 1994 to the end of December 2002. Over the nine-year period, FCCIP issued 47 building permits authorizing a total of 56 units of new residential construction in Gill. Of the 56 authorized new dwelling units, 38 (68% of total) were for new single-family homes. Three single-family homes were converted to two-family homes with the creation of an apartment and an additional apartment was created above a garage, totaling 4 new dwelling units (7% of total). The remaining 25% of authorized new units were the 14 new housing units created in

structures of greater than 2 housing units, was the multi-unit senior housing complex built by the Franklin County Regional Housing & Redevelopment Authority. Also during this time period, the FCCIP issued three building permits to remove or demolish mobile home and cottage structures. In addition, the FCCIP issued a building permit to convert a three-unit residential structure to a one-unit structure. This indicates the loss of only five dwelling units.

Table 4-54: Authorized Construction for New Housing Units in Gill, 1994 to 2002

Year	Number of New Housing Units Authorized *			
	New Units in Single-Unit Structures	New Units in Structures Converted from Single-Unit to Two-Unit; or in an Accessory Building	New Units in Multi-Unit Structures **	Total New Housing Units Authorized
1994	6	0	0	6
1995	4	1	0	5
1996	7	0	0	7
1997	2	1	0	3
1998	4	1	14	19
1999	4	0	0	4
2000	4	0	0	4
2001	2	1	0	3
2002	5	0	0	5
Total	38	4	14	56

* Not included is an additional building permit issued for rebuilding a demolished home in Gill.

** Multi-unit structures are those with greater than two housing units within the structure.

Source: Franklin County Cooperative Inspection Program, obtained August 2003.

An important characteristic of Gill's recent residential development is its location. Table 4-55 summarizes the top locations for the new residential construction permits listed in Table 4-54. The table includes all the roads in Gill with three or more new housing units authorized from 1994 to 2002, excluding reconstructed units. During this time period, the top two locations for new construction were Main Road with 20 authorized units (14 of which were in the senior housing complex), and West Gill Road with 8 units. Combined, the five streets listed in Table 4-55 account for 37 of the 56 new housing units, or 66%, that were authorized between 1994 and 2002.

Table 4-55: Primary Locations of Authorized New Housing Units, 1994 to 2002

Road	Number of New Housing Units Authorized *			
	New Units as Single-Unit Structures	New Units in Structures Converted from Single-Unit to Two-Unit; or in an Accessory Building	New Units in Multi-Unit Structures **	Total New Housing Units Authorized
Main Road	5	1	14	20
West Gill Road	6	2	0	8
French King Highway/Route 2	3	0	0	3
Mountain Road	3	0	0	3
South Cross Road	3	0	0	3
Total	20	3	14	37

*Does not include building permits to reconstruct or rebuilt previously existing homes.

Source: Franklin County Cooperative Inspection Program, obtained August 2003.

It is important to consider that as residential development increases in the more rural areas of town, a community's cost per household for providing services, such as police and fire protection, school transportation, snow removal, and road maintenance, will likely increase due to the greater distances and larger number of homes served.

Housing Tenancy

Housing tenancy refers to whether a house is occupied with a year-round resident who may be either a renter or homeowner. Housing units that have seasonal or occasional residents are considered to be vacant. In Gill, like in most rural areas, more householders tend to reside in housing units they own rather than rent. However, in Gill rental housing is available, predominantly in units located within multi-dwelling structures. According to the 2000 Census, 11% of the housing units are located in multi-unit structures, including the fourteen unit senior housing complex built in 1998. In addition, Gill has housing units that are owned by the Northfield Mount Hermon School for use by their faculty⁹. While these units may be considered rental units, they are not part of the traditional real estate market, since they are owned and used exclusively by the Northfield Mount Hermon School.

Table 4-56: Housing Tenancy, 1990 and 2000

Geography	1990			2000		
	Total Housing Units	% Owner Occupied	% Renter Occupied	Total Housing Units	% Owner Occupied	% Renter Occupied
Gill	670	61.3%	34.5%	560	80.6%	19.4%
Franklin County	30,394	59.6%	31.3%	31,939	67.0%	33.0%
Massachusetts	2,472,711	53.8%	37.0%	2,621,989	61.7%	38.3%

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 4-7 for more information.

Sources: U.S. Census Bureau, Census of Population & Housing, 1990 STF3 and 2000 SF3.

⁹ Please note that student dormitories on the Northfield Mount Hermon campus are not included in the federal Census population or housing unit counts. Generally, primary and secondary schools students are counted on their parents' census survey.

In Table 4-56, homeowners inhabited 61% of all Gill’s housing units in 1990, and 81% of the Town’s occupied housing units in 2000. This significant change is related to the decrease in rental units attributed to the households missed in the 2000 Census. It is estimated that the number of rental units increased from 1990 to 2000 as evidenced by the building permit data collected for the period of 1994 to 2002. In the years 1995, 1997 and 1998, seventeen apartments were created in Gill. The decrease in renter-occupied housing units identified by the federal census is due to inaccuracy and not an actual decline in renter occupied housing units.

Housing Vacancies

The Census Bureau characterizes as “vacant” any residence without a full-time occupant, even though the residence may be used as a second home or vacation home. According to the U.S. Census, 4% of all housing units in Gill were vacant in 1990 and 2000. In 2000, of the 23 vacant housing units, seven were for seasonal or recreational use, five were for rent, four were for sale, and the remaining seven were other types of vacancies. In comparison to the 1990 Census, the vacancy rate percentage was the same despite having a higher number vacant housing units. This is due to the undercount in 2000, which inaccurately indicated that the total number of housing units declined.

The two greatest differences between 1990 and 2000 in housing vacancy were: (1) that no homeowner vacancies were reported in the 1990 Census and five were reported in the 2000 Census, and (2) the number of “other” vacancies between 1990 and 2000 varied by ten. For the latter, the significant difference may be due to the undercount, specifically the Northfield Mount Hermon faculty and staff housing that was omitted from the 2000 survey. The difference between the homeowner vacancy rates is more indicative of the real estate market at those respective points in time.

Table 4-57: Vacancy Rates in Gill, 1990 and 2000

Type of Vacancy	1990 Number of Vacancies	2000 Number of Vacancies
Homeowner Vacancy	0	5
Rental Vacancy	5	4
Seasonal, Recreational, or Occasional Use Dwelling Vacancy	6	7
Other Vacancy	17	7
Total Vacant Housing Units	28	23
Total Housing Units	670	537
Percent of Vacant Housing Units	4.2%	4.1%

Note: Gill Town officials believe the U.S. Census Bureau’s 2000 data understates the actual total population and number of housing units. See footnote 1 on page 4-7 for more information.

Source: U.S. Census Bureau, Census of Population & Housing, 1990 STF3 and 2000 SF3.

According to housing organizations such as the Franklin County Regional Housing and Redevelopment Authority, a healthy housing market is generally considered to have vacancy rates between 4% and 5% for rental properties, and 2% and 3 % for owner-occupied homes. Gill’s vacancy rates are within these typical ranges. Gill’s low housing vacancy levels reflects the fact that the community is a desirable place to live and has a high quality of life.

In addition, building permit and population data for the Town show that overall, new home construction in Gill is keeping pace with population trends.

The overall vacancy rate in Gill in comparison to Franklin County and Massachusetts shows a much lower rate for the same time periods. In 1990, Franklin County and Massachusetts had the same vacancy rate of 9.1%; while in 2000, their vacancy rates were 7.7% and 6.8% respectively.

Substandard Housing

Census indicators of “substandard” housing in a community include overcrowding (defined as more than 1 occupant per room) or a lack of complete plumbing or kitchen facilities.¹⁰ According to the 2000 U.S. Census, only 7 or 1.3% of Gill’s housing units have overcrowding. Three of the units were in owner-occupied, and four units were in renter-occupied housing. In addition, only 6 or 1.1% of Gill housing was reported to have incomplete plumbing and no housing units were reported to have incomplete kitchen facilities. Of the housing units with incomplete plumbing, four of the units were in owner-occupied housing, while two units were in renter-occupied housing. Although these statistics do not include qualitative information on housing conditions in the Town, these Census figures suggest that few Gill residents live in overcrowded or substandard housing.

Population Characteristics that Influence Housing Demand

This section examines population characteristics that influence housing demand, both generally and for specific housing types. These population characteristics include population size, household size, age distribution, and disabilities and other special needs. This section also compares the current housing supply and demand, and discusses potential housing needs, both for Gill’s population in general, and for particular population segments, such as seniors.

Total Population

During the last thirty years, Gill has grown significantly¹¹. According to the federal Census Bureau, the Town had 1,100 residents in 1970. By 2000, its population had increased by 24% to 1,363. The rate of population growth in Gill was greater than experienced by the County and the State during the same time period, as shown in Table 4-58. Between 1970 and 2000, Franklin County grew by 21% and the State by 12%.

¹⁰The U.S. Census Bureau defines complete plumbing as including: hot & cold piped water; a flush toilet, and a bathtub or shower. All three facilities must be located in the housing unit. Complete kitchen facilities are defined as including: a sink with piped water; a range or cook top and oven; and a refrigerator. All three must be located in the housing unit, but need not be in the same room (U.S. Census Bureau, Technical Documentation 2000 Census, 2002).

¹¹ As discussed in footnote 1 on page 4-7, the total population according to the 2000 Census is believed to be undercounted.

Table 4-58: Census Population, 1970 to 2000

Geography	U.S. Census Population				Percent Change			
	1970	1980	1990	2000*	1970-1980	1980-1990	1990-2000	1970-2000
Gill	1,100	1,259	1,580	1,363	14.5%	25.5%	-13.7%	23.9%
Franklin County	59,210	64,317	70,092	71,535	8.6%	9.0%	2.1%	20.8%
Massachusetts	5,689,377	5,737,037	6,016,425	6,349,097	0.8%	4.9%	5.5%	11.6%

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 2-7 for more information.

Source: U.S. Census Bureau, Census of Population & Housing, 1990 STF3 and 2000 SF3.

Households

The number of households is more important than total population size for determining the amount of housing needed by the community. A household is generally defined as an individual or a group of people living together in one housing unit. Changes in the number of households therefore reflect not only changes in population, but also societal shifts that influence average household size.

Nationally, average household size is declining. The reduction in people per household is occurring for a variety of reasons. These reasons include a decrease in the average number of children per family and an increase in the number of single-parent households. Another factor is that more adults now live by themselves. In Gill, almost one-quarter (24%) of the Town's households consisted of adults living by themselves according to the 2000 U.S. Census.

From U.S. Census Bureau data, the average household size in Gill has declined an estimated 8% between 1980 and 2000, decreasing from 2.74 persons per household in 1980 to 2.53 in 2000. This decline is consistent with the decrease in household size for the County and State. The average household size for Franklin County was 2.62 in 1980 and 2.38 in 2000. For Massachusetts, the average household size was 2.72 in 1980 and 2.51 in 2000.

Household size also varies between homeowner and renter households. The median household size for homeowner households in Gill is 2.65 people in 2000. In comparison, the median household size for rental housing is 2.02 people. The difference in household size is related to the kinds of households who typically rent. Renters are most likely to be young people or seniors which tend to have smaller households than owners.

In Gill, 16% of households with elderly householders (age 65 or over) are renters. In Franklin County, 23% of elderly households rent their housing, while in the State overall 32% of elderly households are renters. While Gill has accomplished efforts to increase the amount elderly housing in recent years, this data suggests that Gill may have a shortage of rental housing for resident seniors in the coming years.

Population Distribution by Age Group

One demographic factor that can affect housing demand is the age distribution of the population. Different age groups have different housing needs. Table 4-59 shows the

population distribution figures for Gill, Franklin County, and Massachusetts for 1990 and 2000 from the U.S. Census.

Between 1990 and 2000, the shifts in population age groups in Gill were consistent overall with changes in Franklin County, but were slightly different than the State. The greatest population change in Gill was experienced in the 25 to 44 age group, which had a greater decrease in residents in this age group than Franklin County or Massachusetts. There was a greater increase in the proportion of 45 to 64 year olds in Gill than compared to the County or State. The increase in this age group is driven in part by the aging of the baby boom generation (born 1946-1964) who began turning 45 in 1991.

Table 4-59: Population Distribution, 1990 and 2000

Geography	Population Distribution (% of total population in each age group)					
	1990			2000		
	Gill	Franklin County	Massachusetts	Gill	Franklin County	Massachusetts
Under Age 10	15.0%	14.5%	13.1%	12.3%	11.5%	13.0%
Age 10 to 19	12.7%	12.6%	12.6%	14.5%	14.3%	13.3%
Age 20 to 24	5.2%	6.4%	8.4%	3.4%	5.4%	6.4%
Age 25 to 44	33.9%	34.2%	33.6%	26.8%	28.5%	31.3%
Age 45 to 64	21.7%	17.7%	18.6%	30.2%	25.9%	22.4%
Age 65 to 84	6.6%	8.2%	7.7%	5.9%	6.7%	6.7%
Age 85 & Over	4.9%	6.3%	5.9%	6.8%	7.5%	6.8%
Total	1,580	70,092	6,016,425	1,363	71,535	6,349,097

Note: Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 4-7 for more information.

Source: U.S. Census Bureau, Census of Population & Housing, 1990 STF3 and 2000 SF3.

The population over age 65 is an important age group to address in terms of planning for housing. As the baby boom generation gets older, and as Americans are living longer and healthier lives than in previous generations, this segment of the population will become larger in many communities. This population group may have fixed incomes and may need different accommodations, such as living space all located on the first floor, as time goes on. Impacts of increased taxes and the burden of homeownership may play a role in individuals deciding whether to remain in Gill.

Populations with Special Housing Needs

Two population groups that may have special housing needs and that may have the most difficulty finding suitable, affordable housing are the elderly (typically defined by demographers as those people ages 65 and over) and families with children. One issue facing these population groups is that they often have limited or fixed incomes, and may have difficulty finding suitable housing they can afford. Housing affordability in Gill by income and age group is discussed more under "Housing Costs and Affordability" later in this chapter.

In addition, seniors and families with children can benefit greatly from housing with good access to services, including stores, health care, and community facilities and programs. Also, seniors and in particular the oldest elderly (defined as people 85 years old or above),

may need housing with modifications which increase its accessibility and functionality for people with limited mobility or disabilities.

Disabled Population

The U.S. Census provides basic information on disabled populations. Data on disabled Gill residents are presented in Table 4-60. The table excludes people living in institutionalized settings, such as group homes or nursing homes. Overall, an estimated 12% of Gill's population age 5 and over have a disability of some type. Among the older population (aged 65 and over), 34% have a disability. The primary disabilities among Gill's elderly are physical disabilities or disabilities related to leaving the home, which affect mobility. The Census provides no qualitative data to determine the relative severity of residents' disabilities.

A total of 157 persons were identified as having one (98 persons) or multiple (59 persons) disabilities in the 2000 Census. Of the 283 disabilities reported, 147 of them involve physical limitations, self-care limitations, or going outside the home disabilities. This indicates that between 59 to 157 individuals possess disabilities that could potentially require some form of modified or accessible housing. If it is assumed that 20% of this population is severely disabled, then the potential demand for accessible housing may range from 6 to 16 units (based on an average household size of 2.00, given that a majority of the population with disabilities are 65 years of age and older and are more likely to live alone). It may be that most of this population already resides in housing that has been modified to accommodate their physical needs, but a survey of senior housing needs could help identify the type of housing units needed.

Table 4-60: Disabilities in the Non-Institutionalized Population in Gill, 2000

Age Group	Total Population	Population with Disabilities		Types of Disability (Number of Disabilities)*					
				#	%	Sensory Disability	Physical Disability	Mental Disability	Self-Care Disability
Ages 5 - 15	225	12	5.3%	1	2	9	0	-	-
Ages 16 - 64	912	87	9.5%	9	34	26	8	9	51
Ages 65+	169	58	34.3%	20	42	20	18	34	-
Total	1,306	157	12.0%	30	78	55	26	43	51

*A person can have multiple disabilities and can be counted in more than one disability category.

Note that Gill Town officials believe the U.S. Census Bureau's 2000 data understates the actual total population and number of housing units. See footnote 1 on page 4-7 for more information.

Source: U.S. Census Bureau, Census of Population & Housing, 1990 STF3 and 2000 SF3.

The Citizen's Housing and Planning Association (CHAPA) maintains a list of accessible housing in communities across the State. This list primarily contains housing which was constructed or rehabilitated using Federal or State subsidies, and little information is available on private accessible housing. The CHAPA accessible housing list shows two accessible housing units in Gill, both located in Stoughton Village.

Housing Costs and Affordability

This section explores the cost of housing in Gill for renters and owners, the degree to which housing is affordable to individuals and families of different incomes, and potential affordable housing gaps. One of the main goals of EO418 is to encourage the creation of new affordable housing units for people with low, middle, and moderate incomes.

As was mentioned earlier, housing is generally defined to be “affordable” when households spend no more than 30% of their gross income on housing costs. For renters, housing costs include rent and utilities, such as hot water, electricity, and heat. For homeowners, housing costs include mortgage principal, mortgage interest, mortgage insurance, property taxes, and property insurance. Households that spend over 30% of their income on housing are considered to be “cost-burdened.”

Data on housing costs shows that housing in Gill is affordable for most residents, but some residents, such as those with low or moderate incomes, may be cost-burdened by their housing expenditures.

Housing Costs

This section presents information on owner and renter housing costs, and costs relative to household income, for Gill. The data about housing costs related to household income is from the 2000 U.S. Census, which extrapolates this information from a sample of their survey responses. The 2000 U.S. Census estimated monthly costs and costs relative to income, for 300 owner-occupied homes and 96 renter-occupied housing units from the 537 total occupied housing units in Gill.

Of the 300 owner-occupied homes with estimated monthly costs, 200 have mortgages and 100 do not. Homeowner costs can vary considerably depending on whether the home is mortgaged. For example, the median monthly total housing cost for homes with mortgages is \$1,037, while for homes without mortgages it is \$296. Similarly, 86% of mortgaged homes have monthly costs over \$600, compared to only 2% of homes without mortgages. Over half (56%) of the homeowners with mortgages have expenditures of \$1,000 or more per month (*see the Appendix for more information on housing costs*).

For Gill’s occupied rental housing, the median monthly total housing cost (or “gross rent”) is \$489 per month. Estimated costs for rental housing in Gill have a wide range, varying from \$150 to \$1,249. Over 70% of the units have monthly costs between \$250 and \$549 (*see the Appendix for more information*).

The rents described here are from the decennial U.S. Census, and often differ from market-rate rents. There are a number of explanations for this. Market-rate rents reflect what is being charged to new renters. However, they do not generally reflect the rents paid by those households who have lived in the same rental unit long-term. Those renters may pay rents below those charged to new residents.

Additionally, a key limitation of the Census data on housing costs is that the information is only updated every 10 years, the last time in 2000, and therefore, does not reflect recent changes to the housing market and to housing-related costs, such as rising property taxes.

Nonetheless, the U.S. Census still represents the most reliable available information concerning the overall housing costs in the community.

Housing Values

The U.S. Census Bureau gathers data on housing values by asking owners what they believe their homes, including land, to be worth in the current real-estate market. The Appendix contains data on housing values reported in the 1990 and the 2000 U.S. Census. According to this information, the median value of owner-occupied homes in Gill grew 10% between 1990 and 2000, increasing from \$108,900 to \$119,400. As of 2000, 64% of the Town's owner-occupied homes were valued between \$100,000 and \$200,000. Twenty-nine percent were valued under \$100,000, and 7% were valued over \$200,000. It is worth noting that the U.S. Census survey determines housing values by asking homeowners what they believe to be the value of their homes, so it may not reflect current real-estate market values.

Residential Sales

The Warren Group collects town-level residential sales data for much of New England on a monthly and annual basis. Its data combines local Assessors' records with its own home sales records. Table 4-61 presents the Warren Group's data for Gill home sales since 1990. The data includes sales of single-family homes and of other properties. Unfortunately, information on single-family sales is only available beginning in 2000.

The sales information shown in Table 4-61 suggests that Gill's real estate market has fluctuated during the 1990-2003 period, in terms of both the number of properties sold and sales prices. For 2002, the median sales price for single-family homes is \$169,000, and the median sales price for sales overall is \$127,000. The all sales category includes other residential sales, commercial sales, in-family property transfers, land sales, and other types of real estate transactions recorded by local Assessors. The all sales category is limited to transactions of at least \$1,000 or more. Between 2000 and 2002, the median prices of single-family sales increased, while median prices for all sales fluctuated. The median single-family sales price increased 80% from \$94,000 to \$169,000 from 2000 to August 2003. The median price for all sales has fluctuated from a low of \$71,925 in 1992 to a high of \$135,000 in 2002 over the past fourteen years. It is worth noting that some of the year-to-year variation in sales prices could be a result of the types of homes and properties that are sold in an individual year, and is not necessarily reflective of an overall trend.

Table 4-61: Home Sales in Gill, 1990 to 2003

Year	Single-Family Sales Only		All Sales	
	Number of Sales	Median Sales Price	Number of Sales	Median Sales Price
1990	n/a	n/a	19	\$111,100
1991	n/a	n/a	18	\$74,250
1992	n/a	n/a	20	\$71,925
1993	n/a	n/a	23	\$85,000
1994	n/a	n/a	19	\$105,000
1995	n/a	n/a	20	\$85,000
1996	n/a	n/a	16	\$85,625
1997	n/a	n/a	20	\$93,000
1998	n/a	n/a	20	\$68,500
1999	n/a	n/a	26	\$93,000
2000	8	\$94,000	25	\$92,000
2001	11	\$119,900	24	\$79,500
2002	14	\$140,000	27	\$135,000
2003	13	\$168,000	32	\$129,000

n/a = Not available.

Source: The Warren Group, Town Statistics, March 2004.

Housing Affordability

This section assesses Gill’s housing prices and costs in terms of how affordable housing is for residents, based on household income. Housing is generally defined to be “affordable” when households spend no more than 30% of their gross income on housing costs.

Number of Low, Moderate, and Middle-Income Households

The first step in assessing housing affordability in Gill, according to the definition under EO418, involves determining the number of low, moderate, and middle-income households that reside in the Town. According to State guidelines, low income households are considered to be those making 50% or less of the area-wide median income, moderate-income households are those making up to 80% of the area-wide median income, and middle-income households are those making up to 150% of the area-wide median income. Households with incomes over 150% of the area-wide income are upper-income and are not considered to have any housing affordability needs.

The area-wide median income is defined as the median family income in the county where the housing units are located. For Fiscal Year 2003, the median income used for Gill’s EO418 housing certification, and that of other Franklin County towns except Sunderland,¹² is \$48,400. With this median income level, low-income households are those that earn \$24,200 or less, moderate-income households are those that earn between \$24,200 and \$38,700, and middle-income households are those that earn between \$38,700 and \$72,600. Upper income households earn \$72,600 or more.

¹²Sunderland is considered part of the Springfield metropolitan region for Housing Certification purposes. That region has slightly higher median incomes and therefore, slightly higher affordability thresholds for certification.

The U.S. Census does not categorize incomes that correspond exactly with the above groupings, so approximate groupings are used. Table 4-62 estimates the number of Gill households in each category, based on the 2000 U.S. Census. The table shows that 24.5% of Gill households are low income, 14.9% are moderate income, and 35.1% are middle income, and the remaining 25.5% of households are upper income (*additional info on the breakdown of household incomes is provided in the Appendix*).

Table 4-62: Households by Income Level, by Householder Age, in Gill, 1999*

Income Level	Total		Householder Under Age 25		Householder Age 25 to 44		Householder Age 45 to 64		Householder Age 65+	
	#	%	#	%	#	%	#	%	#	%
Low Income (\$24,999 or less)	132	24.5%	6	50.0%	21	11.7%	32	13.9%	73	62.4%
Moderate Income (\$25,000 to \$39,999)	80	14.9%	2	16.7%	23	12.8%	35	15.2%	20	17.1%
Middle Income (\$40,000 to \$74,999)	189	35.1%	4	33.3%	87	48.6%	83	36.1%	15	12.8%
Upper Income (\$75,000 or above)	137	25.5%	0	0.0%	48	26.8%	80	34.8%	9	7.7%
Total Households	538	100.0%	12	100.0%	179	100.0%	230	100.0%	117	100.0%

* Please note: income data is reported for the previous year of when the Census survey was taken; in this case 1999.

Sources: U.S. Census Bureau, Census of Population and Housing, 2000; Massachusetts Department of Housing and Community Development, Instructions for Completion of FY2003 Request for Housing Certification, 2002.

Table 4-62 includes estimates of household income levels among age groups. From this information, it is apparent that low-income households are most prevalent among younger households and elderly households. Fifty percent of the households where the householder (or head of household) is age 25 or younger, have incomes under \$25,000. Over 60% of households where the householder is age 65 or older are also low income. In the middle age groups, with householders aged 25 to 44 and 44 to 64, the majority of households are either middle or upper income.

Affordability of Home Ownership for Low, Moderate, and Middle-Income Households

One important measure of housing affordability is the purchasing power for prospective first-time home buyers, who are currently renting in the community. Approximately 88% of rental households in Gill are of low, moderate, or middle income.

A moderate-income household earning \$60,000 per year (equivalent to \$5,000 per month), can afford up to \$1,500 per month in housing costs. With the following assumptions regarding a potential home purchase, a household with an income of \$5,000 per month could afford to buy a house valued at up to \$185,000.

Assumptions:

1. The home will be bought with a 30-year mortgage at 6%;
2. 10% of the purchase price will be paid as a down payment;
3. Annual property taxes and property insurance costs will equal 1.65% of the house value (tax rate of 1.5% (\$15/\$1,000 valuation) and property insurance rate of 0.15%);
4. Mortgage insurance costs will equal 0.7% of the borrowed principal; and
5. Utilities will cost approximately \$150 per month.

As shown in data from the Census Bureau and the Warren Group, there are many houses in Gill valued in this price range. According to the 2000 U.S. Census, 88% of homes in Gill have values under \$175,000.

A household of moderate income earning \$30,000 annually (\$2,500 per month) can also find homes that are affordable in Gill, though they are much less common. A household with an income of \$30,000 can afford to spend approximately \$750 per month on housing costs.

Using the same assumptions as above, such a household could afford to buy a home valued at \$80,000 or less. According to the 2000 Census, 6% of homes in Gill have values in this price range.

Median Housing Costs

Table 4-63 reviews the median monthly housing costs for households and the percentage of household income spent on housing in Gill, Franklin County, and Massachusetts. The data come from 2000 U.S. Census and is based on tenancy (homeowner or renter). As of 2000, the median monthly housing costs¹³ for Gill homeowners with a mortgage was \$1,037, and for homeowners without a mortgage was \$296. For renters in Gill, the median gross monthly rent was \$489.

As Table 4-63 indicates, for homeowners, both with and without mortgages, and for renters, the median percentage spent on housing, is below 30% of gross household income, the general threshold for affordability. These housing costs represent 20% of gross household income for owners with a mortgage, 10% of household income for owners without a mortgage, and 18% of income for renters. This indicates that the majority of homeowners have housing that is affordable.

¹³ According to the U.S. Census Bureau, selected monthly owner costs are the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property (including payments for the first mortgage, second mortgage, home equity loans, and other junior mortgages); real estate taxes; fire, hazard, and flood insurance on the property; utilities (electricity, gas, and water and sewer); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fees or mobile home costs (installment loan payments, personal property taxes, site rent, registration fees, and license fees).

Table 4-63: Median Monthly Housing Costs as a Percentage of Household Income in 1999

Geography	For homeowners with mortgage		For homeowners without mortgage		For renters	
	Median Monthly Housing Costs	Percent of Income Spent on Housing	Median Monthly Housing Costs	Percent of Income Spent on Housing	Median Monthly Gross Rent	Percent of Income Spent on Housing
Gill	\$1,037	20.3%	\$296	10.3%	\$489	18.0%
Franklin County	\$978	21.7%	\$336	12.2%	\$541	26.1%
Massachusetts	\$1,353	21.9%	\$406	12.4%	\$684	25.5%

Source: U.S. Census Bureau, Census of Population and Housing, 2000 SF3.

A comparison of Gill’s median housing costs with those for Franklin County and Massachusetts show that Gill homeowners, both with and without mortgages spend slightly less of their incomes on housing than County and State homeowners. It is important to note that while housing costs for homeowners without a mortgage is quite low, for older individuals that are retired and living on a fixed income, these costs can represent a significant proportion of their income. Renters in Gill spend a much lower proportion of their incomes on housing than do renters in Franklin County and in Massachusetts as a whole.

Housing Costs Compared to Incomes

Although housing in Gill is affordable for many residents, a significant percentage of residents in low and moderate-income brackets are cost-burdened by their housing costs. The 2000 U.S. Census estimated housing costs relative to income for 386 (72%) of the Town’s households (*shown in Appendix Table 4-79*). Of those households with cost and income data, 60 homeowner households and 18 rental households spent 30% or more of their incomes on housing. Combining renters and homeowners, it is estimated that 15% of Gill households have burdensome housing costs. The Census data indicates that lower income households in Gill have higher rates of burdensome housing costs. In addition, for most income categories, renter households have higher rates of unaffordable housing than homeowner households.

The Census Bureau also collects data on housing expenditures as a percentage of income, by age group for a sample of households. Table 4- 64 summarizes this information. The table shows that both renter and homeowner households headed by someone 65 years of age and older tend to have higher rates of burdensome housing costs than middle age groups. For example, among homeowners and renters age 65 and over, 22% and 50%, respectively, are living in households with housing costs over 30% of their household income. In comparison, among householders 55 to 64 years in age, only 5% of owners and no renters are cost burdened.

Table 4-64: Percentage of Income Spent on Housing Costs, by Householder Age, 1999

Tenancy and Householder Age	Households with Cost Data*	Housing Costs as a Percentage of Household Income (Number of Households)				Total Households with Unaffordable Housing (Housing Costs are 30%+ of Income)	
		Under 25%	25-29%	30-34%	35% or More	# of Households	% for Income Group*
Owner-occupied Households							
Under Age 35	28	18	4	4	2	6	21.4%
Age 35 to 54	166	122	6	17	21	38	22.9%
Age 55 to 64	43	33	8	0	2	2	4.7%
Age 65 or Over	63	46	3	5	9	14	22.2%
Total for Owners	300	219	21	26	34	60	20.0%
Renter-occupied Households							
Under Age 35	27	17	7	0	3	3	11.1%
Age 35 to 54	37	26	4	3	4	7	18.9%
Age 55 to 64	6	6	0	0	0	0	0.0%
Age 65 or Over	16	8	0	0	8	8	50.0%
Total for Renters	86	57	11	3	15	18	20.9%
Total Households	386	276	32	29	49	78	20.2%

*Percentages are calculated based on the total number of homeowners in each income category with cost percentage data available.

Source: U.S. Census Bureau, Census of Population and Housing, 2000 SF3.

Often a higher percentage of renters have burdensome housing costs in comparison to owners, since renters are more apt to be of low or moderate income, and higher income households are more likely to own homes. However, as shown in Table 4-64, the percentage of homeowners and renters that live in households with unaffordable housing in Gill is very close. Twenty percent of owners occupy households with housing costs that are 30% or greater than their household income, while 21% of renters are in the same situation. The rate of homeowners with high housing costs is consistent for each of the age groups except for residents in the 55 to 64 age group. The number of renters with high housing costs is predominately in elderly households (50%). These trends indicate that residents could benefit from smaller housing units, such as condominiums which are more affordable. Additional housing choices may also benefit elderly residents who are interested in selling their homes and renting instead.

Overall, the available data shows that housing in Gill is affordable for most residents. At the same time, a significant number of households have unaffordable housing costs. This includes 21% of renters and 20% of homeowners. It is important that these households have sufficient options and opportunities to decrease their housing expenses. The Town of Gill is committed to addressing housing needs in the community and to assisting its cost-burdened low, moderate, and middle-income residents. The Town of Gill participates in regional initiatives to support affordable housing and currently has a housing rehabilitation loan program (administered by HRA) for low and moderate-income homeowners. Gill also has worked with the HRA to build a multi-unit housing facility for seniors.

Affordable Housing Under EO418

Under EO418 and its housing certification process, towns are required to demonstrate that they are working to increase their supply of housing that is affordable to community residents, and to address the community's identified housing needs, in order to achieve housing certification. Housing certification is obtained on an annual basis. Gill received housing certification in FY 2001, FY 2002, and FY 2003. To achieve certification, Gill demonstrated that it is taking steps to address the housing needs of its residents, and that it is working to expand its affordable housing options for low, moderate, and middle-income households in the community.

To count for housing certification, new housing units must be affordable to middle income households, and can either be for renters or owners. Qualifying rental units for housing certification must be affordable to families earning 100% of the area-wide median income, and qualifying homeownership units must be affordable to families earning 150% of the area-wide median income. The area-wide median income is defined as the median family income in the county where the units are located, and distinctions are made between metropolitan and non-metropolitan regions. For FY 2004, the median income for non-metro Franklin County towns (except for Sunderland) is \$48,400. For comparison, Gill's median household income reported in the 2000 U.S. Census is \$50,750, about 5% higher.

The qualifying rental and home sales prices for housing certification are shown in Table 4-65. For FY 2004, new homes must cost \$228,927 or less to count as affordable, and new apartments must have monthly rents of no more than \$1,210. Most of Gill's housing is considered affordable under these definitions. According to the 2000 U.S. Census data on housing costs (*provided in the Appendix*), 86% of rental units in Gill have monthly costs under \$1,000 and 93% of owner-occupied units have values under \$200,000.

Table 4-65: Affordable Housing Rents and Purchase Prices under EO418 for Non-Metro Franklin County, FY 2004

Area Median Family Income (Non-Metro Franklin County):*	
150% of Area Median Family Income	\$72,600
100% of Area Median Family Income	\$48,400
Affordable Housing Units Thresholds:	
Home Price Affordable for Middle-Income Households (150% of Median Family Income)	\$228,927
Monthly Rents Affordable for Middle-Income Households (100% of Median Family Income)	\$1,210

*Includes all of Franklin County except Sunderland, which is considered part of the Springfield metropolitan area.

Source: Massachusetts Department of Housing and Community Development, Instructions for Completion of FY 2004 Request for Housing Certification, 2003.

Affordable Housing under Chapter 40B

Chapter 40B of the Massachusetts General Laws was the State's first major legislation to promote affordable housing. It encouraged towns to increase their amount of affordable housing to 10% of their total housing units. The Chapter 40B definition of "affordable

housing” is more restrictive, than the general definition based on housing costs not exceeding 30% of household income. In determining a town’s total number of affordable housing units for Chapter 40B, the State has historically only included units that have guaranteed long-term affordability for low and moderate-income households, and that are only for low and moderate-income residents. These restrictions are required to be in place for at least 30 years after the housing is constructed in order for its units to count as affordable under Chapter 40B. In addition, Chapter 40B units have traditionally been required to have direct subsidies from State or Federal housing assistance programs. All unsubsidized units have been excluded from Chapter 40B status, even if their monthly costs make them affordable for most residents. Using the Chapter 40B definition of “affordable,” the Massachusetts Department of Housing and Community Development (DHCD) estimates that Gill has 14 units of affordable housing as of the end of April 2002.

Table 4-66 gives the percentage of housing in each of the neighboring towns around Gill that is affordable according to Chapter 40B. All of Gill’s neighbors have some affordable housing according to the Chapter 40B definition. Of these towns, Montague and Greenfield have the most units counting as affordable under these criteria, with 9 % and 14%, respectively.

Table 4-66: Affordable Residential Units under Chapter 40B in Gill and Neighboring Towns, 2001

Geography	Year-Round Housing Units	Ch 40B Affordable Housing Units*	Percent of Units that are Affordable, Ch. 40B Definition
Bernardston	862	22	2.6%
Erving	625	2	0.3%
Gill	550	14	2.6%
Greenfield	8,274	1,147	13.9%
Montague	3,826	327	8.5%
Northfield	1,194	44	3.7%

*Count revised as of April 24, 2002.

Source: MA Department of Housing and Community Development, 2002.

One reason that the percentages in Table 4-66 are so low for most of the towns, is because the definition of “affordable housing” under Chapter 40B has been so limited. As was mentioned earlier, the State has recently begun to revise Chapter 40B and to expand its definition of “affordable housing.” Among the units which can now count as affordable and towards the State’s 10% mandate are locally subsidized housing units, long-term housing for the mentally ill or mentally retarded, and housing created through the Community Preservation Act. These types of housing all now count as affordable as long as they are serving low and moderate-income residents. Under Chapter 40B’s expanded definition of “affordable housing” and with the Town’s recent housing initiatives, Gill has increased flexibility in establishing units that would now qualify as affordable. To reach 10% affordable housing under Chapter 40B, Gill needs approximately 41 additional identified affordable units.

Population Projections

This section discusses population projections for Gill and the anticipated housing demand within the Town by 2020. These projections are based on past population trends and do not take into consideration potential zoning changes or open space protection measures that could impact future residential growth.

The Franklin Regional Council of Governments (FRCOG) developed its population projections for each municipality in Franklin County to the year 2020, as part of its 2003 Regional Transportation Plan. These population projections were based on historic population trends from 1970 to 2000 as well as projected regional population estimates provided by MassHighway. The following table includes population projections for the Town of Gill for the years 2010 and 2020. The table also includes the projected population trend over this twenty year period of time using the 2000 total population count provided by the U.S. Census Bureau as well as a 2000 population figure that has been adjusted to address the undercount.

Table 4-67: Population Projections for Gill

Geography	2000 Census Population	2010 Population Projection	2020 Population Projection	2000-2020 Change	Annualized Population Rate	Annualized Housing Unit Rate
Gill	1,363	1,630	1,960	597 (43.8%)	30 (2.2%)	12 units (at 2.53 per person)
Geography	2000 Adjusted Population *	2010 Population Projection	2020 Population Projection	2000-2020 Change	Annualized Population Rate	Annualized Housing Unit Rate
Gill	1,563	1,630	1,960	397 (25.4%)	20 (1.3%)	8 units (at 2.53 per person)

*Adjusted to reflect undercount of approximately 200 residents in the Northfield Mount Hermon staff residences. See Footnote 1 on Page 4-7 for more information.

Note: Annualized rates are determined by dividing the total change by the number of years in a period.
Source: U.S. Census Bureau, Census of Population and Housing, 2000 SF3; FRCOG 2003 Regional Transportation Plan.

The FRCOG population projections estimate that by 2020, Gill's population may grow to approximately 1,960 residents. This represents a 31% increase from the U.S. Census Bureau's count of the Gill population in 2000, or a 20% increase from the adjusted population count for 2000. The annualized rate for new residents may be determined by dividing the total number of projected additional residents by the time period. The annualized rate of new housing units was determined by dividing the annualized population rate by the average household size in 2000 of 2.53 people per housing unit. The annualized rates reflect the creation of multi-unit development over a period of time. Using building permit data over the past 9 years, it is estimated that approximately 6.2 new housing units were authorized per year, which includes the 14 units of senior housing built in 1998.

The greatest population increase is expected in Gill's adult populations. The population aged 25 to 64 is expected to grow to 1,181 residents, an increase of 291 residents or 33% in that age group, using adjusted 2000 population data. The senior population aged 65 and over is expected to grow to 249 by 2020, an increase of 49 residents or a 25% in that age group, using adjusted 2000 population data. Much of the elderly population growth is driven by the "baby boom" generation. By 2020, most baby boomers will be at least 60 years of age.

Future Housing Demand

According to the FRCOG population projections, Gill's population is expected to grow by approximately 397 people between 2000 and 2020. Assuming an average household size of 2.53 people per household in 2020, the 397 additional residents will create approximately 157 new households, each of which will need housing.

Though some of the new population could likely be accommodated in existing homes, it is still likely that most of the population growth would need to be accommodated with new construction. In addition, the elderly, a growing segment of Gill's population, may have special housing needs. By 2020, the number of elderly residents in Gill is forecasted to stand at almost 250. Assuming that, on average, an elderly household consists of 2 people, the 250 elderly residents forecasted for 2020 will consist of 99 households, each of which will need appropriate housing. Assuming also that one-quarter of these households would be interested in traditional senior housing; there may be a demand for up to 25 senior housing units by 2020.

Summary of Primary Housing Assets and Issues

Through the community development plan process and from the information given in this Chapter, a brief summary of the primary assets and issues regarding housing in the Town of Gill has been assembled. These identified circumstances reflect potential opportunities and constraints to be addressed when forming recommendations for future action.

Assets

1. Historic farm buildings. Due to the community's farming heritage, the Gill landscape has many historic farm buildings. Often these farmhouses are rather large and have the potential to be converted into multi-family dwellings or for accessory buildings to be redeveloped into additional housing units.
2. Residential neighborhood of Riverside. Most of Gill's housing is located along rural roads, with the exception of the residential neighborhood of Riverside. This neighborhood has over 75 homes located between Route 2 and the Connecticut River. This neighborhood provides an alternative to the more rural lifestyle found in most areas of Gill.

3. Northfield Mount Hermon School's Gill Campus. The Gill Campus of the Northfield Mount Hermon School includes housing for students as well as faculty.
4. Stoughton Village senior housing complex. This housing complex was developed in partnership with the Town of Gill by the Franklin County Regional Housing & Redevelopment Authority to create affordable senior housing.
5. Multi-unit Regulations. Zoning allows the creation of two to three family units by right in two of the largest zoning districts.

Issues

6. The need for additional housing for seniors. It is projected that the number of elderly residents in Gill will increase by about 25% to nearly 250 people by 2020. Additional senior housing could take a variety of forms, including more rental housing and affordable low-maintenance ownership options such as condominiums.
7. The need for more affordable housing options for families and individuals with limited or fixed incomes, particularly residents who are cost-burdened by their housing expenditures. Approximately 20% of Gill households have unaffordable housing costs. This includes both homeowners and renters at the same rate. Burdensome housing costs are greatest among older residents and among residents of low or moderate incomes, many of whom rent.
8. The Town's increasing property tax rates may become unaffordable to residents on fixed or limited incomes. Between FY 1990 and 2003, Gill's average single-family tax bill increased 94% from \$1,016 to \$1,970, an increase of over \$950 (139%). This tax increase has placed a greater burden on residents with limited or fixed incomes.
9. The need to balance future residential development with natural, scenic, and historic resource protection. New residential development is occurring in previously undeveloped areas containing open space and natural habitats. Main Road and West Gill Road have 15 new structures, 12 of which are single-unit housing structures. If single unit residential growth continues into previously undeveloped areas this may impact the character of the community as well as lead to municipal costs for the Town. The Town's cost per household to provide municipal services to new areas of development will be greater than the comparable costs in more dense areas, due to the greater distances involved.

Quantifying Housing Needs

Earlier in this chapter, data were presented that identifies households by income, by age of householder and by tenure (whether the household is renter-occupied or owner-occupied). An analysis has been conducted to estimate the number of households in these select categories of income, age and tenancy using relevant data that is available from the U.S. Census Bureau. The following tables summarize the findings of these analyses. Table 4-68 estimates the number of households by age range and income. Of the 537 households in Gill, 399 are in the low, moderate, or middle income categories established by EO418.

Table 4-68: Estimated Households by Income, Age, and Tenure for 1999 using EO418 Guidelines

Household Types	Low Income (\$24,999 or less)	Moderate Income (\$25,000 - \$39,999)	Middle Income (\$40,000 - \$74,999)	Upper Income (\$75,000 or more)	Total Households	Households within EO418 Guidelines
Non-Elderly Households						
Homeowners	48	48	141	103	340	237
Renters	12	12	36	26	86	60
Total	60	60	177	129	426	297
Elderly Households						
Homeowners	58	16	12	7	93	86
Renters	11	3	2	1	17	16
Total	69	19	14	8	110	102
All Households						
Homeowners	106	64	153	110	433	323
Renters	23	15	38	28	104	76
Total	129	79	191	138	537	399

Source: Estimates prepared by FRCOG using the following 2000 U.S. Census SF3 data tables: HCT11: Tenure by Household Income in 1999, H96: Household Income in 1999, H14: Tenure by Age of Householder, and P55: Age of Householder by Household Income in 1999.

The U.S. Census Bureau reports data related to the percentage of a household's income spent on housing costs for a sampling of residents. Using the same analysis technique, Table 4-69 depicts the estimated number of households that spent a specified percentage of their household income on housing costs. Of the 538 households in Gill, 109 of these households (or 20.3% of total households) are estimated to have spent 30% or greater of their household income on housing costs.

Table 4-69: Estimated Households by Percent Spent on Housing Costs by Age and Tenure for 1999

Household Types	Under 25% of Housing Costs	25%-29% of Housing Costs	30%-34% of Housing Costs	35% or More of Housing Costs	Total Households	Total Households with Unaffordable Housing
Non-Elderly Households						
Homeowners	248	26	30	36	340	66
Renters	62	8	7	9	86	16
Total	310	34	37	45	426	82
Elderly Households						
Homeowners	68	4	7	13	92	20
Renters	9	0	0	9	18	9
Total	77	4	7	22	110	29
All Households						
Homeowners	316	30	38	49	433	87
Renters	69	14	4	18	105	22
Total	385	44	42	67	538	109

Source: Estimates prepared by FRCOG using the following 2000 U.S. Census SF3 data tables: H96: Age of Householder by Selected Monthly Costs as a Percentage of Households in 1999, H71: Age of Householder by Gross Rent as a Percentage of Household Income in 1999, and H14: Tenure by Age of Householder.

Table 4-70 estimates the number of households that meet the EO418 threshold of unaffordable housing, which are households that spend 30% or more of their household income on housing costs. The estimates in this table will be used as guidelines to create strategies that assist residents with their housing cost burdens. Of the 108 households with unaffordable housing according to EO418 guidelines, 27% are in elderly households. In terms of tenure, 20% are in renter-occupied households, while the remaining households are owner-occupied.

Table 4-70: Estimated Households by Income and Age in 1999 according to EO418 Guidelines

Household Types	Low Income	Moderate Income	Middle Income	Total Households with Unaffordable Housing
Non-Elderly Households				
Homeowners	13	13	39	65
Renters	3	3	8	14
Total	16	16	47	79
Elderly Households				
Homeowners	13	4	3	20
Renters	6	2	1	9
Total	19	6	4	29
All Households				
Homeowners	27	17	42	86
Renters	9	4	9	22
Total	36	21	51	108

Source: Estimates prepared by FRCOG using data from Tables 4-68 and 4-69 of this Chapter.

Potential Locations for Future Residential Development

This section discusses a methodology for identifying the suitable locations for future residential development. This section builds upon the preliminary analysis conducted as part of Chapter 1: Open Space and Resource Protection and the framework it laid out for identifying the potentially suitable areas for new development. Map 1-7: Land Use Suitability Map from Chapter 1 identifies the generalized areas in Gill selected by the Community Development Planning Committee as potentially developable based on environmental constraints, protected open space constraints and current developed land. Current water and sewer lines are shown on the Land Use Suitability Map, and the other development suitability maps. Current developed areas are also shown.

From the potentially developable area shown on the Land Use Suitability Map, additional criteria have been chosen to identify the areas which the Community Development Planning Committee feels would potentially be the most suitable for focusing future residential development. These criteria include:

1. Avoid sprawl-style development.
2. Potential access for sewer and/or water infrastructure, such as in the Riverside Village and western Route 2 corridor.
3. Encourage “infill” development near current services, civic/public activities and village centers.

The Town of Gill has three zoning districts: Residential (R), Residential-Agricultural (R-A), and Village Residential. In both the R and R-A districts, detached single-family dwellings, and two- or three-family dwellings or semi-detached dwellings are allowed by right. Multi-family homes, and trailer park or mobile homes are allowed by special permit in these two zoning districts. The Village Residential district, located in the Riverside neighborhood, allows by right detached, single-family dwellings. An apartment conversion within existing structures requires a special permit. Conversion of existing structures or the development of new structures is not addressed in the zoning bylaws. In the Village Residential district the conforming lot size is $\frac{1}{4}$ acre with not less than 100 feet of frontage on a public way. No building or structure in this district shall be constructed closer than ten feet from the side or rear lot lines. In addition, the Riverside neighborhood has a public water and sewer system, and provides an alternative to the more rural lifestyle found in most areas of Gill. It is important to note that areas served by public water and sewer systems may be a more suitable location to allow two or three family units by right. Clarification of the existing zoning bylaws and the potential exploration of revising the bylaws to allow greater density in areas served by public water and sewer systems is recommended.

The Community Development Planning Committee selected three generalized areas for potential future residential development, as identified on the Land Use Suitability Map. One of these areas is the Town Center area, where there currently exists residential development

and there is also convenient access to the Gill Store, the Library, and other municipal and civic services.

The other two areas are located along the Route 2 corridor. The second area identified is located on the north side of the western section of Route 2. This area already has residential and commercial development, and is nearby to the densely settled Riverside neighborhood and the multiunit senior housing complex. Another important factor is that this area is served by public water and sewer infrastructure. The third area identified was further east, located on the north side of Route 2. This area also has existing residential development nearby. This area is not served by water and sewer infrastructure; however, the possibility of extending current system could be explored.

Housing Recommendations

These recommendations are proposed to help address Gill's housing issues and needs, and to achieve the goals and objectives outlined earlier.

Zoning Recommendations

- *Clarify zoning bylaw definitions.* Definitions of terms regarding the creation of accessory apartment rental units in single-family homes, such as mother-in-law apartments, and duplex or similar multi-unit structures, should be clarified in the zoning bylaw regulations.
- *Consider creating a new zoning district or revising an existing zoning district, which would allow additional residential housing types, such as condominiums and senior housing, and/or mixed residential.*

Other Strategies

- *Continue to work with the Franklin County Regional Housing and Redevelopment Authority to help low and moderate-income residents access loans and grants for first-time home purchases, and home rehabilitation projects.* Promote the current housing rehabilitation loan program among residents who do not have the financial resources to fund home improvements and repairs on their own, including accessibility improvements and septic system upgrades. Use the housing rehabilitation loan programs to help maintain and preserve Gill's affordable housing stock.
- *Pursue public grants and other funding sources to encourage the development of affordable housing for seniors. Identify potential locations to expand or to build another senior housing complex in the future.*
- *Work with Rural Development Inc, to identify potential locations in Gill for new affordable single-family homes.*

- *Work with legislators to encourage the State to continue revising Chapter 40B to provide additional flexibility and local control in the creation of affordable housing, and to expand its definition of “affordable.”*
- *Consider the creation of a town program to allow for specific tax abatements for seniors in exchange for volunteer work on the behalf of Gill.*

Projected Impacts of These Strategies on the Affordable Housing Supply

This section summarizes the projected impacts of strategies and recommendations which have been proposed to expand Gill’s affordable housing supply. Many of these strategies do not involve the construction of new housing. Rather, they look at options for increasing the affordability of the town’s current housing stock. These options can include housing rehabilitation loans, the creation of accessory apartments in existing homes, and property tax abatements for low-income seniors who volunteer for the Town.

The proposed strategies to promote housing affordability for homeowners are outlined in Table 4-71, and the strategies to promote affordability for renters are shown in. These strategies will help increase housing affordability for Gill’s low, moderate, and middle-income households who currently face burdensome housing expenditures. These strategies will also help address other concerns of the community regarding recent development patterns and the need to preserve the Town’s natural, open space, and historic resources. The strategies presented here focus on using the existing housing stock to the extent possible to meet housing needs, and on directing future growth to particular areas in order to help preserve the Town’s rural character.

The potential impacts of these strategies in addressing affordable housing issues are given in the tables below. The potential impacts shown are for a 10-year time period. This time horizon is used to recognize that in some years there may be less affordable housing creation than in other years, and to give the community some flexibility in improving housing affordability.

Table 4-71: Proposed Strategies to Promote Housing Affordability for Homeowners, and their Potential Impacts over a 10-Year Period

Strategy	Impact of Strategies (number of units over a 10 year period)		
	Low Income Households	Moderate Income Households	Middle Income Households
Total Homeowners with Affordability Needs in 1999	27	17	42
Housing Rehabilitation Loan Program Available to low and moderate income households	2-4	2-4	
New Residential Construction Estimated number of affordable single-family homes built by individuals and developers, such as Rural Development Inc.			
- Estimated 40-50% of new homes for middle-income households			8-16
- Estimated 5-10% of new homes for moderate-income households		4-8	
- Estimated 3-5% of new homes for low-income households	2-4		
Total Projected Impact of These Strategies	4-8	6-12	8-16

Source: Estimates prepared by FRCOG.

Table 4-72 indicates that the implementation of the strategies to promote housing affordability for homeowners could impact 21% to 42% of the housing needs presented in 1999. Strategies for low income homeowners could address 15-30% of the needs. Most of these homeowner needs are for elderly residents, who may choose become renters as homeownership may become difficult for financial or physical limitation reasons. As for moderate income households, these strategies address 35-71% of the housing needs identified, while for middle income households, they address 20-38% of the housing needs.

In addition, a number of the proposed strategies could help Gill establish housing that counts as affordable under Chapter 40B. Senior housing and affordable single-family homes are two types of housing that can count towards the Chapter 40B affordable housing count. To count as affordable housing for Chapter 40B, the units must be for low and moderate-income households and must be guaranteed affordable to these households for at least 30 years.

Table 4-72: Proposed Strategies to Promote Housing Affordability for Renters, and their Potential Impacts over a 10-Year Period

Strategy	Impact of Strategies (number of units over a 10 year period)		
	Low Income Households	Moderate Income Households	Middle Income Households
Total Renters with Housing Affordability Needs in 1999	9	4	9
First-Time Homebuyer Assistance Programs to Help Rental Households Purchase Homes	2-4	2-4	
New or Expanded Mixed Income Senior Rental Housing. Creation of 4-8 units, predominantly for low and moderate income seniors.	2-4	2-4	
Conversions of single-family structures to duplex or triplex structures or create new accessory apartments for low and moderate income households.	4-6	2-4	
New Market Rate Two- or Three- Family Homes for Rentals Average 1-2 per year			1-5
Total Projected Impact of These Strategies	8-14	8-12	1-5

Source: Estimates prepared by FRCOG.

These strategies outlined in the tables above are ambitious and can significantly reduce the number of Gill households with unaffordable housing. The implementation of these strategies may meet and could exceed the specific housing needs identified. For low income households, the implementation of these strategies will meet 89-156% of the needs identified. Since many households with low incomes are senior households, the application of these strategies may assist elderly homeowners find alternative housing to fit their needs. For moderate income households, the implementation of these strategies could also exceed the needs identified by 200-300%. This similarly could indirectly assist homeowners in low or moderate income households. For example, an accessory apartment in a home may provide additional income for a low or moderate income homeowner, which will assist them in meeting their needs. For middle income households, the implementation of these strategies address 11-56% of the housing needs identified. The creation of two-family homes may also address needs for current homeowners that may want more choices in their housing situation.

The strategies identified for homeowners and renters demonstrate Gill's continuing commitment to address housing issues in the community and to provide suitable affordable housing for Town residents. These strategies estimate creating between 41-74 new housing units affordable to low, middle and moderate income residents over the next ten years. Using the population projections discussed earlier in this Chapter, it is anticipated that there will be approximately 80 new households (using the annualized rate of new households) over the next ten years. Approximately 60 of these households may be low, middle, or moderate income if the income distribution of residents stays the same. If these strategies are implemented over the next ten years, they will also address the needs of these new residents as well.

Most of these strategies rely on Gill working with regional organizations such as the Franklin County Regional Housing and Redevelopment Authority (HRA). As in the past, HRA and its partner Rural Development Inc. can assist the Town with affordable housing development

and can help the town find and leverage funding for affordable housing projects. HRA also provides counseling and other resources for low and moderate-income homeowners and renters, and for landlords.

Housing Chapter Appendix

Housing Goals and Recommendations from the Regional Policy Plan

Additional Housing and Demographic Data for Gill from the U.S. Census

Appendix Table 4-73: Age of Housing in Gill, 1990 and 2000

Appendix Table 4-74: Tenancy by Age of Householder in Gill, 2000

Appendix Table 4-75: Monthly Homeowner Costs in Gill, 2000

Appendix Table 4-76: Monthly Renter Costs in Gill, 2000

Appendix Table 4-77: Housing Values for Owner-Occupied Homes in Gill, 1990 and 2000

Appendix Table 4-78: Household Income in Gill, 1999

*Appendix Table 4-79: Percentage of Household Income Spent on Housing Costs by
Income Level and Tenancy, For Owner, 1999*

Regional Policy Plan

Source: Franklin Regional Council of Governments, 1998

Housing Goals and Recommendations

Goals

1. To promote the provision of fair, decent, safe, affordable housing for rental or purchase that meets the needs of Franklin County residents.
2. To raise the affordable housing stock throughout the region to 10% of all housing units.
3. To raise the affordable housing stock in all communities in the region.

Recommendations

1. Prioritize local housing efforts to meet the region's need for affordable housing.
2. Support the Franklin County Regional Housing and Redevelopment Authority (HRA) in securing funds to complete a regional housing analysis to assess needs and the quality and quantity of existing affordable housing. This will allow agencies and municipalities to direct housing assistance and funds to the areas where they are needed most.
3. Support the provision of affordable housing throughout the region, particularly in major employment centers served by public transit and village centers with public services.
4. Assist agencies involved with planning and financing affordable housing, including alternative financing mechanisms such as land trusts, cooperative housing and limited equity cooperatives.
5. Preserve existing affordable housing stock rather than converting it to other uses.
6. Develop strategies that would guarantee long term affordability. Prioritize projects which offer long term affordability (e.g., first priority is 99+ years, second priority is 40 - 98 years, third priority is 15 - 39 years, and last priority is less than 15 years).
7. Support adaptive reuse of abandoned buildings for affordable housing stock.
8. Initiate pro-active housing projects by towns to maintain control of development scale and style as befits town character.
9. Pursue public grants and other sources of funding to enhance the financial feasibility of affordable housing development.

10. Support HRA and local housing authority efforts to increase awareness of need for affordable housing and resources available.
11. Encourage housing that minimizes long term costs through high quality design, efficient construction and energy efficiency.
12. Towns should consider provisions in local regulations for multi-family and clustered housing in village centers served by public water and sewer and preferably, public transit.
13. Towns should consider contributing resources toward the development of long term (preferably 99 years) affordable elderly housing, such as tax title foreclosures of buildings or land for housing sites.
14. Towns should consider implementing community home improvement programs and property tax deferrals which help low income households to make home improvements and remain in their homes.
15. Support HRA and local housing authority efforts to encourage major employers to implement programs which contribute towards meeting their employees' affordable housing needs, such as mortgage assistance plans, mortgage guarantee programs and assistance with down payments and closing costs.
16. Support HRA and local housing authority efforts that encourage lending institutions to make special provisions which are supportive of low income households.
17. Town residents should take advantage of HRA's low and moderate income housing programs such as the Self-Help building funds, septic upgrades and home improvement financing.
18. Support legislation offering funding mechanisms to remove lead-based paint in rental units.
19. Support additional public funding for effective code enforcement for affordable housing.
20. Support requirements and efforts to fund ongoing maintenance and management of rental housing complexes.

Appendix Table 4-73: Age of Housing in Gill, 2000

Year Built	Number of Housing Units	Percent of Total Housing Units
1999 to March 2000	14	3%
1995 to 1998	17	3%
1990 to 1994	19	3%
1980 to 1989	119	21%
1970 to 1979	77	14%
1960 to 1969	33	6%
1950 to 1959	62	11%
1940 to 1949	39	7%
1939 or earlier	180	32%
Total	560	100%

Source: U.S. Census Bureau, Census of Population and Housing, 2000 SF3.

Appendix Table 4-74: Tenancy by Age of Householder in Gill, 2000

Age of Householder	Number of Occupied Housing Units	Owner Occupied		Renter Occupied	
		Number	Percent	Number	Percent
Under Age 25	13	4	0.9%	9	8.7%
Age 25 to 34	54	30	6.9%	24	23.1%
Age 35 to 44	123	97	22.4%	26	25.0%
Age 45 to 54	169	150	34.6%	19	18.3%
Age 55 to 64	67	59	13.6%	8	7.7%
Age 65 to 74	44	38	8.8%	6	5.8%
Age 75 and Over	67	55	12.7%	12	11.5%
Total	537	433	100.0%	104	100.0%

Source: U.S. Census Bureau, Census of Population & Housing, 2000 SF3.

Appendix Table 4-75: Monthly Homeowner Costs in Gill, 2000

Monthly Costs in 2000*	Households with Mortgages		Households without Mortgages	
	Number	Percent	Number	Percent
Less than \$200	0	0.0%	0	0.0%
\$200 to \$299	0	0.0%	2	2.0%
\$300 to \$399	8	4.0%	4	4.0%
\$400 to \$499	8	4.0%	21	21.0%
\$500 to \$599	7	3.5%	25	25.0%
\$600 to \$699	6	3.0%	28	28.0%
\$700 to \$799	19	9.5%	6	6.0%
\$800 to \$899	22	11.0%	12	12.0%
\$900 to \$999	19	9.5%	0	0.0%
\$1,000 to \$1,249	74	37.0%	2	2.0%
\$1,250 to \$1,499	28	14.0%	0	0.0%
\$1,500 to \$1,999	8	4.0%	0	0.0%
\$2,000 to \$2,499	0	0.0%	0	0.0%
\$2,500 or more	1	0.5%	0	0.0%
Total	200	100.0%	100	100.0%
Median Costs	\$1,037		\$296	

*Percentages are based on the number of specified owner-occupied housing units with housing costs.

Source: U.S. Census Bureau, Census of Population & Housing, 2000 SF3.

Appendix Table 4-76: Monthly Renter Costs in Gill, 2000

Monthly Costs in 2000*	Number of Renter-Occupied Units	Percentage of Total Renter- Occupied Units
Less than \$200	2	2.1%
\$200 to \$299	17	17.7%
\$300 to \$399	8	8.3%
\$400 to \$499	18	18.8%
\$500 to \$599	24	25.0%
\$600 to \$699	10	10.4%
\$700 to \$799	4	4.2%
\$800 to \$899	0	0.0%
\$900 to \$999	0	0.0%
\$1,000 to \$1,249	3	3.1%
\$1,250 to \$1,499	0	0.0%
\$1,500 to \$1,999	0	0.0%
No cash rent	10	10.4%
Total Renter-Occupied Units	96	100.0%
Median Costs	\$489	

*Information based on the number of rental-occupied housing with estimated monthly housing costs or “gross rent.” The Census Bureau estimated rental housing costs for 96 of Gill’s occupied rental units.
Source: U.S. Census Bureau, Census of Population & Housing, 2000 SF3.

Appendix Table 4-77: Housing Values for Owner-Occupied Homes in Gill, 1990 and 2000

Housing Value*	1990		2000	
	Number of Homes	Percent of Homes with Housing Values	Number of Homes	Percent of Homes with Housing Values
Under \$50,000	13	4.8%	1	0.3%
\$50,000 to \$99,999	94	34.9%	86	28.7%
\$100,000 to \$149,999	118	43.9%	156	52.0%
\$150,000 to \$199,999	26	9.7%	36	12.0%
\$200,000 to \$249,999	16	5.9%	13	4.3%
\$250,000 to \$299,999	2	0.7%	5	1.7%
\$300,000 to \$399,999	0	0.0%	0	0.0%
\$400,000 to \$499,999	0	0.0%	3	1.0%
\$500,000 or More	0	0.0%	0	0.0%
Total Owner-Occupied Units	269	100.0%	300	100.0%
Median Housing Value	\$108,900		\$119,400	

*Housing values in Gill were estimated for 269 owner-occupied homes in 1990 and 300 owner-occupied homes in 2000.
Source: U.S. Census Bureau, Census of Population and Housing, 1990 and 2000.

Appendix Table 4-78: Household Income in Gill, 1999*

Household Income Ranges	Number of Households	Percent of Total Households
Low Income		
Less than \$10,000	34	6.3%
\$10,000 to \$14,999	24	4.5%
\$15,000 to \$24,999	74	13.8%
Total Low Income	132	24.5%
Moderate Income		
\$25,000 to \$29,999	22	4.1%
\$30,000 to \$34,999	30	5.6%
\$35,000 to \$39,999	28	5.2%
Total Moderate Income	80	14.9%
Middle Income		
\$40,000 to \$49,999	51	9.5%
\$50,000 to \$59,999	55	10.2%
\$60,000 to \$74,999	83	15.4%
Total Middle Income	189	35.1%
Upper Income		
\$75,000 to \$99,999	81	15.1%
\$100,000 to \$149,999	35	6.5%
\$150,000 or More	21	3.9%
Total Upper Income	137	25.5%
Total Number of Households	538	100.0%
Median Household Income		\$50,750
Area-Wide Median Family Income**		\$48,400

* Income data collected in the 2000 Census was for 1999

**From DHCD for FY 2004, used for EO418 housing certification purposes.

Sources: U.S. Census Bureau, Census of Population and Housing, 2000 SF3; Massachusetts Department of Housing and Community Development, Instructions for Completion of FY 2003 Request for Housing Certification, 2002.

Appendix Table 4-79: Percentage of Household Income Spent on Housing Costs, by Income Level and Tenancy in Gill, 1999

Tenancy and Household Income Level* (1999)	Households with Cost Data*	Housing Costs as a Percentage of Household Income (Number of Households)				Total Households with Unaffordable Housing (Housing Costs are 30%+ of Income)	
		Under 25%	25-29%	30-34%	35% or More	Number of Households	Percent for Income Group**
Owners							
Under \$10,000	9	0	0	3	6	9	100.0%
\$10,000 to \$19,999	27	16	3	4	4	8	29.6%
\$20,000 to \$34,999	46	23	4	5	14	19	41.3%
\$35,000 to \$49,999	50	21	11	10	8	18	36.0%
\$50,000 to \$74,999	81	72	3	4	2	6	7.4%
\$75,000 or Over	87	87	0	0	0	0	0.0%
Total for Owners	300	219	21	26	34	60	20.0%
Renters							
Under \$10,000	11	0	0	0	11	11	100.0%
\$10,000 to \$19,999	17	10	0	3	4	7	41.2%
\$20,000 to \$34,999	18	9	9	0	0	0	0.0%
\$35,000 to \$49,999	17	15	2	0	0	0	0.0%
\$50,000 to \$74,999	13	13	0	0	0	0	0.0%
\$75,000 or Over	10	10	0	0	0	0	0.0%
Total for Owners	86	57	11	3	15	18	20.9%

*These income groupings approximate those presented earlier for low, moderate, middle, and upper incomes but are not identical to them, due to the slightly different income categories used by the Census Bureau for the housing cost data shown here.

**Percentages are calculated based on the total number of homeowners in each income category with cost percentage data.

Source: U.S. Census Bureau, Census of Population and Housing, 2000 SF3.

CONCLUSION

CONCLUSION

Based on the recommendations in the chapters of the Gill Community Development Plan, and on community values and concerns expressed through this planning process, the Gill Community Development Plan Committee has identified the following top priorities for implementation. The primary next steps to be pursued are:

- Complete an Open Space and Recreation Plan for the Town of Gill. Utilizing work from past projects as well as from this Plan, the Town of Gill is well positioned to have an Open Space and Recreation Plan completed efficiently. In 2000, the Gill Open Space Committee and students of the Department of Landscape Architecture & Regional Planning at the University of Massachusetts completed a report titled “Open Space and Recreation Planning in Gill, Massachusetts.” This report combined with the mapping products produced in Chapter 1 of the Community Development Plan will provide a strong foundation for the creation of an Open Space and Recreation Plan. Through the efforts of the Franklin Regional Council of Governments, funding has been secured to complete an Open Space and Recreation Plan. Participation of residents and municipal officials in the creation of the Plan will be essential to its successful completion.
- Review zoning bylaw regulations. A comprehensive review of zoning bylaw regulations should be conducted to clarify term definitions and to examine the potential for zoning revisions that will address growth pressures, while encouraging appropriate business development and allowing additional residential housing types to be constructed in selected areas.

These priorities along with others were presented on May 3, 2004 at a public information session for the draft Community Development Plan for the Town of Gill (see Appendix). Members of the Gill Community Development Planning Committee, town officials, and staff from the Franklin Regional Council of Governments, explained the Executive Order 418 program, described the process that created the Plan, reviewed highlights of the draft Plan, and responded to questions from the audience. The importance of resident participation in planning for the future direction of the Town was emphasized. Copies of the draft Plan were available in the Town Hall, the Library, and on the municipal website (www.gillmass.org) for a three-week public comment period that ended on May 24, 2004.

The Town of Gill, through the work of the Gill Community Development Planning Committee and input provided by residents, is well positioned to implement actions to retain the rural character of the community, while expanding its economic development potential and access to housing that is affordable to different demographic groups.

Conclusion Appendix

Gill Community Development Planning Committee Meeting Agendas:

July 7, 2003 Meeting Agenda

August 18, 2003 Meeting Agenda

October 20, 2003 Meeting Agenda

December 15, 2003 Meeting Agenda [*Meeting postponed due to inclement weather*]

January 26, 2004 Meeting Agenda [*Rescheduled meeting*]

March 8, 2004 Meeting Agenda

April 9, 2004 Meeting Agenda

Town of Gill Information Session:

May 3, 2004 Information Session Flyer

Newspaper Article from *The Recorder*, May 4, 2004

**TOWN OF GILL
MASSACHUSETTS**



MEETING ANNOUNCEMENT

**Gill Community Development Planning
Committee**

**Monday, July 7, 2003
7:00 pm to 8:30 pm
Town Hall
Gill, MA**

AGENDA

1. Welcome & Introductions (7:00 pm)
2. Overview of the Executive Order 418: Community Development Plan Program (7:10 pm)
3. Review and Discussion of the Economic Base Analysis for the Draft Economic Development Chapter (7:30 pm)
4. Review and Discussion of the Draft Home-Based Business Survey (8:00 pm)
5. Adjourn (8:30 pm)

Presenters will include Peggy Sloan, Director of Planning & Development for the Franklin Regional Council of Governments, and Jessica Atwood, Economic Development Planner for the Franklin Regional Council of Governments.

**TOWN OF GILL
MASSACHUSETTS**



MEETING ANNOUNCEMENT

**Gill Community Development Planning
Committee**

Monday, August 18, 2003
7:00 pm to 8:30 pm
Town Hall, Gill, MA

AGENDA

6. Welcome & Introductions (7:00 pm)
7. Review & discuss the following draft **Open Space & Resource Protection maps**: Water Resources Map, Prime Farmland & Development Constraints Map, Open Space Map, and Land Use Suitability Map. (7:10 pm)
8. Review the purpose and context for creating the **Housing Chapter**, and review draft sections of the Chapter (*to be distributed at the meeting*). (7:45 pm)
9. Update on the **Home-Based Business Survey** and **Economic Development Chapter**. (8:15 pm)
10. Adjourn (8:30 pm)

Presenters will include Peggy Sloan, Director of Planning & Development for the Franklin Regional Council of Governments, and Jessica Atwood, Economic Development Planner for the Franklin Regional Council of Governments.

**TOWN OF GILL
MASSACHUSETTS**



MEETING ANNOUNCEMENT

**Gill Community Development Planning
Committee**

Monday, October 20, 2003
7:00 pm to 8:30 pm
Town Hall, Gill, MA

AGENDA

11. **Welcome & Introductions.** (7:00 pm)
12. **Review & discuss the revised Open Space & Resource Protection maps** (including: Water Resources Map, Prime Farmland & Development Constraints Map, and Open Space Map). (7:05 pm)
13. **Review & discuss updated draft Economic Development Chapter** (*to be sent under separate cover*). At the July 7, 2003 meeting we distributed and reviewed a preliminary draft of the Economic Development Chapter. Since that time, the Chapter has been expanded to include new sections about the Home-Based Business Survey, and the Riverside Area Parcel Analysis study (note: new sections are highlighted). Also, sample goals, objectives, and recommendations are included as a starting point for discussion. (7:35 pm)
14. **Next Steps.** (8:05 pm)
15. **Adjourn.** (8:15 pm)

Presenters will include Peggy Sloan, Director of Planning & Development for the Franklin Regional Council of Governments, and Jessica Atwood, Economic Development Planner for the Franklin Regional Council of Governments.

**TOWN OF GILL
MASSACHUSETTS**



MEETING ANNOUNCEMENT

Gill Community Development Planning Committee
[This meeting postponed due to inclement weather]

Monday, December 15, 2003
7:00 pm to 8:30 pm
Town Hall, Gill, MA

AGENDA

16. **Welcome & Introductions.** (7:00 pm)
17. **Presentation & Discussion on the Pavement Management Systems Report.** Keith Wilson, the FRCOG's Transportation Planning Engineer, will present his analysis regarding the optimal maintenance of Gill's transportation network. (7:05 pm)
18. **Housing Chapter Review & Discussion** (*to be sent under separate cover early next week*). The draft Housing Chapter addresses programs and policies related to housing, the current housing stock, and potential future housing needs. (7:35 pm)
19. **Update on the Home-Based Business Survey and the Route 2/Main Road Parcel Study.** The Economic Development Chapter will be revised to include an update to the Home-Based Business Survey as well as the Route 2/Main Road Parcel Study. These two items will be presented and discussed before they are inserted into the final draft of the Economic Development Chapter. (8:00 pm)
20. **Other Business & Next Steps.** (8:20 pm)
21. **Adjourn.** (8:30 pm)

Presenters will include Peggy Sloan, Director of Planning & Development for the Franklin Regional Council of Governments, and Jessica Atwood, Economic Development Planner for the Franklin Regional Council of Governments.

PLEASE NOTE: *In case of inclement weather, please call the FRCOG Planning Department telephone system after 3 pm on the day of the meeting to determine if the meeting has been postponed. The number is 413-774-1194, select option #4.*

**TOWN OF GILL
MASSACHUSETTS**



RESCHEDULED MEETING ANNOUNCEMENT

Gill Community Development Planning Committee

Monday, January 26, 2004

7:00 pm to 8:30 pm

Town Hall, Gill, MA

AGENDA

22. **Welcome & Introductions.** (7:00 pm)
23. **Presentation & Discussion on the Pavement Management Systems Report.**
Keith Wilson, the FRCOG's Transportation Planning Engineer, will present his analysis regarding the optimal maintenance of Gill's transportation network. (7:05 pm)
24. **Housing Chapter Review & Discussion.** The draft Housing Chapter addresses programs and policies related to housing, the current housing stock, and potential future housing needs. (7:35 pm)
25. **Update on the Home-Based Business Survey and the Route 2/Main Road Parcel Study.** The Economic Development Chapter will be revised to include an update to the Home-Based Business Survey as well as the Route 2/Main Road Parcel Study. These two items will be presented and discussed before they are inserted into the final draft of the Economic Development Chapter. (8:00 pm)
26. **Other Business & Next Steps.** (8:20 pm)
27. **Adjourn.** (8:30 pm)

Presenters will include Peggy Sloan, Director of Planning & Development for the Franklin Regional Council of Governments, and Jessica Atwood, Economic Development Planner for the Franklin Regional Council of Governments.

PLEASE NOTE: *In case of inclement weather, please call the FRCOG Planning Department telephone system after 3 pm on the day of the meeting to determine if the meeting has been postponed. The number is 413-774-1194, select option #4.*

TOWN OF GILL MASSACHUSETTS



MEETING ANNOUNCEMENT

Gill Community Development Planning Committee

Monday, March 8, 2004

7:00 pm to 8:30 pm

Town Hall, Gill, MA

AGENDA

28. **Welcome & Introductions.** (7:00 pm)
29. **Continue Discussion of the Housing Chapter:** The draft Housing Chapter addresses housing programs and policies, current housing stock characteristics, and potential future housing needs. The enclosed draft chapter has been updated to include comments from the January meeting. At this meeting, we will pick up this chapter review and discussion on page 4-32. In addition, we will review the draft Housing Goals and Objectives (*page 4-1 and 4-2*). (7:05 pm)
30. **Review Revised Sections of the Economic Development Chapter:** The Economic Development Chapter has been updated to include comments from past meetings as well as two new sections. Please review these two new sections: Parcel Study for Route 2 & Main Road Area (*pages 2-16 to 2-26*), and Home-Based Business (*pages 2-31 to 2-33*). (7:40 pm)
31. **Questions or Comments Regarding Pavement Management Systems Report.** At the January meeting, Transportation Planning Engineer Keith Wilson presented a report on the pavement conditions in Gill and the optimal use of maintenance funds. The report was distributed to present Committee members and was mailed out to those not attendance. If you have any questions or comments about the report, please send them to us in advance (413-774-1194 x101 or jatwood@frcog.org), so that we may consult with Keith before the March 8th meeting. (8:10 pm)
32. **Set next meeting date & Adjourn.** (8:20 pm)

PLEASE NOTE: In case of inclement weather, please call the FRCOG Planning Department telephone system after 3 pm on the day of the meeting to determine if the meeting has been postponed. The number is 413-774-1194, select option #4.

**TOWN OF GILL
MASSACHUSETTS**



MEETING ANNOUNCEMENT

Gill Community Development Planning Committee

Wednesday, April 21, 2004

5:30 pm to 7:00 pm

Town Hall, Gill, MA

AGENDA

33. **Welcome & Introductions.** (5:30 pm)
34. **Review & Discussion of Draft Vision Statement.** Please review the draft Vision Statement included in the draft Executive Summary. The draft Vision Statement was created using the Chapter goals and objectives. (5:35 pm)
35. **Review Draft Text for Open Space & Resource Protection.** Also enclosed is a draft for review that describes the open space and resource protection maps produced for the Community Development Plan. (5:50 pm)
36. **Discuss Information Session & Public Comment Process.** At the March meeting, it was suggested that information about the Plan be presented at the May 3rd Town Meeting. It is anticipated that the May 3rd Town Meeting will be brief because there are only two items for discussion (neither of which are about finances). An information session will be held at 7:30 pm after the Town Meeting has ended. We will discuss the presentation and the public comment process related to the information session. Please review the enclosed draft Executive Summary. It is intended that a version of the draft Executive Summary will be distributed at the information session. (6:15 pm)
37. **Adjourn.** (7:00 pm)

*Community Development Plan
For the Town of Gill
Public Information Session*

**Monday, May 3rd, 2004
Gill Town Hall
7:00 pm**

Over the past year, a group residents and town officials with the assistance of the Franklin Regional Council of Governments have drafted a Community Development Plan for Gill. The Plan includes information about the following sections:

- open space & natural resources
- transportation
- economic development
- housing

This document is meant to be a guide for future decision-making regarding our community. Therefore, residents are encouraged to come hear about the Plan and the process behind it. Your comments are welcomed and will be incorporated into the final version of the Plan.

Copies of the Final Draft Community Development Plan and the Executive Summary are available for review at the Town Hall and Slate Memorial Library. In addition, some interesting resource and usage maps are available for review at the Town Hall. Public comments are encouraged and will be accepted until May 24, 2004.

For more information, please contact Jessica Atwood at 413-774-1194 x101. The Gill Community Development Plan was funded through the Massachusetts Executive Order 418 Program with additional funding from the Franklin Regional Economic Development Initiative.



The Recorder

Tuesday, May 4, 2004

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Greenfield, Massachusetts

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Gill preparing community development plan

Continued support of farms, related businesses suggested

By KAREN P. JOHNSON
Recorder Staff

GILL — Town planners are preparing for the future by creating a community development plan that will encourage economic growth without sacrificing the rural character of the town.

"I don't think any of us want to see everything being built up everywhere," said Suzanne Smiley, chairman of the Planning Board.

The Gill Community Development Planning Committee and the Franklin County Regional Council of Governments created the plan using money from the Massachusetts Executive Order 418 Program, which was created so towns could plan affordable housing development.

The plan suggests making an Open Space and Recreation Plan to find open space, farmland and forest land worth preserving and protecting. Geographic Information System maps showing wetlands, underground and above ground water sources, farmland and scenic vistas were made and given to Gill

to help make the open space plan. The plan suggests that the town continue to support farms and other agriculture-based businesses and that it consider changing its bylaws to encourage businesses that are compatible with the town's character.

Tourism-related businesses are suggested as is a small office park that could take advantage of being close to Route 2 and Interstate 91.

Supporting local and regional pursuits of broadband telecommunications services and creating an independent zip code for Gill were suggested as ways to attract more small businesses.

The plan is not meant to decide the future of the town, but to help the town decide its future.

"Nothing in this plan is decided. There are a lot of data and a lot of suggestions," Smiley said. "They charge the Planning Board to look more at specifics."

■ Tourism-related businesses are suggested as is a small office park that could take advantage of being close to Route 2 and Interstate 91. Supporting local and regional pursuits of broadband telecommunications services and creating an independent zip code for Gill were suggested as ways to attract more small businesses.

In the next couple of years, the town will work on its master plan, open space plan and an economic development plan using the maps and observations made in this community development plan. Smiley asked that Gill residents participate in making these plans by attending public hearings and offering suggestions about how they want the town to change or stay the same. "If people don't participate, we aren't going to have a good plan," Smiley said.

To find out more about the community development plan or to make suggestions about it, write to

Jessica Atwood, economic development planner for the council of governments, at Courthouse, 425 Main St., Greenfield, Mass. 01301.