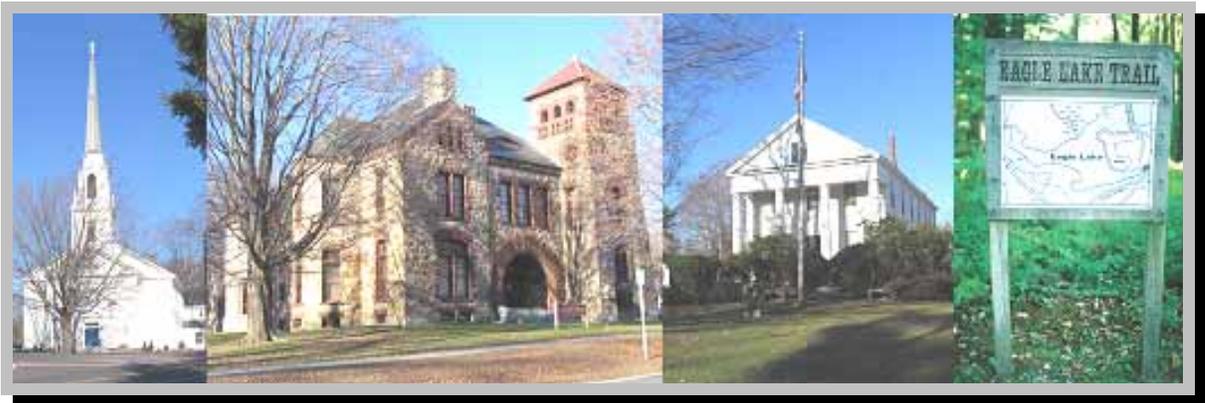




HOLDEN MASTER PLAN – 2008



Adopted by the Holden Planning Board on July 16, 2008.

Holden Master Planning Committee

Planning Consultants
Community Preservation Associates
Martha Lyon Landscape Architecture, LLC
Earth Tech

TOWN OF HOLDEN MASSACHUSETTS

HOLDEN MASTER PLAN – 2008

Holden Master Planning Steering Committee

Celeste Duffy
Kimberly Ferguson
Joe Giotta
Barbara Kohlstrom, co-chair
David Lindberg
CherylAnn Owoc
Michael Wronski, co-chair

Element Team Leaders

Edmond Benoit	Public Facilities and Services
Scott Carlson	Economic Development
Judith Haran	Open Space and Recreation
Rosemary Scully Johnson	Housing
Paul McManus	Natural and Cultural Resources
Steve Mentzer	Transportation
Wendy O'Leary	Community Visioning
Richard Sheils, Jr., Esq.	Land Use
Edward Starkus	Implementation
Pam Harding	Ex-Officio

Planning Consultants

Community Preservation Associates

Brian Barber

Daphne Politis

William Giezentanner

Martha Lyon Landscape Architecture, LLC

Martha Lyon

Earth Tech

Jeffrey Maxtutis

Table of Contents

1. Executive Summary.....	1.1
2. Housing	2.1
2.1. Major Issues and Tradeoffs in Housing.....	2.1
2.2. Major Recommendations	2.2
2.3. Population.....	2.2
2.4. Housing Stock.....	2.6
2.5. Building Permits	2.7
2.6. Housing Densities.....	2.8
2.7. Assessment of Housing Demand.....	2.10
2.8. Affordable Housing.....	2.11
2.9. Subsidized Units.....	2.13
2.10. Income/Affordability Gap.....	2.13
2.11. Implementation of an Affordable Housing Program	2.15
2.12. Other Findings and Observations	2.17
2.13. Fiscal Impact of Residential Development	2.21
3. Natural Resources	3.1
3.1. Issues and Tradeoffs Involved in Natural Resources	3.1
3.2. Major Recommendation for Natural Resources.....	3.1
3.3. Geology, Topography, and Soils.....	3.1
3.4. Water Resources	3.6
3.5. Wildlife Resources of Holden.....	3.11
3.6. Natural Resources Observations	3.18
4. Historic and Cultural Resources.....	4.1
4.1. Major Issues and Tradeoffs in Housing.....	4.2
4.2. Summary of Major Cultural Resources Recommendations.....	4.2
4.3. Holden’s History and Existing Historic Resources.....	4.3
4.4. Preservation Efforts to Date	4.7
5. Open Space and Recreation.....	5.1
5.1. Issues and Tradeoffs Involved in Open Space and Receptions.....	5.1
5.2. Major Recommendations for Open Space and Recreation.....	5.2
5.3. Local and Regional Land Use Trends.....	5.2
5.4. Past Open Space Planning Efforts.....	5.3
5.5. Existing Open Space and Recreation Resources.....	5.5
5.6. Open Space and Recreation Challenges and Opportunities.....	5.10
5.7. Creating an Open Space System.....	5.13
6. Economic Development.....	6.1
6.1. Issues and Tradeoffs Involved in Economic Development.....	6.1
6.2. Major Recommendation for Economic Development	6.2
6.3. Employment and Wages.....	6.2
6.4. Resident Labor Force and Unemployment.....	6.6
6.5. Property Taxes	6.7

6.6. Market Considerations.....	6.10
6.7. Location	6.11
6.8. Income to the Town	6.13
6.9. Jobs and Wages.....	6.13
6.10. Design.....	6.13
6.11. Transportation Access to Jobs in Holden	6.14
6.12. Land Use and Zoning for Economic Development	6.14
7. Transportation	7.1
7.1. Issues and Tradeoffs Involved in Transportation.....	7.2
7.2. Major Recommendations for Transportation.....	7.2
7.3. Inventory of Existing Transportation Conditions	7.2
8. Public Facilities and Services	8.1
8.1. Summary of Resident Input.....	8.3
8.2. Issues and Tradeoff Involved in Public Facilities	8.4
8.3. Major Recommendations For Public Facilities.....	8.6
8.4. Overview of Previous Studies	8.6
8.5. Inventory and Analysis.....	8.8
8.6. Key Issues for Priority Projects.....	8.35
8.7. Longer-term Needs	8.36
9. Land Use	9.1
9.1. Issues and Tradeoffs Involved in Land Use.....	9.1
9.2. Major Land Use Recommendations.....	9.2
9.3. Holden Land Use in History.....	9.2
9.4. Current Land Use and Zoning	9.3
9.5. Holden’s Sections	9.9
9.6. Build-Out Analysis of Holden’s Land	9.10
9.7. Vacant Land	9.13
9.8. Subdivision Control Regulations.....	9.13
9.9. Current Land Use Trends.....	9.13
9.10. Future Land Use Plan.....	9.15
10.Implementation of the Master Plan.....	10.1
10.1. Priority Implementation Action Items.....	10.3
10.2. Housing	10.7
10.3. Natural Resources	10.9
10.4. Historic and Cultural Resources	10.11
10.5. Open Space and Recreation	10.13
10.6. Economic Development	10.17
10.7. Transportation	10.21
10.8. Public Facilities and Services.....	10.24
10.9. Land Use in Holden	10.27
10.10. Capital Cost of the Plan.....	10.30
10.11. Funding for Plan Implementation.....	10.30
10.12. Organizational Needs.....	10.32
10.13. Timing of Implementation Actions.....	10.33

1. EXECUTIVE SUMMARY

The Holden Master Plan allows the Town to determine the goals and objectives of its residents, to assess its needs, to take stock of its assets, to evaluate its potentials for future development, and to establish a program for responsible comprehensive Town actions. While Holden still retains its open, semi-rural, historical character, both in its landscape and buildings, parts of Town are subject to serious development pressures. Holden is unique in having an unusually large amount of protected open space intended to preserve the water quality of important reservoirs for water supply in the Worcester and Boston metropolitan areas. While these open spaces are protected from further development they are not all open to the public to enjoy for active or passive recreation. Holden is also a pathway for traffic from adjacent towns that desires to pass through to Worcester and other destinations in the region. Holden has grown substantially since 1980, and continues to grow, owing to the availability of land, the desirability of its natural environment, and the Town's access to nearby employment opportunities. Moreover, Holden provides good quality Town services and facilities, especially schools that attract new residents.

The vision that townspeople have for their future emphasizes the desire to retain the Town's rural and village character, and preserve and enhance its natural and historic resources. A two-year visioning and master planning process has produced a set of goals and objectives for the Town that stress keeping its existing character and continuing to provide high quality Town facilities and services. The process involved public meetings, meetings with the Master Plan

A two-year visioning and master planning process has produced a set of goals and objectives for the Town that stress keeping its existing character and continuing to provide high quality Town facilities and services.

Committee and Town officials, and dissemination of materials at meetings and electronically via the Internet. People of all ages were drawn into the process that included meetings at Town Hall and the Senior Center. School children, Master Plan Committee members and the residents of Town completed written and graphic exercises to help define the Town's future.

The following vision statement represents the ideas that were desired for the future of the Town as recommended by the participants at the visioning workshops. Crafting a vision statement is a way of understanding and describing the desired future as envisioned by townspeople. "Imagine..." is a way of describing how the Town would be if the desired future is attained. An action plan that outlines steps to help achieve the vision will be presented in this plan.

Holden's Vision

Imagine Holden Tomorrow... a *community of caring and involved citizens* who live in a town with a distinctly *New England character* that preserves its *historic buildings and rural atmosphere*. A town that is *walkable* with sidewalks and other paths connecting neighborhoods to the center, and that preserves a *small town feeling* where people know each other and see each other frequently.

Imagine Holden Tomorrow... a town defined by its abundance of *open space* with passive and active recreation areas and natural features connected by walking and biking trails, and accessible and enjoyed by a large number of residents as well as visitors, who see Holden as a *biking and hiking* destination.

Imagine Holden Tomorrow... with an *attractive Town Center* that has aesthetically pleasing buildings and signs and a *variety of shops and restaurants* along Main Street. The Town Center will also provide opportunities for gathering such as a Town Common. Additional *gathering spots* will be provided throughout the community in the form of pocket parks and other meeting places. The Town will also have more to do in terms of *recreation and entertainment*, with a variety of places to go and things to do.

Imagine Holden Tomorrow... where the needs of all segments of the population are met including housing and healthcare facilities and services for *seniors*, and safe and enjoyable activities for *teenagers*.

Imagine Holden Tomorrow... where *traffic flows well*, intersections are not congested, and access to and within the town is improved.

Imagine Holden Tomorrow... a town with *excellent and responsive town government*. Public services are provided in *state of the art facilities*. The citizens are involved in town governance and are aware of decision-making because of *good communication* and accurate dissemination of information on the part of Town officials.

Imagine Holden Tomorrow... a Town that is guided by the *vision created by its citizens* and *actively implements it*. A Town that is proactive, tries to anticipate change, and is engaged in shaping its future in positive ways.

The Master Plan contains the goals and objectives, assessments of existing and likely future conditions, analyses of conditions and resources relative to sound community development planning principles, and recommendations for Town actions to achieve its goals and objectives. The material is interrelated as is appropriate for a comprehensive Master Plan. It covers the topics of housing, economic development, transportation, open space and recreation, natural and cultural resources, land use and zoning, and Town services and facilities. It also covers the desire of many townspeople to enhance the existing Town Center and Main Street Corridor, to make it a more important commercial, cultural and social gathering place, building on investments in the past.

Principal recommendations of the Master Plan include:

- Concentrate future development in the Main Street Corridor where existing infrastructure exists and where markets can be increased for the sale of goods and services Town residents want to be available in Town.
- Develop mixed-use commercial and residential nodes along Main Street.
- Provide a range of housing choices for existing and new residents, including affordable housing. Establish a permanent Housing Committee. Use Town-owned land to create affordable housing. Carefully evaluate proposals for age-restricted housing to prevent over-building of this type of housing.
- Protect additional open spaces, especially scenic agricultural resources and views, and make some available for active and passive recreation.
- Appoint an Open Space Committee and create and fill a Conservation Commission Agent position to prepare and oversee open space plans and programs.
- Develop a plan to preserve historic assets and encourage knowledge of Holden's history.
- Permit service-oriented commercial uses in the industrial areas to fill up vacant space.
- Develop a priority capital improvement plan for new, expanded, or upgraded public facility needs for Holden over the next 10 – 15 years.
- Establish long-term funding mechanisms to provide a funding base for future public facility needs.
- Work with the state, the City of Worcester and other impacted communities to overcome current limitations on the amount of wastewater Holden is permitted to deliver to the Wastewater Treatment Plant.
- Adopt more stringent design review and site planning to minimize strip development impacts along Main Street.
- Provide incentives for open space clustered residential developments.
- Further develop open space corridor/pathway systems.
- Develop a recreation facility to include a teen center.

Significant conditions that affect development planning are:

- Population has grown by 28% since 1980 and continues to grow.
- Employment has grown very little and continues to remain stable.
- There are about 2,500 acres of vacant developable land in Holden zoned for residential use.
- There are only about 7 acres of vacant developable commercially and industrially zoned land in Town.
- 973 acres of forested land have been lost to other use since 1985.
- Sewer contractual obligations limit growth in Holden.
- There are other substantial constraints to development including environmental conditions such as streams and wetlands, a two-year residential building limitation of 200 dwelling units, and a phased development requirement.
- There are under-utilized historic buildings that could contribute to Town needs.
- Holden needs to create 44 units of affordable housing per year to avoid Chapter 40B “Comprehensive Permit” projects.
- 449 units of age-restricted housing are under construction or have been proposed. There does not appear to be a market for this many units in the near future.

To meet Town needs the following major actions should be taken:

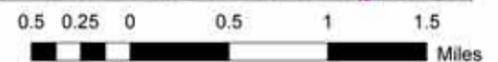
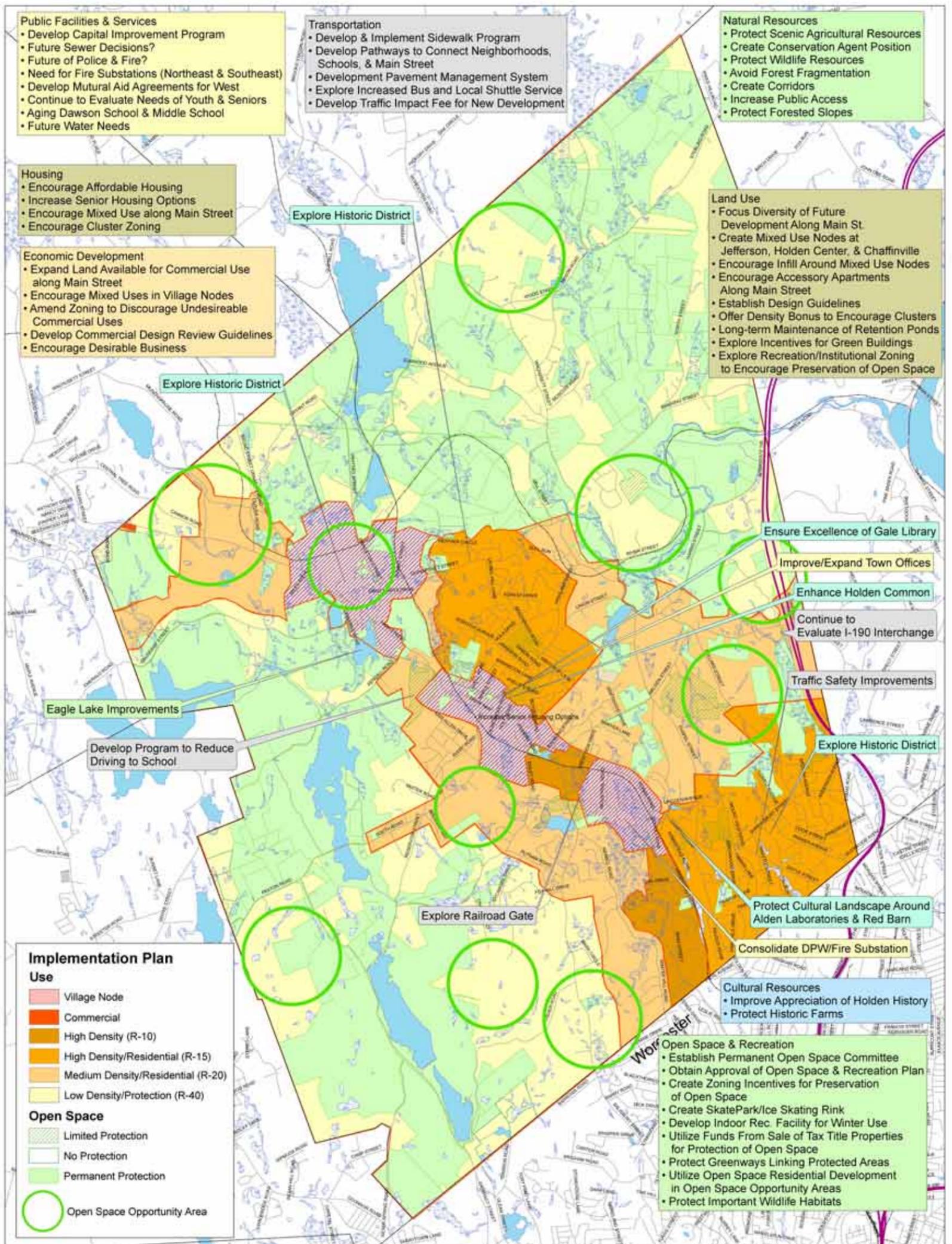
- Establish a prioritization and funding plan for municipal facilities.
- Support development of a recreation facility to include a teen center.
- Provide adequate space and working conditions for Town administrative functions.
- Build a new DPW Garage ensuring a Fire Department substation for that area remains functional.
- Rezone more land in the Main Street Corridor for multi-family housing and smaller single-family lots.
- Create mixed-use nodes at historic villages-Jefferson, Holden Center, Dawson, and Chaffinville.
- Encourage the use of cluster zoning to save open space in low-density areas outside the Main Street Corridor.
- Rezone some land along Main Street to “Village Use” which permits mixed use.
- Rezone selected lands behind existing commercial development on Main Street to allow better designed and site planned future commercial uses.
- Allow service oriented commercial uses in the industrial zone on Industrial Drive, while preventing “big box” retail uses.
- Amend the zoning bylaw to eliminate undesirable commercial uses such as “big box” retail.
- Establish design guidelines to help assure quality of new development, infill, and adaptive reuse of historic buildings.

- Implement safety and operations traffic improvements at critical intersections.
- Install new sidewalks and better maintain existing sidewalks at critical locations such as schools.
- Connect existing neighborhoods with each other and to commercial areas and schools with a system of pathways.
- Continue to protect important and scenic agricultural resources.
- Create the following standing appointed Town organizations:
 1. Open Space Committee,
 2. Housing Committee,
 3. Master Plan Monitoring Committee,
 4. Youth Services Task Force.

These are the (major) actions recommended in the plan. A series of 22-second priority and 17-third priority actions and identification of 5 longer-term needs and considerations are included in the plan. These are identified in the Plan Implementation Chapter. There is also a table of Priority Implementation Action Items included in the Implementation Section. The map on the following page shows recommended actions that can be geographically located.

The first priority actions should be started in 2008. Many of them continue into following years, in recognition that master planning is an ongoing process, especially in its implementation phases. To oversee and prompt plan implementation actions it is recommended that a Master Plan Monitoring Committee be established to carry out the work the Master Plan Committee has identified as being needed in this Plan. The Master Plan Monitoring Committee should include a significant number of Town Officials including board, committee and commission members who manage Town programs affecting future development. Town citizens should also be represented to ensure that public input continues to guide planning and management decisions.

Holden's future can simply result from the continuation of existing trends and practices, or it can be determined through community consensus and civic actions. This Master Plan defines the consensus that has been reached and the actions necessary to achieve the vision reached through consensus. Implementing the Plan is up to community leaders and public officials, using normal powers and practices of government. In summary, the citizens of Holden can have the kind of Town they would like if they are willing to adopt and practice the procedures and actions described in this Plan.



Holden, Massachusetts 2008 Master Plan

Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners
Source: MassGIS & 2005 Orthophotos
May 2007

2. HOUSING

This chapter covers the topic of housing in Holden with special focus on demographic trends, housing stock, affordability, availability of developable land, and patterns of development.

Demographic trends are an important factor in any discussion of housing because age, income, and family size are among the primary determinants of the type, size and price of housing in a community. An inventory of housing stock is important because it speaks to the nature of that community. Affordability is important on several fronts: It impacts on the continuity of a community, specifically the ability of younger residents to be able to afford homes in the Town they grew up in; it impacts on the ability of Town employees to live where they work; and there's the issue of MGL Chapter 40B, which sets the minimum number of *affordable* housing units a town is required to have. Availability of land is an essential part of the discussion because it dictates where development can occur. Finally, patterns of development are important since they contribute to the nature and character of a community and can have a significant impact on a community's finances.

2.1. Major Issues and Tradeoffs in Housing

The major housing issues confronting the Town include: the state's affordable housing mandate; the current excess of age-restricted housing units; and, a relatively large inventory of existing, or proposed, building lots more suitable for the construction of larger single-family homes.

The affordable housing issue relates to meeting the MGL Chapter 40B required percentage of affordable units, which, if unmet, would allow developers to, fundamentally, ignore the Town's zoning bylaws. It's a serious issue. The Town is addressing it through a Housing Production Plan that's been approved by the State; however, the issue will require continued monitoring and oversight for the foreseeable future. (See sections 2.8, 2.9, 2.11, and 2.12 of this report for a detailed analysis of this issue.)

The current over-supply of age-restricted housing in Town presents a different kind of problem. With more units on the market than developers can sell, the Town has already received one request to eliminate the age-restriction on those units,



and is likely to receive more as additional units come to market and remain unsold. The most immediate impact of easing the age restriction is the likelihood that as younger households buy them, the units will house more school-age children than originally anticipated. That would have financial implications for the Town. It would increase school operating costs; and require additional school building construction over time. It is anticipated that the aging population will be in need of this type of housing in the future. An additional impact of over 55 developments is that they often sell large single family homes to younger families with children, so though they are moving to a development that is not taxing the Town's budget their homes are likely being sold to families with school age children.

The issue of buildable lots presents a similar problem. Lots that favor larger single-family homes which attract families with school-age children present a significantly higher cost per unit in Town services, especially education costs, than higher density developments, (1 and 2 bedrooms), that are designed for smaller, and generally older households. And, as with the relaxation of age-restrictions, development that brings more school age children to Town puts additional stresses on the Town's finances. In addition, there's the issue of the needs of a changing market. Holden's population is expected to move toward greater numbers of older, and smaller households over time, households which traditionally find smaller housing units more attractive. Since the current development environment makes it more difficult to produce significant numbers of those smaller units, that anticipated need might go largely unmet. (See sections 2.3, 2.6, 2.7 and 2.13 for a more detailed discussion of these topics.)

2.2. Major Recommendations

- Continue with the Town's commitment to produce at least 44 affordable housing units per year.
- Expand and broaden the permanent Affordable Housing Partnership Committee to deal with the full range of housing issues facing Holden. Most notably, empower it to deal with 40B proposals. The permanent expanded committee should build on the work of the existing Affordable Housing Partnership Committee, and should include membership from that committee. If the existing Affordable Housing Partnership Committee is unwilling or unable to take on additional responsibilities, establish a new permanent Housing Committee to take on the broader responsibilities.
- Rezone more land in the Main Street Corridor for multi-family housing and 10,000 and 15,000 sq. ft. lots. Create "Village Zoning" in selected areas on Main Street to allow for housing in mixed-use commercial/residential development (see similar recommendation in the economic development element). (Continued on next page.)

- Encourage use of cluster zoning to save open space in low-density areas outside the Main Street Corridor.

2.3. Population

Table 2.1 shows Holden’s population from 1970 to 2030, as forecast by the Central Massachusetts Regional Planning Commission (CMRPC). Existing and past data are from the U. S. Census. Holden is expected to continue to grow considerably because it has excellent transportation access, good schools and infrastructure and a substantial amount of vacant developable land. The Holden Town Census reports a figure of 17,036 for 2005, which is a 16.5% growth between 1990 and 2005.

Table 2.1: Past and Projected Population Growth in Holden and Surrounding Communities, 1970 - 2030

Town/Year	1970	1980	1990	2000	2010	2020	2030	Growth Rate 1970 - 2000
Holden	12,564	13,336	14,628	15,621	17,500	18,700	19,500	24.3%
Paxton	3,731	3,762	4,047	4,386	4,800	5,100	5,500	17.6%
Princeton	1,681	2,245	3,189	3,353	3,900	4,200	4,500	99.5%
Rutland	3,198	4,334	4,936	6,353	8,400	9,900	11,500	98.7%
Sterling	4,247	5,440	6,481	7,257	7,700	8,000	8,300	70.9%
West Boylston	6,369	6,204	6,611	7,481	8,100	8,800	9,000	17.5%
Worcester	176,572	161,799	169,759	172,648	179,000	182,700	187,200	2.2%

Source: U.S. Census of Population and CMRPC and MISER (for Sterling Projections)

Data in Table 2.1 show that Holden exhibits a population growth rate in the middle of its neighboring communities. Holden grew steadily from 1970 to 2000

Holden is expected to continue to grow considerably because it has excellent transportation access, good schools and infrastructure and a substantial amount of vacant developable land.

and is expected to continue its steady growth. Towns that exhibit larger growth rates are those that started from a very small base in 1970. Holden’s population growth rate is similar to West Boylston and Paxton, two towns that are about the same distance from the City of Worcester.

2.3.1. Current/Projected Households and Housing Units

As mentioned, there is considerable vacant developable land (about 7,500 acres) for new growth in Holden. About 2,500 of these are vacant and unused and available for residential development. About 5,000 acres are vacant but in some sort of use such as agriculture. Massachusetts Chapter 61 restrictions, placed on some of this vacant land voluntarily by the owners to qualify for a reduction in real-estate taxes, offer the Town first right of refusal when the land is being

sold. Map 5.1 in the Open Space and Recreation Chapter shows protected areas. Average parcel size of developable vacant land is about 3 acres indicating that small 3, 4 and 5 unit residential developments are more likely than large developments, although developers are often able to combine small parcels. Moreover, the lack of sewer and water lines limits growth in some areas. Maps of sewer and water lines are shown in the Appendix to the Chapter on Community Facilities and Services.

The number of households, a good indicator of housing demand, is expected to grow by about 1% per year, from 6,230 in 2006 (2000 U.S. Census and Holden building permit data up to July 2006) to 7,590 in 2030. The number of housing units always exceeds the number of households to allow for vacancies and seasonally occupied units. The projected future numbers of housing units are shown on Table 2.2. The data show a demand for almost 1,400 new housing

The number of households, a good indicator of housing demand, is expected to grow by about 1% per year, from 6,230 in 2006 to 7,590 in 2030.

units by 2030. Table 2.2 shows the growth of households that drives the demand for housing units. Households are expected to grow more quickly than population because household size is expected to continue to decline, a trend that has been observed since 1970. [Note; while some housing is built on “speculation” without definite buyers identified, developers always make some sort of market analysis to determine whether potential buyers will exist. One key factor considered in such market analysis is growth in households.]

Table 2.2: Past and Projected Number of Households, Housing Size and Housing Units

	Year	1970	1980	1990	2000	2010	2020	2030
Households		3,798	4,356	5,330	5,715	6,640	7,210	7,590
Housing Units		3,847	4,671	5,428	5,827	6,795	7,365	7,745
Population per Housing Unit		3.29	2.94	2.74	2.71	2.64	2.59	2.57

Source: U.S. Census Bureau and CMRPC and Community Preservation Associates Estimates of Housing Units in the Future

Table 2.3 shows U. S. Census more detailed data on Holden’s households in 1990 and 2000.

A key housing indicator in this data is the 26% increase in non-family households. This is an indicator of the need for smaller 1 and 2 bedroom housing units. The 18% increase in householders living alone also indicates a need for smaller 1 and 2 bedroom housing units. The 11% increase in households with children under age 18 is also significant for school facilities. These are discussed in the chapter on public facilities and services. Average family size (now slightly over 3 persons per family) indicates there is, and will continue to be, a market for 2 and 3 bedroom units in the future. However, it is likely that Holden has all

the 4 or more bedroom units it needs for the next 15 to 20 years. This is borne out by the life cycle projections shown in Table 2.4, in which the “middle family” group (ages 35 to 54) peaked in 2000 and is expected to decline in 2010 and 2020, but pick back up by 2030.

Table 2.3: Households by Type in Holden: 1990 - 2000

	Year	1990	2000	% Change
Total households		5,330	5,715	7.2
Family households		4,301	4,422	2.8
With own children under age 18		1,997	2,140	7.2
Married couple families		3,890	3,873	-0.4
With own children under age 18		1,811	1,852	2.3
Female householder, no husband present		345	414	20.0
With own children under age 18		175	239	36.6
Male householder, no wife present		66	94	42.4
With own children under age 18		11	27	145.5
Non-family households		1,029	1,293	25.7
Householder living alone		945	1,112	17.7
Householder over age 64		543	554	2.0
Households with individuals under age 18		1,999	2,222	11.2
Households with individuals over age 64		1,352	1,503	11.2
Average household size		2.74	2.71	-1.1
Average family size		3.14	3.13	-0.3

Source: Year 1990 and 2000 U. S. Census of Population and Housing

Table 2.4 shows CMRPC population projections by age group to the Year 2030. Aggregating age groups into life cycle groups related to housing needs is shown in Table 2.4. The housing group that needs the largest homes, middle family, is expected to decrease slowly to 2020 then increase slightly to 2030, reaching about the same level as it was in 2000. As mentioned, one implication is that

...it is likely that Holden has all the 4 or more bedroom units it needs for the next 15 to 20 years.

Holden already has all the 3 and 4 bedroom housing units it needs at the present time. Future needs are likely to be mainly for 1 and 2 bedroom units to meet the demands of the continued growing number of young adults, young families and retirees groups. Numbers of people in the young family and retirement age groups are expected to grow by 15% and 113% respectively between 2000 and 2030. Based on the cohort-survival technique* of population forecasting, which is

* Cohort-Survival is a population analysis technique that predicts the number of people likely to survive into the next age group (often 5-year groups are used) based on age-specific death rates, birth rates (for entry into the youngest age group) and age-specific migration rates (people who move from one town to another).

the basis for the data in Table 2.4, the young adult group is expected to grow by 153%, and the near senior group (sometimes known as “empty nesters”) is expected to grow by 47% over this time period. It is likely however, that the young adult group will not grow so fast owing to limited job opportunities in Holden and the fact that many of these people leave for better opportunities and lower housing prices elsewhere. However, there will be a substantially larger potential market for age-restricted housing (age 55 and over) in the long-term. In 2000 there were 3,809 people over age 55. By 2030 there are expected to be 7,060, an increment of 3,251 representing an 85% increase.

Table 2.4: Life Cycle Groups of Holden’s Projected Population

Age Group in Years	Life Cycle Group	1980	1990	2000	2010	2020	2030
0 - 4	Pre-School	760	1,041	1,004	1,089	1,216	1,268
5 - 19	School Age	3,364	3,025	3,462	3,747	3,752	3,831
20 - 24	Young Adult	759	699	461	799	806	1,168
25 - 34	Young Family	1,861	1,909	1,595	1,508	2,009	1,828
35 - 54	Middle Family	3,334	4,439	5,290	5,234	4,624	5,345
55 - 64	Near Seniors	1,521	1,327	1,591	2,478	2,629	2,344
65 - 84	Seniors	1,577	1,958	1,932	2,260	3,230	4,227
85 and over	Advanced Elderly	160	230	286	385	434	489
Total	All Groups	13,336	14,628	15,621	17,500	18,700	19,500

2.4. Housing Stock

According to the 1990 U.S. Census of Housing there were 5,428 housing units in Holden. There were then 5,281 occupied units, divided between 4,528 owner-occupied and 753 renter-occupied units. According to the 2000 U.S. Census of Housing there were 5,827 total housing units and 5,715 occupied housing units in Holden, an 8% increase from 1990 in occupied units. Of these 5,057 were owner occupied and 658 were renter occupied units. The 2000 Census also reported 112 vacant units and 31 units for seasonal, recreational or occasional use. In 2000 the following age of occupied housing was reported.

By March 2000, 2,247 units or 39% of the stock had been built since 1970. Data in Table 2.5 show that Holden has a substantial stock of older housing. Housing built since 2000 is reported below in Section 2.5, Building Permits. Table 2.6 shows housing size by number of rooms in 2000.

Table 2.5: Age of Occupied Housing

Year Housing Structure Built	Number of Housing Units
1939 or earlier	803
1940 – 1959	1,834
1960 – 1969	831
1970 – 1979	862
1980 – 1989	747
1990 – 1994	320
1995 – 1998	237
1999 –2000	153
2001 – July 2006	443
Total Reported up to July 2006	6,230

Table 2.6: Size of Housing Units by Number of Rooms

Number of Units	Number of Rooms
0	1
19	2
216	3
464	4
805	5
1,343	6
1,174	7
1,054	8
752	9+
5,827	Total

Source: Year 2000 U. S. Census of Housing

Most of the housing has 7 or more rooms (51%). Seventy-four percent of the housing units have 6 or more rooms. Table 2.7 shows how many units are in each size or type of structure.

Table 2.7: Number of Housing Units, by Size

Type (Size) of Structure	Units in Structure	% of Housing Stock
One Unit – Detached	5,044	87
One Unit – Attached	141	2
Two Units	192	3
Three or Four Units	219	4
Five to Nine Units	82	1
Ten to Nineteen Units	115	2
Twenty or More Units	31	1
Mobile Homes	3	--

Source: Year 2000 U. S. Census of Housing

Eighty-seven percent of Holden’s housing stock was in single-family detached units in 2000. There is no predominant other type of housing. The second largest category is structures with 3 or 4 units accounting for only 4% of all housing units and is the densest category that current zoning in Holden allows by right. Structures with more housing units are allowed only by special permit.

2.5. Building Permits

Building permit data from 2000 to 2006 (July) show an increase in the growth pattern compared to the 1990’s. Permits for new residential structures are shown in Table 2.8. The 5½-year total since 2000 is 443 total housing units. Residential construction has been overwhelmingly single-family detached homes (348 units - 79%), and has grown at almost double the average annual rate of the 1990’s (0.8% during the 1990’s and 1.4% from 2000 to 2006). Since 2000 multi-family units have grown at an average annual rate of 2.7%, reflecting the demographic changes noted above.

Table 2.8: New Residential Building Permits in Holden

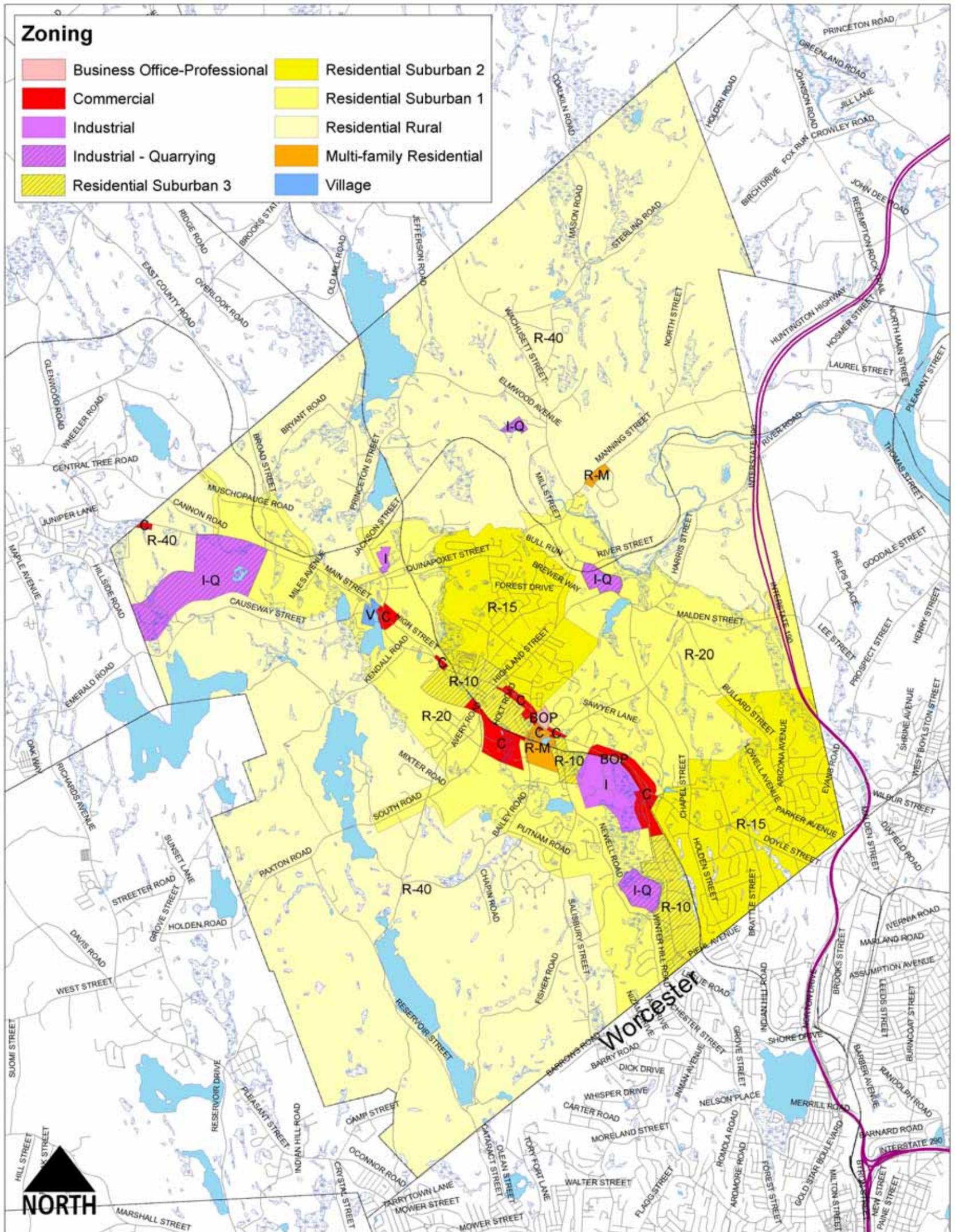
Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006 (to July)
Buildings	49	59	68	69	84	54	120	39	36	72	27
Units	49	59	68	69	84	54	120	113	42	86	28

Source: U. S. Census Bureau

2.6. Housing Densities

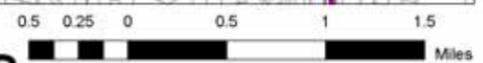
Holden has a moderate overall housing density, about 0.6 of an acre per housing unit. The smallest lot permitted is 10,000 sq. ft., about one-quarter of an acre. The largest minimum lot size is 60,000 sq. ft (about 1½-acre) in the I-Q Zoning District (for a single-family dwelling). Both the R-40 and R-1 districts require minimum lots of 40,000 sq. ft. The highest permitted residential density is in the R-M Zoning District that permits multi-family development and requires 10,000 sq. ft. per dwelling unit plus 5,000 sq. ft. for each dwelling unit more than 2. This works out to be 5,000 sq. ft. for each dwelling unit. The most densely developed residential areas are located along Main Street (Route 122A) in the Multi-family and R-10 Zoning Districts. These are the areas that permit residential development on 10,000 sq. ft. lots. There is no vacant developable land remaining in the R-10 district.

Eighty-six percent (86%) of all residentially zoned land requires 40,000 sq. ft. minimum size lots. Areas requiring 30,000 sq. ft. and 10,000 sq. ft. minimum size lots make up 11% and 2% respectively of residentially zoned land. There are only 67 acres zoned for multi-family residences, which is less than 0.3% of all residentially zoned land. The locations of each of the zoning districts are shown on Map 2.1. After learning in the year 2000 that the build-out population figure for the Town was over 30,000 people, the Town rezoned land from 20,000 to



Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners
Source: MassGIS & 2006 Orthophotos
Nov. 2006

Holden, Massachusetts



Map 2.1: Zoning

40,000 sq. ft. minimum lot size, and some other land from 15,000 to 30,000 sq. ft minimum lot size. As presented and discussed in the section on affordable housing, the objectives of increasing densities and creating more affordable housing could be aided by zoning more land for multi-family use and higher density (R-10, R-15 and R-20) single-family use. This can be done while still recognizing the overall objective of slowing growth. It is a means of directing some growth into lower cost housing. The amounts of vacant land in each zoning district are shown on Table 9.7 in the Land Use Chapter of this Plan (Chapter 9).

Zoning District	Designation	Lot Size	Predominant Use Allowed
Residential Rural	R-40	40,000 Square Feet	Single Family
Residential Suburban-1	R-1	40,000 Square Feet	Single Family
Residential Suburban -2	R-2	30,000	Single Family
Residential Suburban –3	R-10	10,000	One to Four Family
Residential –Multi-Family	R-M	10,000	Multi -Family
Commercial	C	10,000	Retail
Business Office Professional	BO-P	10,000	Professional Offices
Industrial	I	30,000	Industrial
Industrial – Quarrying	I-Q	30,000	Earth Excavation/Processing
Village	V		Mixed Use

2.7. Assessment of Housing Demand

Demand is high as indicated by the number and price of sales shown in Table 2.9. About 4% of the housing stock is sold each year. Table 2.10 also shows median selling prices of single-family and condominium housing in Holden for the period 1988 to 2006.

Table 2.10: Residential Sales in Holden, 1988 - 2006

Year	Number of Sales			Median Sales Price		
	1-Family	Condo	All Units	1-Family	Condo	All Units
2006 (7 months)	143	25	224	\$290,000	\$260,000	\$297,450
2005	267	51	412	\$289,900	\$267,000	\$289,900
2004	295	46	441	\$268,500	\$236,750	\$272,450
2003	266	74	424	\$255,000	\$158,438	\$246,450
2002	241	39	375	\$217,000	\$215,000	\$225,000
2001	256	18	363	\$193,500	\$162,500	\$195,000
2000	244	31	362	\$175,413	\$90,000	\$168,500
1999	290	34	392	\$159,250	\$102,750	\$150,000

Table 2.10: Residential Sales in Holden, 1988 – 2006 (continued)

Year	Number of Sales			Median Sales Price		
	1-Family	Condo	All Units	1-Family	Condo	All Units
1998	252	32	373	\$140,000	\$88,500	\$138,000
1997	245	24	317	\$132,500	\$110,500	\$126,500
1996	221	22	304	\$132,000	\$107,450	\$126,500
1995	178	25	283	\$123,750	\$118,250	\$117,000
1994	167	33	290	\$124,250	\$110,000	\$119,450
1993	174	31	304	\$126,000	\$89,400	\$115,000
1992	166	20	287	\$125,000	\$86,000	\$114,000
1991	137	27	242	\$132,000	\$78,000	\$115,000
1990	125	7	215	\$140,200	\$110,000	\$135,000
1989	124	14	245	\$142,250	\$155,200	\$139,000
1988	159	21	336	\$152,500	\$155,190	\$141,250

Source: The Warren Group, *Banker and Tradesman* [Note: Single Family plus Condo Units does not = Total Units because there are some other types of units that Banker and Tradesman does not identify in its report but includes in Total Units.]

From 1990 to 2000 the price of housing rose by an average of about 2.5% per year. Prices were fairly stable during that decade. Between 2000 and 2005 the average price rose by about 14% per year. The rate of increase appears to have dropped during the first 7 months of 2006 to about 3%, reflecting an overall slowdown in the national and regional housing markets.

Table 2.11 shows the relative position of Holden in the regional housing market. Holden ranks 3rd in sales price of all housing, and 4th in single family housing among the towns surrounding it.

Holden is in the middle of its neighbors relative to housing sales prices. Given that, and the desirability of living in Holden because of its schools, Town services and facilities, regional accessibility, and large amounts of open space it is likely that Holden will continue to have an active housing market, attracting developers and new residents and placing new pressures on Town services and facilities.

Table 2.11: Sales Price of Housing in Holden and Surrounding Towns, 2006 (through July)

Town	All Housing Units	Rank	Single-family Units	Rank
Princeton	\$347,150	1	\$377,500	1
Sterling	\$299,000	2	\$357,500	2
Holden	\$297,450	3	\$290,000	4
West Boylston	\$289,900	4	\$275,000	5 & 6
Rutland	\$285,500	5	\$275,000	5 & 6
Paxton	\$260,000	6	\$306,500	3
Worcester	\$229,900	7	\$235,000	7

Source: The Warren Group, *Banker and Tradesman*

Holden will continue to have an active housing market, attracting developers and new residents and placing new pressures on Town services and facilities.

2.8. Affordable Housing

An important goal for Holden is to move toward meeting the Commonwealth of Massachusetts objective of having 10% of its housing stock affordable. The Commonwealth of Massachusetts defines affordable housing as housing intended for occupancy by households earning up to 80% of median income (called low and moderate income households). Affordability is further defined as paying no more than 30% of income for housing costs. Eighty percent (80%) of median income is currently \$58,250 (in 2007) for a family of four, though in reality, most of our affordable housing is occupied by families of much lower income than that figure. Any affordable housing subsidized by federal dollars limits recipients to those earning less than 80% of median income. Currently 3.2% or 186 units in Holden are considered affordable, using Commonwealth of Massachusetts definitions. Town efforts through The Holden Affordable Housing Partnership Committee have helped to raise this figure from 2.7% to over 3.2%. Holden has 5,806 year-round housing units according to the 2000 Census (which is still used as a benchmark by the State). Ten percent would be 581 units.

The Town has 48 units of affordable subsidized units at Checkerberry Village. There are 80 units at Colony Retirement Homes, and another 58 units classified as affordable by the state. Table 2.12 shows these units. Subtracting the 186 units classified as affordable yields a figure of 395 new units needed to achieve the 10% objective. Table 2.11 also shows that 257 units have been proposed. While there is space in Holden, given current zoning and available developable land, for between 2,000 and 3,000 new units of housing, it is likely that the market would support only 1,450 new housing units by 2030 (See Table 2.2). About 40% of these new units would have to be affordable to meet the 10% criterion by 2030, when 775 units would need to be affordable.

Table 2.12: Existing and Proposed Affordable Housing Units as Defined by Mass. DHCD, June 2006

Project Name	Address	Type	Total 40B Units	Affordability Expires
Checkerberry Village	9 Flagler Drive	Rental	48	Never
Colony Retirement Homes	86 Reservoir St.	Rental	80	2020
Holden Commons	Towle Drive	Ownership	14	Never
Holden Commons	Towle Drive	Rental	8	Never
Holden Comm. Residence	1 Salisbury Street	Rental	4	2027
DMR Group Homes	Confidential	Rental	5	Not Available
Stone Ridge	1953 Main Street	Ownership	10	Never
Fisher Terrace	Fisher Road	Ownership	8	Never
Total Existing Units			177	

Table 2.12: Existing and Proposed Affordable Housing Units as Defined by Mass. DHCD, June 2006 (continued)

Project Name	Address	Type	Total 40B Units	Affordability Expires
Proposed Projects as of June 2006			Affordable Units	
Hill Woods			2	
Holden Hills			5	
Wachusett Woods			6	
Winterberry Hollow			246	Rental Units
Total Proposed Units			259	

Source: Mass. Department of Housing and Community Development and the Town of Holden

UPDATE ON OTHER PROJECTS

STONERIDGE ESTATES, Local Initiative Program Chapter 40B—The development consists of 40 three-bedroom units, ten of which are affordable. All ten units have been awarded to qualifying households.

HOLDEN HILLS ALYSSA REAL ESTATE – During the Special Permit process, the developer agreed to donate five affordable units to the Town. The units are currently be marketed.

FISHER TERRACE 40B – Chapter 40 B

32 units three bedroom duplex and triplexes, 8 affordable with 5 of the 8 units given Local Preference, lottery has not yet been conducted.

WACHUSETT WOODS – Affordable Housing By-law

Located in the Holden Sand and Gravel site approved for 39 lot single-family subdivision, 6 of the units will be designated as affordable.

WINTERBERRY HOLLOW – Local Initiative Program

A 246-unit apartment complex, containing a mix of two and three-bedroom units, currently before the Zoning Board in the public hearing process.

Under its current zoning provisions, Holden offers a density bonus if 15% of the units in a development are designated as affordable. Thirteen affordable units have been developed since adoption of this provision. Projected population growth means there will be some opportunities to create affordable housing through inclusionary zoning (a requirement that a developer include some affordable units in a proposed development), and other market oriented means such as density bonuses. As mentioned, Holden needs 40% of its new growth to be affordable, if it is to realize the 10% affordability goal. Another way to help meet the goal is to create new rental housing which can be counted as affordable under state guidelines. The 246 rental units proposed for Winterberry Hollow are a major step in this direction. Another way to produce affordable housing is to consider increasing the density bonus from one unit per acre to one unit per ½ acre.

2.9. Subsidized Units

The Holden Housing Authority owns 48 units of subsidized housing in Checkerberry Village, and manages another 8 units in Holden Commons. These are all elderly units with 13.6% of them available for persons under 60 years of age with a disability. There are no geriatric or congregate units. Checkerberry Village is a regional facility covering Holden and 4 surrounding towns. There is a waiting list for the elderly housing of about 6 months for residents of the 5-town region with veteran's preference, and about 18 to 36 months for other residents of the 5 towns and 1 to 2 years for residents outside these 5 towns. Checkerberry Village is a two-story development, resulting in a longer waiting period for the first floor units for those that cannot climb stairs to second floor units. There is a shortage of funds for maintenance of Checkerberry Village resulting in some deferred maintenance. There is a possibility that some discretionary funds of the Town could be assigned for maintenance at Checkerberry Village. Currently the Holden Housing Authority is acting as monitoring agent for Holden's affordable units to maintain local control and generate additional operating funds.

2.10. Income/Affordability Gap

2000 Census data can be used to estimate relative income distribution by quartiles. Table 2.13 shows numbers of Holden's households in income groups in 2000. 3.1% of individuals living in Holden were below the U. S. Government defined poverty level in 2000.

Table 2.13: Households and Household Income, 1999

Income	# of Households
Less than \$10,000	237
\$10,000 to \$14,999	213
\$15,000 to \$24,999	496
\$25,000 to \$34,999	396
\$35,000 to \$49,999	728
\$50,000 to \$74,999	1359
\$75,000 to \$99,999	939
\$100,000 to \$149,999	950
\$150,000 to \$199,999	257
\$200,000 or more	170
Number of Households	5,745
Median household income	\$64,297

Source: 2000 U. S. Census of Population

These data indicate the following income brackets by quartiles (rounded to the nearest \$100 and estimated for 2006 income using a U.S. Government inflation index of 112.44% from 1999 to 2006).

Table 2.14: Estimated 2006 Household Income Quartiles in Holden

Quartile	Income
First quartile	\$0 to \$42,600
Second quartile	\$42,600 to \$71,500
Third quartile	\$71,500 to \$83,300
Fourth quartile	\$83,300 and over

Source: 2000 U.S. Census of Population and Official Estimates of Inflation from 1999 to 2006

The average selling price of all residential units in Holden was \$335,000 in 2006. The annual income needed to buy the average priced home is \$91,227, based on a 10% down payment, 30% of income dedicated to house purchase, a 6.5% fixed-rate 30-year mortgage, and annual payments for homeowners insurance (\$500) and local real estate taxes (\$4,000). This means that about 80% of the households in Holden cannot afford to buy an average priced home in the Town.

...about 80% of the households in Holden cannot afford to buy an average priced home in the Town.

This situation has become more acute in recent years as the price of housing has increased faster than the average inflation rate. With the very recent slowdown in the housing market some relief may be offered, but it is likely that a majority of Holden households will still not be able to afford the average priced home in Town in the near future.

2.11. Implementation of an Affordable Housing Program

RKG Associates and Land Use Inc. prepared a detailed Housing Study in 2004 as part of Holden's Community Development Plan. That report recommended an implementation program for achieving a broader range of affordable housing that is still valid and should continue to be implemented to achieve the Town's affordable housing objectives.

Major recommendations from that report are (printed here essentially *verbatim*):

1. "Changing zoning districts is very difficult. The Town will accomplish more through carefully focused adjustments to key provisions of the Zoning Bylaws.
 - a. Reworking the formula for Cluster Developments should increase the incentives for this type of development. Market rate clustered units can provide an attractive choice of home while meeting some of the Town's desires for open space and natural resource protection. These incentives are unlikely to outweigh the market value of large, expensive single-family detached homes, however, without significant incentives through added numbers of units and a relatively smooth review and permitting process. Proactive, assertive adjustment is

required, not just tinkering. For example, instead of the current Special Permit requirement, the Town could choose to allow cluster development “by right” with clear standards. The Planning Board and Town Planner/Conservation Agent are currently working on options to improve the incentives to choose cluster over standard subdivision. These will go before Town Meeting for adoption by two-thirds vote.

- b. The recent market-driven inflation of housing costs shows the need for a mechanism to gain affordable units through the development process, and to maintain their affordability over time. The Town Planner/Conservation Agent has been exploring how such a provision might fit into Holden’s Zoning Bylaw. As with cluster, one key will be the Town’s willingness to negotiate extra housing units in exchange for desired and guaranteed affordable units. [Note: an affordable housing provision was added to the Holden Zoning Bylaws as Section XI.J.3.j in 2005. This provision allows a residential density increase in a project if at least 15% of the units are kept affordable. Two projects have been approved under the new provision in the last year, totaling 8 units.]
2. For the effort and resources expended, Holden may gain more desired affordable units and alternative choices through the Chapter 40B Comprehensive Permit Process rather than amending the Zoning Bylaw. The community should think of Chapter 40B as a tool to target needed development on sites where it will fit, without having to make fundamental changes in the overall Zoning Bylaw. Bluntly put, until Holden achieves 10% affordable units, the community will have to deal with Comprehensive Permits anyway, like them or not. In contrast, under the state’s new Planned Production approach, as long as Holden can make progress at a rate of 44 affordable units a year, the Town can reject a Comprehensive Permit that it finds unacceptable. A rate of 44 units per year also allows the Town to handle the service implications of achieving diversity and choice in housing. (Eighteen units of affordable housing have already been produced through Comprehensive Permits.)
 - a. The Town can continue to be receptive to Comprehensive Permits, working hard with the applicant to gain a combination of market rate and affordable units that will provide expanded choices for Holden, emphasizing the most needed types described in the Summary of Holden’s Housing Needs in the Community Development Plan. The Town can also work through the Zoning Board of Appeals Rules and Regulations, especially Chapter 7.4, Article VIII, Comprehensive Permit Chapter 40B Local Regulations. In addition, the Holden Affordable Housing Partnership Committee has also adopted an Action Plan and Guidelines for the Town of Holden (January 7, 2003). This document makes clear the key role of the Committee in working with other Town officials to review applications and work for the best fit between proposals, the site, and the community.

- b. At the same time, the Town should continue to reach out to owners of key properties to maintain contact and engage in discussions regarding the owners' current and future needs and desires for their property. Locally initiated "friendly" Comprehensive Permits provide a way for creative development (or combinations of development and conservation) that sensitively fit needed types of construction onto sites in ways that work for both the property owner and the community. "Key properties" includes lands discussed above that are currently in active agriculture, Chapter 61, Chapter 61A, and commercial recreation. Also discussed above are areas most suitable for higher density development, because they are already served by sewer or are within close proximity to the sewer system. In addition, the Economic Development Element's analysis of Development Opportunity Areas points out that housing alternatives can be major components of future development and redevelopment of the Holden Sand and Gravel site, and the 122A Corridor.

The Town will have most direct control over how a property is developed (or partially developed) if the Town owns that property. It is important to note that two efforts to designate Town-owned property for affordable housing failed. Two lots on Putnam Street failed a Town Meeting vote to develop a single-family home by Habitat for Humanity. A 100% grant from the State to do a feasibility study for Rice School reuse as affordable housing was denied for acceptance by the Town's Rice School Re-Use Committee. These two failed attempts highlight the need for any future use of Town-owned land for affordable housing to be preceded by outreach and education efforts to convince enough voters of the merits of the project.

The Town has proceeded with the disposition of the Rice School. A developer has been designated after issuing a request for proposals. No affordable units are included in the developer's proposal to create 25 condominium units. The Zoning Board of Appeals has approved variances requested for the project and the Planning Board has approved the site plan special permit and construction has begun.

The Town should continue to review each Town-owned and Town-reviewed and permitted property from the perspective of how a careful development or redevelopment might help meet local housing needs for choice and affordability. For example, the Town owns 76 acres on Bullard Street that is currently vacant. There is also a 20 to 40 acre site off Bailey Road and Salisbury Street for which a "40R" mixed use development has been proposed. A total of 56,000 sq. ft. in four 2-story buildings on about 25 acres is proposed to contain retail, office and about 70 units of housing.

Twenty percent (20%) of the housing units would be affordable. From the perspective of increased choice and affordability in housing, it is recommended that the Town establish a disposition process for selected Town-owned properties and issue requests for proposals for development of them that specifies preferred uses for the property, to include reuse and/or redevelopment for affordable housing units that meet needs specified in the Summary of Holden's Housing Needs in the Community Development Plan. The Request for Proposals (RFP) for developers should specify that the Town would welcome a friendly Comprehensive Permit to accomplish the most possible for the community, with a site plan that is sensitive to the surrounding neighborhood. As stressed above the Economic Development Section of the Community Development Plan, the proceeds from such a disposition process should be targeted toward funding other key priority growth management efforts."

2.12. Other Findings and Observations

An emphasis should be put on creating rental housing because it can be counted as meeting affordability goals, although there is some sentiment in Town to minimize rental housing. An alternative means of meeting the target under the provisions of Chapter 40B is to have 1.5% of all residentially, commercially and industrially zoned land dedicated to affordable housing. In Holden this means about 342 acres of land devoted to affordable housing, a little less than the area of the Trap Rock Gravel site. The site contains 420.6 acres of land currently used and zoned for quarrying.

The most effective means of providing affordable housing would be to establish a fund for purchase of land for affordable housing. Holden has not adopted the

The most effective means of providing affordable housing would be to establish a fund for purchase of land for affordable housing.

Community Preservation Act, which potentially could have provided some funds for purchasing land for affordable housing. (The Town has voted down the Community Preservation Act twice. This Act would provide State matching funds for local funds generated by a local property tax surcharge of between 1% and 3%. Funds generated by the Act can be used for open space, affordable housing and historic preservation.) Establishing a land trust with Town funds that could be supplemented with private donations is another means of providing money to purchase land for affordable housing. Land Trusts can become self-sustaining through sale of land to developers.

Of the three major methods of creating more affordable housing the most realistic is to continue to try to meet the target of 44 units per year through a combination of "friendly" 40B projects (projects developed in close consultation

with the Town); possible use of Town-owned land in conjunction with non-profit housing developers; and encouragement of selective rental developments. Zoning 342 acres for affordable housing on one or more sites would probably result in development in inappropriate areas (remote areas without good access to shopping and services, and/or areas that should be preserved for open space).

Holden has an inventory of 423 vacant lots in approved subdivision. Additionally, there are potentially 517 more lots that are proposed in new subdivisions (See the appendix to this chapter). This total of 940 lots has the potential to locate a substantial amount (67%) of new residential development. Only about 1/3 of new residential development is subject to planned decisions to be made in the future. While not all of these lots will be developed in the future it is likely that a substantial number of them will be in Holden's higher and moderate density residential areas located predominately in the Chaffins and Main Street areas of Town. Most of the undeveloped land in the other areas of Town is permanently protected open space. The Chaffins and Main Street areas are also served by Holden's water and sewer systems. The Town has a real opportunity to direct most of its future residential development into these areas with judicious increases in density in some areas, notably in the Main Street Corridor, by increasing the amount of multi-family, village zoning and higher density single-family zoning in this area. This could result in the preservation of the existing character of the Town, while accommodating some of the projected increase of about 1,400 new housing units over the next 20 – 25 years. It would also recognize the trend for smaller households, optimize the use

The Town has a real opportunity to direct most of its future residential development into these areas with judicious increases in density in some areas, notably in the Main Street Corridor, by increasing the amount of multi-family, village zoning and higher density single-family zoning in this area.

of existing sewer and water services, provide a reason to increase public transportation on Main Street, and increase patronage of Main Street businesses.

Holden has 449 units of age-restricted housing that is under construction or proposed, according to the Citizens' Housing and Planning Association (CHAPA) 2005 report, "Age-Restricted Active Housing in Massachusetts." This constitutes 7% of the existing housing stock in Holden (6,230) and 32% of new units (1,400) forecast for 2030. According to the CHAPA 2005 report, Massachusetts as a whole is being overbuilt with age-restricted housing. The same is true for Holden. Many communities have encouraged age-restricted housing because it has limited impact on local school systems, and because it offers a means for existing residents to stay in Town when they no longer want to, or are unable to care for, their existing (usually larger) homes. Some age restricted housing

meets needs for assisted living/progressive aging, from mildly assisted to full care nursing homes). Such a development is appropriate for Holden.

Fifty-eight percent (58%) of builders reported that buyers or renters of age-restricted housing were local residents, in a nationwide 2003 survey on senior housing done by the National Association of Homebuilders. The CHAPA Report estimates that the number of age-restricted housing units that can be supported by the statewide Massachusetts market might optimistically reach about 3,500 units by 2010 and 4,300 units by 2020.

About 15% to 17% of all homebuyers in Massachusetts are over age 55. Applying the upper 17% figure to Holden, along with the optimistic figure of 19% of these homebuyers seeking age-restricted housing, yields a figure of about 45 units by the year 2030 ($.17 \times 1,400 \text{ new housing units} \times .19 = 45$). This assumes all units are purchased. If all units were rented, the proportion of home renters in the over 55-age group is estimated to be 34%. This yields an estimate of about 90 units applied to the Holden forecast of 1,400 new housing units ($.34 \times 1,400 \times .19 = 90$). Both figures (45 and 90) are substantially below the figure of 449 units of age-restricted housing now under construction or proposed. [As a guide, more than 95% of all active age-restricted housing units in Massachusetts are ownership units.] It is strongly recommended that Holden carefully review any proposals for age-restricted housing on the grounds that markets for them may not exist, and that once built, the developers may seek relief by having the age restrictions removed.

This is not to say that 449 units of age-restricted housing may not be sold or rented in Holden. Several communities in Massachusetts have permitted development of much larger numbers of age-restricted housing units. For example, Brooksby Village in Peabody has over 1,000 units and plans to build more. Oak Point in Middleborough will have 1,100 units at build-out. Linden Pond in Hingham has about 300 units. Plymouth has 1,081 units existing, under construction or proposed. These developments offer a wide variety of amenities and services, including health services for people as they age. Currently Holden does not have any of these assisted living developments. The basic point is that age-restricted housing is a very popular type of development that is being overbuilt. Holden needs to be cautious about encouraging and permitting more of them. An opportunity may be presented to

age-restricted housing is a very popular type of development that is being overbuilt. Holden needs to be cautious about encouraging and permitting more of them.

ask developers to set aside some units for affordable housing as a condition of granting them relief from the age-restricted provisions. Of course impacts on

schools and Town services should be considered in making any decisions about relief from age restriction provisions.

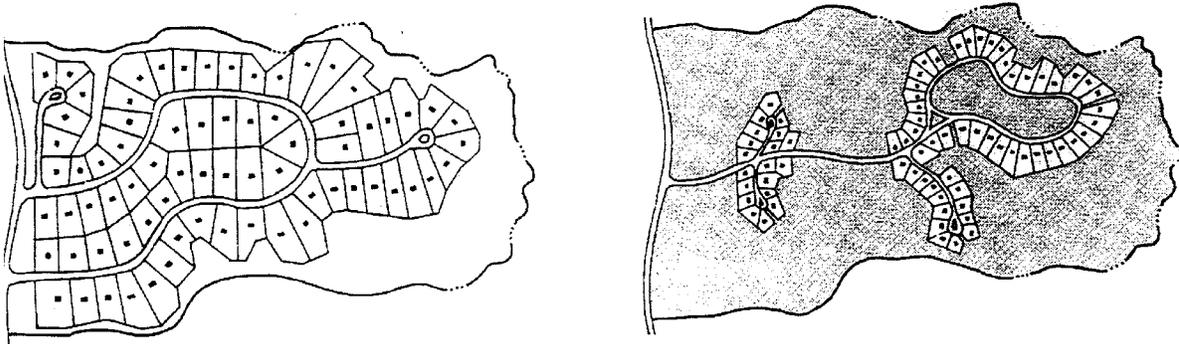


Figure 2-1: Comparison of conventional subdivision development on left with the same number of clustered units on the right.

Cluster zoning should be encouraged in all areas of Holden, but especially in the low-density semi-rural areas where cluster design can help to maintain the open character of these areas. Cluster development is also more efficient because it reduces the length of roadways and utility lines. Moreover, it provides

Cluster zoning should be encouraged in all areas of Holden, but especially in the low-density semi-rural areas where cluster design can help to maintain the open character of these areas.

opportunities to create common recreational facilities such as meeting rooms, swimming pools, tennis courts and playing fields. It is recommended that a density bonus of 17% be granted to developers who propose cluster development. (See the Implementation Chapter under Land Use.)

2.13. Fiscal Impact of Residential Development

Table 2.14 shows the fiscal impact of adding 20 units of housing to Holden. Fiscal impacts are the positive contributions and costs to the Town Revenues and Expenditures estimated by adding 20 new housing units. Housing units are classified by number of bedrooms because in general bedrooms reflect the number of people who will live in a housing unit. The fiscal impact analysis shows four types of housing with the number of bedrooms from 1 to 4. To contrast housing development with the option of buying land and keeping it open the last column shows the costs to the Town for maintaining open land. Annual costs for various Town expenditures associated with adding new people are calculated from expenditure data in the 2005 Holden Town Report.

The analysis shows that each new 4 bedroom housing unit costs the Town \$6,250. Each new 3 bedroom unit costs the Town \$3,832, while 2 bedroom units show a small positive contribution of \$283 per unit, and 1 bedroom units show a

positive contribution of \$1,303 per unit per year. Keeping land open by buying it costs the Town an estimated \$303 per year. This reflects the small costs incurred for police and fire protection and public works maintenance for vacant

...each new 4 bedroom housing unit costs the Town \$6,250. Each new 3 bedroom unit costs the Town \$3,832, while 2 bedroom units show a small positive contribution of \$283 per unit, and 1 bedroom units show a positive contribution of \$1,303 per unit per year. Keeping land open...costs the Town an estimated \$303 per year.

property. This figure may be larger if special efforts are required because fires are started or trash is dumped on the property. If open land can be kept in private hands and real estate taxes are paid on it, its fiscal impact would probably be positive.

The data used in the fiscal impact analysis are shown in Table 2.15. Data for the numbers of school children and residents associated with each housing type were taken from the U. S. Census and adjusted to approximate the number of school children and residents in Holden. Data for assessed values of each housing type were estimated using Holden Assessors' records and current real estate listings.

Calculations of costs are done by multiplying the number of school children or residents in each type of housing unit (type identified by number of bedrooms) by the annual cost per student or resident. These figures are then multiplied by 20 units to show the costs of a typical housing development. Revenues are calculated by multiplying the average assessed value of homes (again, shown by numbers of bedrooms) by the Town tax rate. Again these are multiplied by 20 housing units to show the figures for a typical housing development. All data are from the Holden Town Report for 2005, the U.S. Census Bureau, other Holden town collected data and real estate listings.

Table 2.15: Fiscal Impact of Residential Development on Holden’s Expenditures and Revenues

Holden Town Services	Annual Cost Per Person or Student*	20 Single-family Detached 4-BR Units	20 Single-family Detached 3-BR Units	20 Town House 2-BR Units	20 Apartment 1-BR Units	Land Purchased by Town & Kept Open
School (Per Student)	\$6,003	\$144,072	\$96,048	\$24,012	\$0	
Police (Per Person)	\$103	\$7,622	\$6,386	\$4,120	\$3,296	\$103
Fire	\$51	\$3,774	\$3,162	\$2,040	\$1,632	\$51
Public Works	#149	\$11,026	\$9,238	\$5,960	\$4,768	\$149
Human Services	\$8	\$592	\$496	\$320	\$256	
Culture	\$35	\$2,590	\$2,170	\$1,400	\$1,120	
Debt Service	\$200	\$14,800	\$12,400	\$8,000	\$6,400	
Health Insurance	\$48	\$3,552	\$2,976	\$1,920	\$1,536	
Pension	\$30	\$2,220	\$1,860	\$1,200	\$960	
General Government	\$368	\$27,332	\$22,816	\$14,720	\$11,776	
Town Cost Totals		\$217,480	\$157,552	\$63,692	\$31,744	\$303
Town Revenue Totals		\$92,480	\$80,920	\$69,360	\$57,800	\$0
Net Fiscal Impact		-\$125,000	-\$76,632	\$5,668	\$26,056	-\$303
Per Unit Fiscal Impact		-\$6,250	-\$3,832	\$283	\$1,303	

*Source: Holden Town Report for 2005

Sources of information for Table 2.15

2005 Population	17,036	Source: Holden Town Census
2005 School Enrollment	3,034	Source: Holden School Department
Tax Rate (FY2007)	\$11.56	
School Children in 4 BR Unit	1.2	Source: U. S. Census Bureau
School Children in 3 BR Unit	0.8	“
School Children in 2 BR Unit	0.2	“
School Children in 1 BR Unit	0.0	“
Residents in 4 BR Unit	3.7	Source: U. S. Census Bureau
Residents in 3 BR Unit	3.1	“
Residents in 2 BR Unit	2.0	“
Residents in 1 BR Unit	1.6	“
Ave. Assessed Value of 4 BR Unit	\$400,000	Source: Holden Assessors’ Office & Real Estate Listing
Ave. Assessed Value of 3 BR Unit	\$350,000	“
Ave. Assessed Value of 2 BR Unit	\$300,000	“
Ave. Assessed Value of 1 BR Unit	\$250,000	“

3. NATURAL RESOURCES

One of the primary goals of the Master Plan is to determine ways to help preserve Holden's character. Natural resources and the wildlife found in the Town's open spaces and residential areas are defining aspects of that character. Holden is fortunate to have extensive woodlands, a network of streams and wetlands and some important remaining natural resource areas—including the Quinapoxet River, Asnebumskit Brook, Worcester Brook, Poor Farm Brook, Holbrook Hill, Sergeant Hill, Christian Hill, Davis Hill, Holt Hill, Smith Hill, Kendall Hill, Stonehouse Hill, Maple Spring Pond, Chaffin Pond, and several reservoirs. Watershed land owned by the state and the City of Worcester provides an important level of protection for many of these natural resource areas.

3.1. *Issues and Tradeoffs Involved in Natural Resources*

The major natural resource issues are protection of important resource areas, like wildlife habitats, large forest areas, agricultural areas, and watershed areas, and guiding future development in a way that preserves connections between protected natural areas. Protected areas and the connections between them are major attributes of Holden's character. Tradeoffs involve balancing the costs of protecting these resource areas and implementing regulations that encourage private developments to maintain connections with the benefits of enhancing Holden's character.

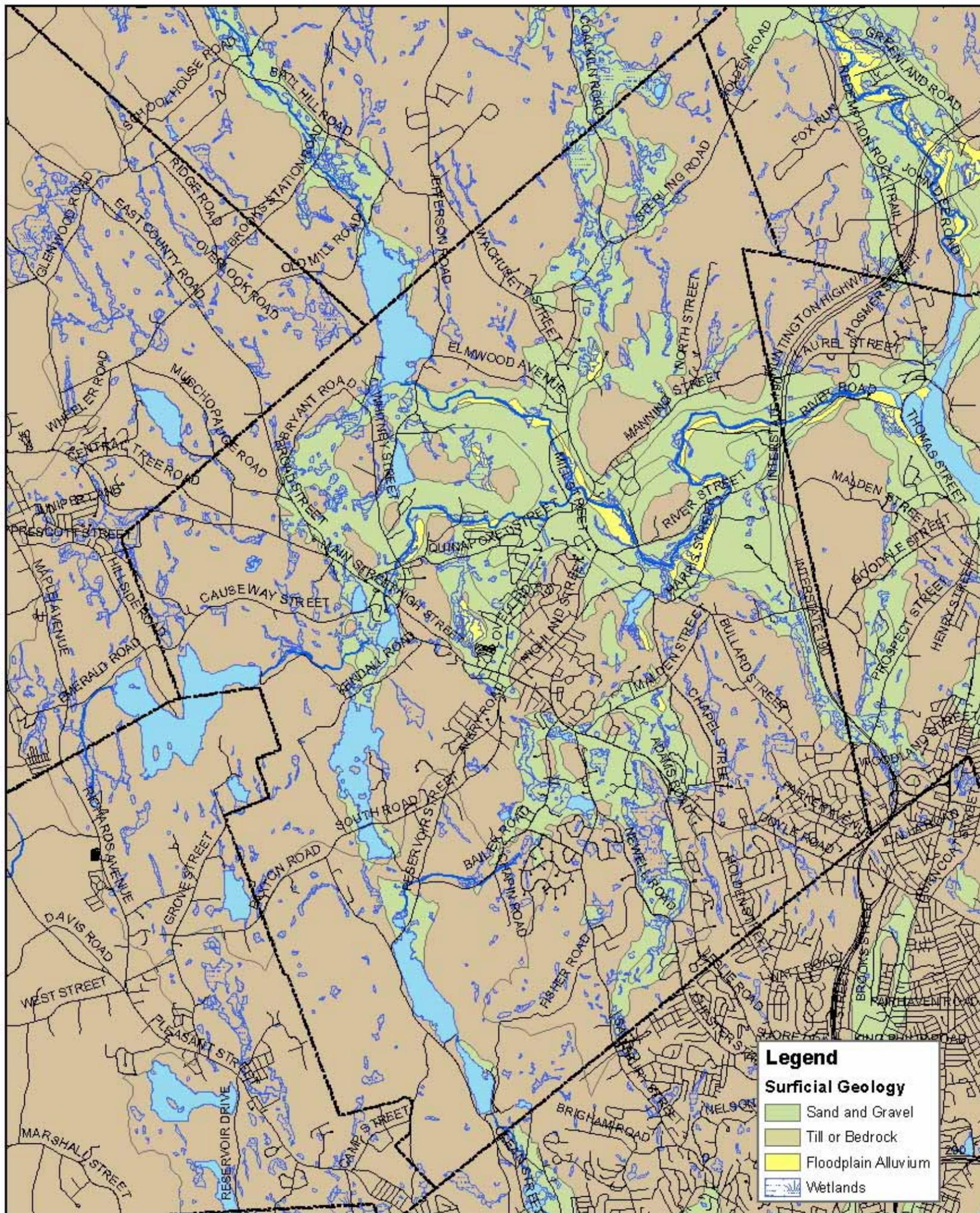
3.2. *Major Recommendations for Natural Resources*

- Protect large forested areas to avoid forest fragmentation
- Identify and protect vernal pools and other critical wildlife resources
- Continue to protect important agricultural areas
- Increase public access to ponds and streams for recreational uses
- Increase appropriate public access to watershed protection areas
- Provide special protection for forested slopes to preserve views and reduce erosion and stormwater runoff.

3.3. *Geology, Topography, and Soils*

3.3.1. *Surficial Geology*

Surficial geology is the underlying basis for both natural systems and human development and provides important information about an area's environmental and economic potentials and vulnerabilities. The glaciers that covered New England more than 12,000 years ago left their mark on Holden. The advance of the mile-thick layer of ice scraped some hills down to bedrock and its retreat left deposits of till, a mixture of stones, clay, and other material. Glacial till tends to have moderately or poorly drained soils with many stones and rocks. Areas of



Source: MassGIS
 Date: Sept. 2006
 Community Preservation Associates

Holden
2008 Master Plan
 Map 3.1: Surficial Geology



sand and gravel, which were deposited as outwash as the glaciers melted and retreated, lie between most of these till deposits and areas of bedrock. Floodplain alluvium deposits settled out onto flat areas or wetlands, like areas along the Quinapoxet River, after the glaciers retreated. These low-lying, water-borne deposits are generally not suitable for development. Because of the Town's glacial legacy, many of the soils in Holden tend to be poorly drained or rocky with the exception of those soils that developed over the sand and gravel and some till deposits. Map 3.1 depicts the surficial geology of Holden.

3.3.2. Topography and Slope

Holden has a maximum elevation of 1,395 feet above mean sea level on Asnebumskit Hill at the Paxton/Holden line. The lowest point is about 550 feet on the Quinapoxet River as it flows into West Boylston. Elevations of 650 - 750 feet above mean sea level are more common throughout the Town. In general, slopes are gentle to moderate and provide interest by offering views and variety in the landscape. Slopes tend to be a bit steeper in the western and northern parts of Town and on some hillsides or riverbanks. Slopes over 15% (about 7% of the Town's total area) provide some limitation to many types of development but usually none that can't be overcome.

3.3.3. Soils

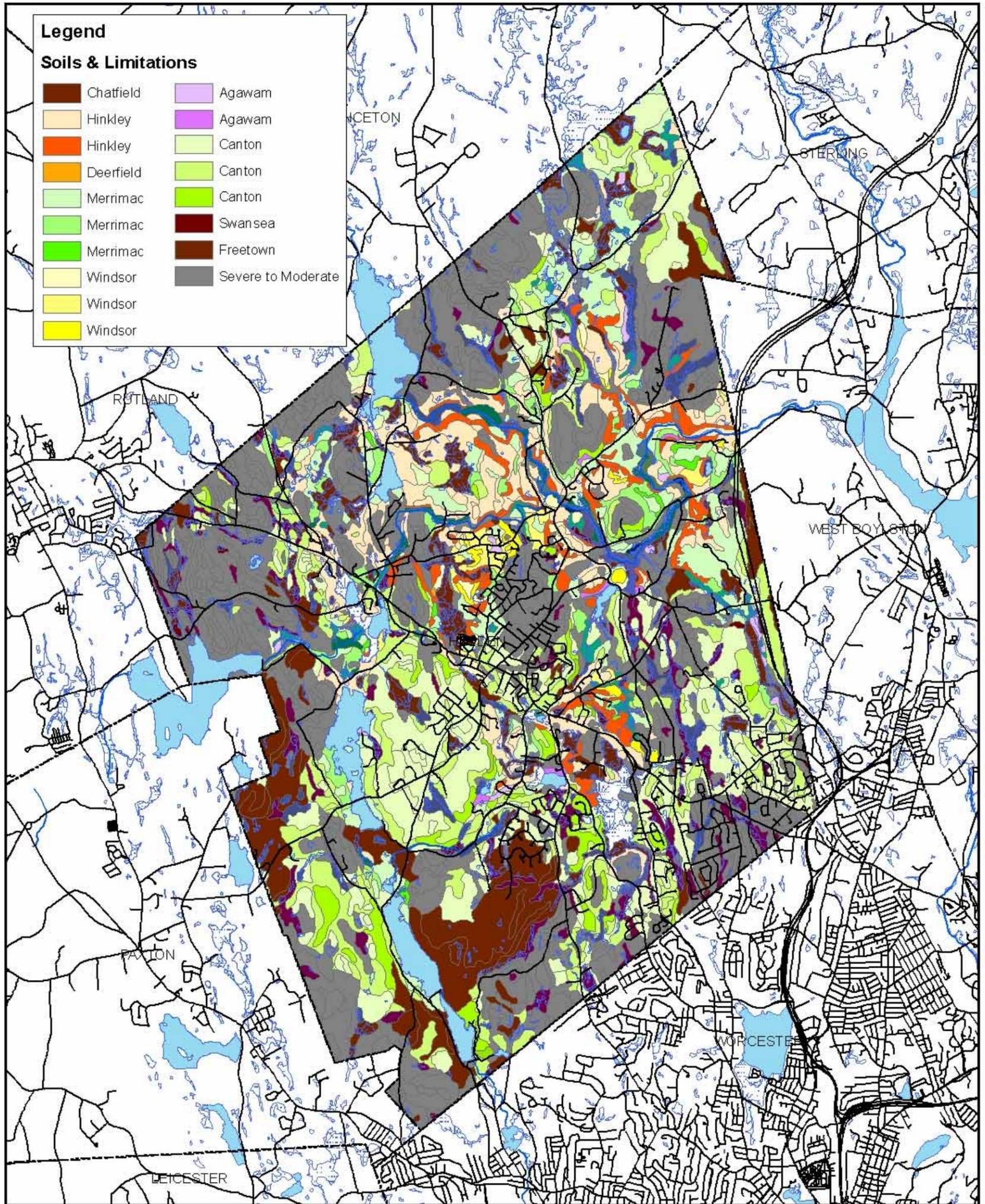
The following map (Map 3.2: Soils and Limitations) indicates that most of Holden's soils fall into the Paxton-Woodbridge-Canton and Hinckley-Merrimac-Windsor groupings. Soil types and their general limitations for development are presented below (note the lighter colors on the map indicate fewer limitations for development). It is important to note that the development limitations cited below are from the U. S. Department of Agriculture's Natural Resources Conservation Service (NRCS) descriptions of each soil class. The development limitations described by NRCS are frequently associated with the ability to utilize such soils for on-site septic systems. With state assistance, Holden has added approximately 35 miles of sewers from 1997 to 2005 and development limitations previously imposed by soils unsuitable for septic systems have been eliminated over significant portions of Town.

Dominant soil classes are listed below:

Chatfield-Hollis Rock Outcrop complex—These soils have up to 90% rock outcrops and are generally unsuitable for septic systems or most types of construction.

Hinckley sandy loam—These soils have few limitations for development other than slope. The darker color on Map 3.2 has slopes more than 15%.

Deerfield sandy loam—These soils have moderate to severe limitations for development because of high water table.



Source: MassGIS
 Date: Sept. 2006
 Community Preservation Associates

Holden
2008 Master Plan
 Map 3.2: Soils and Limitations



Merrimac fine sandy loam—These soils have severe limitations for septic systems because of poor filtration. They present slight limitations for roads, residential or commercial development except in areas with slopes greater than 8% indicated in progressively darker colors, which present an increasingly degree of development difficulty.

Windsor loamy fine sand—These soils have severe limitations for septic systems because of poor filtration and slight limitations for roads, residential or commercial development. Areas with slopes greater than 8%, indicated in progressively darker colors, have more limitations for development.

Agawam fine sandy loam—These soils have severe limitations for septic systems because of poor filtration and slight limitations for roads, residential or commercial development. Areas with slopes greater than 8%, indicated in progressively darker colors, have more limitations for development.

Canton fine sandy loam—These soils have severe limitations for septic systems because of poor filtration and slight limitations for roads, residential or commercial development. Areas with slopes greater than 8%, indicated in progressively darker colors, have more limitations for development.

Swansea and Freetown mucks—These soils have severe limitations for all types of development because of wetness. Development on such soils is generally prohibited by wetland regulations.

Severe to Moderate Limitations—These soils include Sudbury, Paxton, Walpole, and Woodbridge soil types and have severe to moderate limitations for development because of wetness and slopes.

The development limitations imposed by soils include high ground water, which may limit the installation of septic systems and basements; stones or boulders, which may increase construction costs; or shallow soils over bedrock, which may limit construction and increase costs. The largest areas with few limitations are southwest and north of the Town Center. Since some of these areas north of the Town Center overlie sand and gravel deposits they may present a hazard for contamination of ground water if they are used for septic system absorption fields. Many of the soils in these areas readily absorb but do not adequately filter septic system effluent. Slope is more of a limitation for commercial development than it is for residential development. As noted above, in many areas of Holden, municipal sewers minimize the development limitations that would otherwise be imposed by some soil classes.

3.4. Water Resources

3.4.1. Quinapoxet River and Other Surface Water Resources

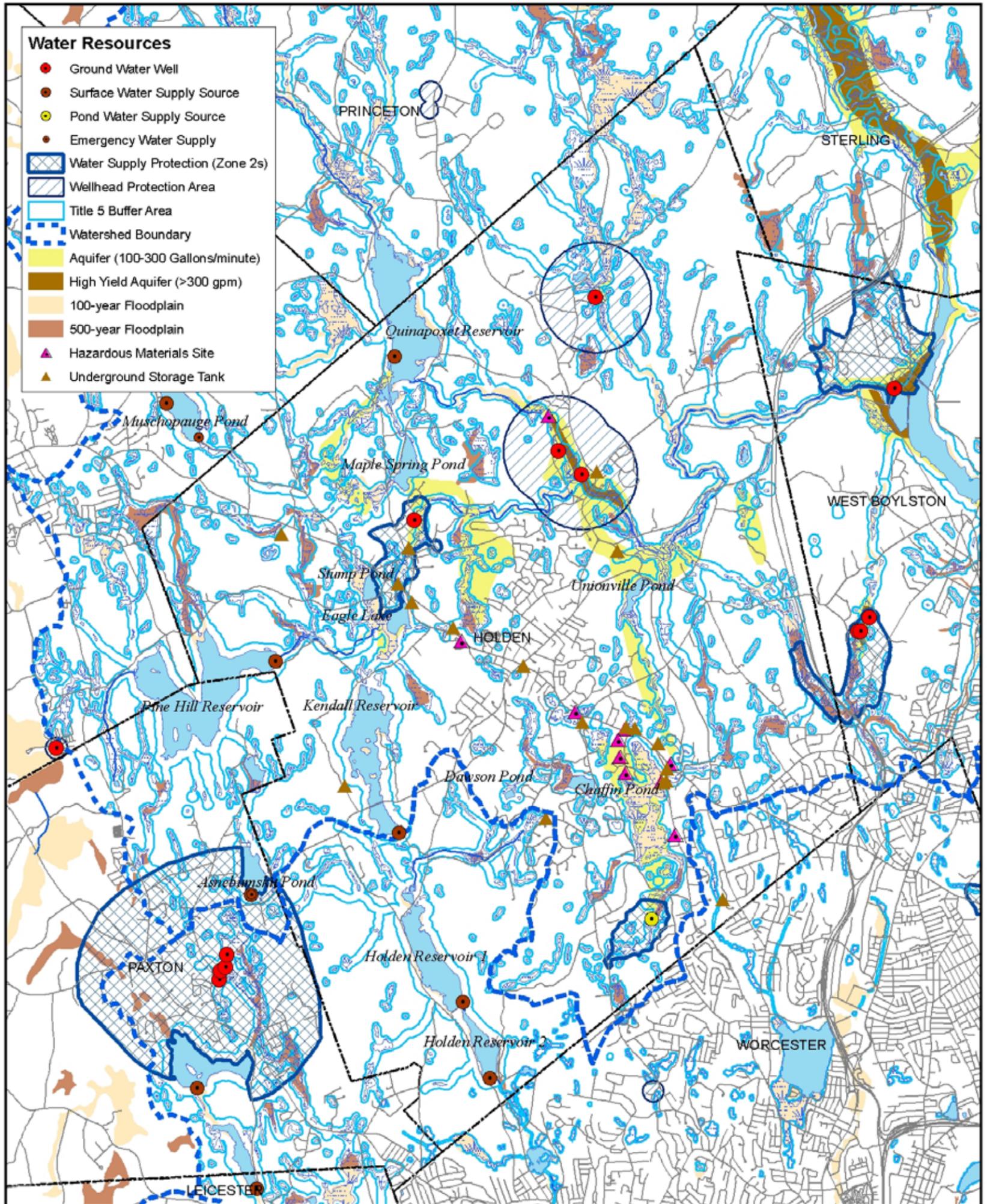
One of Holden's prize natural resources is the Quinapoxet River. More than six miles of the river's 7.4 miles run through the Town. Beginning at the Quinapoxet Reservoir, this river corridor offers Holden opportunities for active and passive recreation, education, and habitat preservation. Importantly, it also serves as part of the regional Metropolitan Boston water supply, while Holden residents are not consumers of this potable water. The Quinapoxet is a major tributary of the Wachusett Reservoir, located in West Boylston. The Wachusett Reservoir is part of the water supply system for the City of Boston and many of its surrounding communities. Protection of this water resource is regulated by the Department of

Conservation and Recreation, DCR, (formerly the Metropolitan District Commission). DCR has greatly increased land acquisitions for the purposes of water quality protection. These open space acquisitions provide great aesthetic and passive recreational resources for Holden. DCR also regulates, through the Watershed Protection Act Regulations, development in close proximity to the mapped rivers and streams that are tributary to the Wachusett Reservoir. DCR regulations also limit development on some mapped areas of sand and gravel



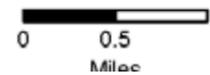
These open space acquisitions provide great aesthetic and passive recreational resources for Holden.

deposits. Holden is on the divide between two watersheds. The Nashua Watershed is to the north and includes most of the Town. The Blackstone Watershed to the south and southwest includes the area around Holden Reservoirs 1 and 2. As noted below, the reservoirs in this area form the backbone of the City of Worcester public water supply system. The City of Worcester owns and protects significant tracts of undeveloped Holden forestland within the watershed to the reservoirs. Water from a significant portion of the land that lies within the natural drainage basin to the Quinapoxet River (and thus the Nashua River watershed) is collected within a series of reservoirs and



Source: MassGIS
 Date: Sept. 2006
 Community Preservation Associates

Holden
2008 Master Plan
 Map 3.3: Water Resources



transmitted by man-made diversions in the City of Worcester water supply system. Outflows from Maple Spring Pond (also known as Peter Carr Pond) enter the Quinapoxet Reservoir. Water from the Quinapoxet Reservoir provides some flow to form the headwaters of the Quinapoxet River, but in large part is pumped out of the Nashua River watershed to the City of Worcester reservoir system in the southern part of Holden. Similarly, water from Pine Hill Reservoir (located mostly in Paxton and Rutland), Stump Pond, Eagle Lake, and Kendall Reservoir is directed, in large part to Holden Reservoir #1, within the Worcester potable water system.

Notable ponds in Holden include: Dawson Pond, Chaffin Pond, Eagle Lake and Stump Pond, Maple Spring Pond, Cournoyer Pond, and Unionville Pond. All of the reservoirs (Quinapoxet, Pine Hill, Kendall, and Holden Nos. 1 and 2) are restricted from public access of any kind. Eagle Lake has a Town beach and a shallow boat launch area. Other ponds, including Dawson, Maple Spring, Chaffin, and Unionville lack designated public access areas but are frequented by fishermen and other users of small boats. Major streams in Holden include: Wadsworth Brook and Tatnuck Brook that flow into Holden Reservoir 1 along with Silver Spring Brook and Scott Brook; Poor Farm Brook that flows into Chaffin Pond; Chaffin Brook that flows into Unionville Pond; Warren Tannery Brook; Asnebumskit Brook that flows into the Quinapoxet River; Cold Brook that flows into Cournoyer Pond; Trout Brook that also flows into the Quinapoxet River; and Ball Brook that flows into Trout Brook. In total there are 362 acres of open water in Holden.

3.4.2. Water Supply

As noted above, Holden is regionally important as a water supply resource. In addition to the Quinapoxet River and Reservoir, there are four other water supply reservoirs (Pine Hill Reservoir, Kendall Reservoir, and Holden Reservoirs 1 and 2) located in Holden and owned by the City of Worcester. The City has recently increased its efforts to permanently preserve surrounding land. In the fall of 2004, Holden expanded its purchase of water from the City of Worcester, which is now the Town's largest water supplier with the remainder of the supply from Town of Holden wells. Muschopauge Pond was a shared water resource with neighboring Rutland; the Pond was taken off line at the end of 2000 and is now utilized as an emergency supply. Holden should be cognizant of its need to protect its own water resources and the water resource areas of its neighboring towns. Low flow because of water withdrawals, and contamination can be concerns for surface water resources. Protection and conservation of the water resources in the area requires regional cooperation.

Approximately 80% of the Town is served by public water. In addition to the Worcester reservoirs, Holden can draw water from five Massachusetts Department of Environmental Protection (DEP)-permitted community wells that

tap ground water aquifers. These wells include; two gravel packed wells along the Quinapoxet River, a tubular well field on Mason Road, a tubular well field on Mill Street, and another gravel packed well on Spring Street. There is also a well field at Poor Farm Brook off Newell Road that has not received DEP approval due to potential wetland drawdown effects on wildlife.

3.4.3. Title 5 Regulations

The Water Resources Map shows the Title 5 buffer areas of the Massachusetts Environmental Code (310 CMR 15.00) around mapped streams, ponds, and wetlands. Not all streams and wetlands are mapped, and there are additional buffer areas around these unmapped areas as well. The buffer area is 50 feet around all hydrologic features and wetlands, except within the drainage basin for a public surface water supply (most of Holden is in this category), where the buffer zones are increased to 100 feet around wetland features, 200 feet around streams and ponds, and 400 feet around public surface water supplies (i.e. designated reservoirs). These buffer areas are intended to help prevent the contamination of water supplies from private septic systems by prohibiting construction of such systems within the buffer areas. While most of Holden lies within the watersheds of the City of Worcester or DCR reservoirs, municipal sewers eliminate the need for septic systems in nearby areas and Title 5 regulations do not come into play in such areas.

Map 3.3: Water Resources depicts the major water resources in Holden. The reader should note that Map 3.3 should be viewed only generally, because of the subtleties that are difficult to depict graphically. These include the fact that Title 5 septic system buffers are depicted only around large wetland area, while buffers exist around smaller, unmapped wetlands as well. Also, as noted in section 3.4.1 above, water from the ponds and reservoirs in the northwest part of Holden is diverted in large part from the Quinapoxet River/Nashua River watershed to Holden Reservoir # 1 within the Blackstone River watershed.

3.4.4. Wetlands

Wetlands, including both forested wetlands (1,188 acres) and non-forested wetlands (395 acres), are an important water resource in Holden. They play a critical role in flood control and in maintaining water quality. There are no expansive areas of wetlands. Instead, smaller wetlands are found scattered

Carefully orchestrated access to some of these wetlands could increase community awareness of their value and interest as natural habitat. Examples can be found at the trails at Trout Brook Reservation and the bog boardwalk at Poutwater Pond.

about the Town. These wetlands provide visual variety, wildlife habitat, and help maintain a healthy environment. Carefully orchestrated access to some of

these wetlands could increase community awareness of their value and interest as natural habitat. Examples can be found at the trails at Trout Brook Reservation and the bog boardwalk at Poutwater Pond. More information on wetlands will be provided in the section on vegetation.

In 1996, the Massachusetts Rivers Protection Act amended the State's Wetlands Protection Act to establish an additional wetland resource area: Riverfront Area. Streams that are perennial (i.e. those which flow all year except during periods of drought) are designated as "Rivers" and the land within 200 feet of each side of the channel is protected from most incursions under the Massachusetts Wetlands Protection Act regulations as "Riverfront." The Holden Conservation Commission administers the state's Wetlands Protection Act regulations. The Conservation Commission also regulates wetlands in Town under the authority of the Holden Wetlands Protection Bylaw, which was adopted by the Town in 2001 to provide additional protection to these important resources.

3.4.5. Aquifers

Some important aquifers or ground water recharge and source areas are found within the boundary boundaries of Holden. A small high yield aquifer [coarse sand and gravel soils with a potential well yield of more than 300 gallons per minute (gpm)] lies under the Quinapoxet well fields. Medium yield aquifers (100 to 300 gpm potential well yield) are located along Asnebumskit Brook and Warren Tannery Brook and along Chaffin Brook and Unionville Pond. Another medium yield aquifer is located along a segment of Trout Brook. The Town's existing water supply wells are located on the Quinapoxet aquifer and at these medium yield aquifers.

3.4.6. Hazardous Material and Underground Storage Tank Sites

The Water Resources Map also shows sites of known spills or releases of oil or hazardous materials and underground storage tanks. These sites are potential sources of contamination for water supplies. There are nine oil or hazardous material sites in Holden, mostly concentrated along Main Street. Contaminated sites are classified under DEP regulations based upon the degree of risk they pose to potential human and environmental receptors. Sites are classified in decreasing degree of risk as Tier 2, 1D, 1C, 1B, and 1A. Six Tier 2 sites are located either on Main Street or on Industrial Drive. Other sites include one at 770 Main Street (Tier 1C); one at 944 Main Street (Tier 1D); one 1401 Main (Tier 1D); and one at South Elmwood Ave. (Tier 1D). All of these sites are under cleanup orders or their cleanup has been completed. Tier 1 sites require a state permit.

There are seventeen known underground storage tank locations in Holden. Most of these are also located along Main Street but some are scattered in other parts of Town.

3.4.7. Floodplains

The significant floodplains exist along the Quinapoxet River, its tributaries, and their associated wetlands. Holden has 1,507 acres in the 100-year floodplain, and an additional 494 acres that are subject to flooding in a 500-year flood. These flood-prone areas serve as giant sponges that can soak up enormous amounts of water and protect downstream areas more suitable for development and already developed areas from more severe flooding. Existing environmental regulations restrict development in such area.

3.4.8. Exotic Weeds

Five water bodies in Holden have been found to have populations of exotic weeds. They are Chaffin Pond, Dawson Pond, Eagle Lake, Stump Pond, and Unionville Pond. Exotic weeds often crowd out native vegetation because they have few if any natural predators to control their growth. They can expand to become a nuisance and impair water quality. Currently, little is being done to manage exotic weeds in the ponds. To minimize the spread of such weeds, residents and businesses should be encouraged to minimize the use of fertilizers, which contribute to weed growth. Similarly, efforts should be made to ensure that all septic systems are fully functional and that connections are made to the sewer system, where feasible.

3.5. Wildlife Resources of Holden

Many would look at the Town of Holden and perceive its undeveloped land, the few existing and former agricultural areas, forests, and wetlands as being the dominant land uses. In fact, this undeveloped land now constitutes about 75% of the Town's total area. In addition to being home to about 16,000 human residents, Holden is home to a diversity of wildlife. In fact, Holden has four areas identified by the state's BioMap Project as "core habitats" for conserving biodiversity for future generations. The Natural Heritage and Endangered

Holden has four areas identified by the state's BioMap Project as "core habitats" for conserving biodiversity for future generations.

Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife has mapped these Core Habitats as the state's "hotspots" for biodiversity. These areas are identified as the most viable natural communities and habitats for rare plants and animals and the most critical sites for biodiversity conservation across the state. One such area is Poutwater Pond in the northern part of Holden. In 1998, the Poutwater Pond Nature Preserve was the first such preserve dedicated in Massachusetts due to the area's unique acidic bog mat and associated plant and animal communities. The Preserve is owned by the state Department of Conservation and Recreation and it contains a boardwalk allowing visitors access to this unusual natural feature. The NHESP

mapping includes a total of approximately 1,500 acres of designated Core Habitat and about 8,800 acres of “Supporting Habitat” in Holden.

A diversity of wildlife is an indicator of the health of the environment and is a source of joy for children and grownups alike. As the forests of New England continue to rebound after the abandonment of many farms in the 1800s and subsequent years, some species of wildlife have begun to move back into Holden and other areas of central Massachusetts. These include beaver, coyote, moose, turkey, bear, and fisher as well as others. The resurgence of these species is generally considered to be a positive occurrence, but there may be negative consequences as well. Beaver dams can create localized flooding, and small house pets can be vulnerable to the increasing population of fisher and coyote. The following describes the Town’s major wildlife habitats, agricultural land, open land, forests, and wetlands, and some of the more common wildlife likely to be found in them.

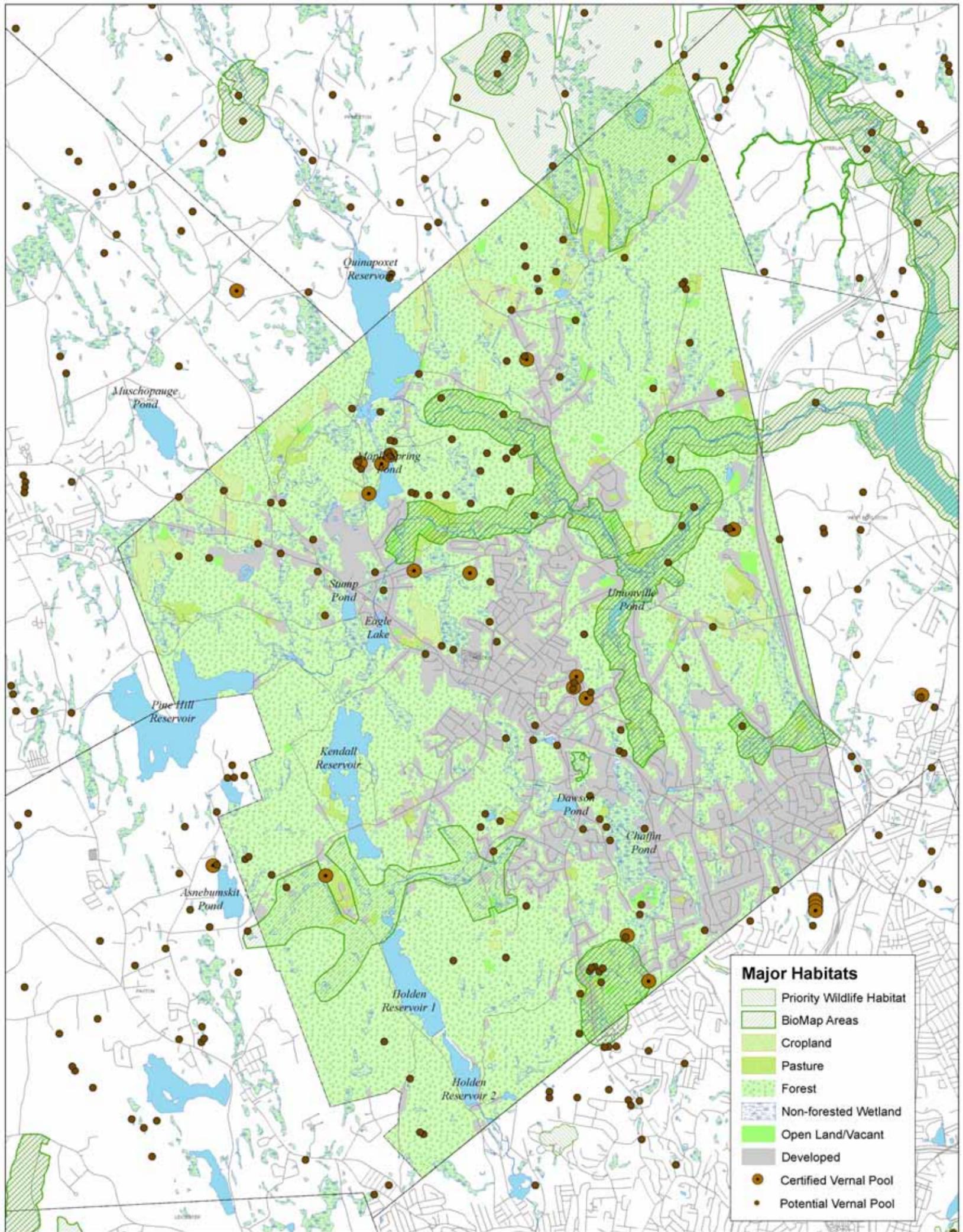
3.5.1. Agricultural Land

In the 2005 land use map, the 521 acres of land identified as cropland and 436 acres of pasture and 21 acres identified as nursery or orchard (a total of 978 acres or 4.2% of the Town's total area) are still important resources for the diversity of wildlife in Holden. Most of the remaining agricultural land is located in the northern section of Town—north of Main Street and River Street. There are also other small farm parcels scattered in other parts of Town.

Grassland birds, like eastern meadowlarks and bobolinks, may still use some hayfields, meadows, and pastures in Holden. In many Massachusetts towns, once plentiful fields are now too small and scattered to attract all but a few passing examples of these once plentiful grassland specialists. Holden contains some remaining significant field habitats, however in order to maintain the



habitat value of these areas, the existing grasslands and croplands must be maintained without further loss or fragmentation. Many other bird species nest near these fields and use them as well as other habitats for hunting and feeding on seeds, insects, and small mammals. Many migrant songbirds, those that move between northern and southern latitudes with the seasons, can still be



Holden

2008 Master Plan Map 3.4: Major Habitats

found feeding in farm fields in Holden and other nearby towns during migration. Many hawks and owls, such as American kestrels and northern harriers, rely on grasslands for hunting small mammals, while other hawks and owls, such as red-tailed hawks and great horned owls, hunt in these fields as well as in the Town's forested areas. In addition to birds, voles, white-tailed deer, woodchucks, coyotes, and eastern cottontail rabbits and other mammals often use agricultural areas. Several snakes, such as the eastern hognose snake and the northern brown snake can also be found in fields and pastures.

3.5.2. Open Land

Power line corridors and unused open land, like agricultural fields that are no longer being cultivated, are also areas used by many of the same species of wildlife that use agricultural land and some species that specialize in using these areas. There are just over 370 acres of this type of habitat in Holden (1.6% of the total area). Power line and other utility rights-of-way are also often used as movement corridors for wildlife, providing a means of getting from one habitat to another. The birds, mammals, and reptiles that use these open areas are likely to be the same as those that use agricultural areas in Town.

3.5.3. Forest Land

Holden has an abundance of forestland, but as large lots are developed along the Town's roadways, the effect of suburban development has begun to mask the visual impact of such natural wealth. The habitat map shows 15,709 acres of forest in Holden (68% of the Town's total area), including primarily Central Hardwoods-Hemlock-White Pine association and relatively small areas of the Swamp Hardwood association. The Central Hardwood Forest type is located on generally drier outwash soils and tills. The most common trees are red oak (with mixtures of other oaks) and hemlock as well as red maple, aspen, hickories, and gray birch. White pine is common on more sandy soils. Portions of forest owned by the City of Worcester around Worcester reservoirs have remained uncut for many decades and contain unusually mature and tall woodlots. Common forest shrubs and herbs include lowbush blueberries, wintergreen, clubmosses, and witch hazel. The Central Hardwood Forest type is found in all parts of Town while the Swamp Hardwood Forest type is concentrated along streams or around ponds. The Central Hardwood Forest habitat type is likely to be the most threatened because it is often generally suitable for development.

Some of the common animals found in the Central Hardwood Forest include spotted salamander, redback salamander, wood frog, American toad, eastern milk snake, and eastern garter snake. Common birds include red-tailed hawk, Cooper's hawk, mourning dove, downy woodpecker, great-horned owl, eastern wood pewee, blue jay, American crow, white-breasted nuthatch, brown creeper, scarlet tanager, ovenbird, yellow-rumped warbler, Baltimore oriole, broad

winged hawk, ruffed grouse, pileated woodpecker, red-eyed vireo, black-capped chickadee, wood thrush, indigo bunting, and wild turkey. Several species, such as the hawks, are most often found at forest edges, where woodlands abut more open areas such as agricultural fields. A diversity and juxtaposition of habitat types is not only aesthetically pleasing, but often an enhancement to wildlife as well. Common mammals include Virginia opossum, eastern chipmunk, woodchuck, gray squirrel, red squirrel, white-footed mouse, red fox, eastern coyote, raccoon, river otter, white-tailed deer, and striped skunk. All of these species occupy Holden's forests. (Note: Species of birds that are particularly threatened by forest fragmentation are underlined in the lists of forest species. See discussion of forest fragmentation below.)

Swamp Hardwoods, found in the scattered wetland areas of Town and along streams, are so dominated by red maples that they are often referred to as Red Maple Swamps. Other less common trees include American ash, cedars, and black gum. Wetland understory shrubs are common, including alder, viburnums, blueberries, and others. Herbs are abundant and include sedges, ferns, false hellebore, and skunk cabbage. These woodlands are an important component of the Town's remaining forested lands and wetland laws generally protect them.

Some of the common animals found in the Swamp Hardwood association and not in the Central Hardwood Forest include northern spring peeper, gray tree frog, bullfrog, common snapping turtle, painted turtle, northern water snake, and northern ringneck snake. Birds common to this habitat and not so likely encountered in Central Hardwood Forest include red-shouldered hawk, swamp sparrow, barred owl, cedar waxwing, yellow warbler, and common grackle. Many of the same mammals found in the Central Hardwood association are also likely to be found in Red Maple swamps.

3.5.4. Forest Fragmentation

Many ecologists agree that one of the biggest threats to natural communities and biodiversity in Massachusetts and much of the rest of New England is the fragmentation of large expanses of uninterrupted forest habitats. Many wildlife species, like these, depend on the interior of forests (areas far from an edge) for a

Many ecologists agree that one of the biggest threats to natural communities and biodiversity in Massachusetts and much of the rest of New England is the fragmentation of large expanses of uninterrupted forest habitats.

significant portion of their life cycle and many biologists agree that the loss of large uninterrupted tracts of forest is contributing to the decline of many species of birds and mammals.

As a result, the remaining uninterrupted forests in Holden and surrounding towns are particularly valuable for a broad diversity of wildlife. Three relatively large forest areas remain. One is along the Town's western boundary and includes many protected watershed lands. Another runs along the northern Town boundary from North Main Street to Manning Street and includes many state-owned watershed lands. The third runs along the eastern Town boundary from Manning Street almost to Shrewsbury Street. This area also includes several state-owned watershed lands. These large uninterrupted forest areas are important habitat areas for wildlife.

3.5.5. Non-forested Wetlands

The vegetation map identifies 240 acres of non-forested wetlands in Holden (1% of the total area) and 815 acres of water (3% of the total area). The majority of the Town's non-forested wetlands are found upstream of Chaffin Pond and around Stump Pond and Eagle Lake. These rich wildlife resources include bogs, meadows, shallow marshes, deep marshes, shrub swamps, and ponds. Other non-forested wetlands are located at scattered locations throughout the Town.

Level Bogs are dwarf shrub peatlands, generally with pronounced hummock and hollow formations. These wetland peatlands are our most acidic and nutrient-poor, because they receive little overland water input, and are not connected to the water table. The Poutwater Pond bog in Holden is a level bog that provides habitat for populations of wood turtles and dwarf mistletoe—the Massachusetts Natural Heritage and Endangered Species Program lists both as protected species (see below).

Wet meadows are characterized by sedges and cattails, surface water depths to 6 inches in winter and early spring, and exposed but saturated soil surface in summer, and typically provide habitat for the following wildlife species: Northern leopard frog, big brown bat, star-nosed mole, and short-tailed shrew.

Shallow Marshes are characterized by persistent emergent vegetation such as cattails and water depths to 1.5 feet, and provide preferred habitat for the following wildlife species: Northern spring peeper, painted turtle, and northern leopard frog. Common birds may include great blue heron, green heron, Wilson's snipe, Virginia rail, mallard duck, tree swallow, red-winged blackbird, and American goldfinch. Common mammals may include Virginia opossum, little brown bat, muskrat, mink, and raccoon.

Emergent vegetation and floating-leafed plants such as water lilies (*Nymphaea* and *Nuphar*), and water depths to 6 feet characterize Deep Marshes. They typically provide preferred habitats for the following species: Painted turtle, spotted turtle, and red-spotted newt. Common birds may include wood ducks as

well as migrating pied-billed grebe, and American coot. Common mammals include the same species found in Shallow Marshes.

Woody shrubs such as buttonbush, alder, silky dogwood, and red maple, and saplings characterize Shrub Swamps. They typically provide preferred habitat for the following species: American woodcock, yellow warbler, common yellowthroat, common grackle, song sparrow, swamp sparrow, and American goldfinch. Common mammals include Virginia opossum, little brown bat, eastern cottontail, and raccoon.

Ponds are small bodies of water that are characterized by emergent vegetation such as cattails or floating-leafed plants, or both. Vernal pools are small seasonal ponds that often are not connected to streams or other water bodies. Thus, they depend on groundwater, snowmelt and rainwater and usually become dry by late summer. Fourteen Certified Vernal Pools are identified on the Habitat Map for Holden. Vernal pools are critical habitats for some salamander species, wood frogs, and a wide variety of other wildlife. Some species of salamanders and wood frogs migrate from surrounding forested uplands to these pools in the spring to breed. Without these vernal pools, we would lose these animals. Many more potential vernal pools may exist, but have not been documented. Map 3.4 shows the location of 118 areas identified as “potential vernal pools.” Potential vernal pools are small topographic depressions or small pockets of suspected standing water identified from topographic maps and aerial photographs by NHESP as possible candidates for being vernal pools. A vernal pool is certified by NHESP following submission of documentation that a species of animals that require vernal pool habitat are actually present. Ponds and vernal pools also provide preferred habitat for the following wildlife species: Bullfrog, pickerel frog, eastern painted turtles, little brown bat, big brown bat, mink, and beaver.

3.5.6. Rare Species

The 2006 Natural Heritage published by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) lists seven occurrences of rare or endangered plants and animals in Holden, with the date of the most recent recorded observation in Holden. The two listed plants are dwarf mistletoe (*Arceuthobium pusillum* 1985) and pod-grass (*Scheuchzeria palustris* 1917). The pod-grass is listed as Endangered and the mistletoe is listed as a Species of Special Concern.

The five state-listed animal species have been found in and around the Town’s wetlands or its ponds and streams. These include: Threatened –Blanding’s turtle (*Emydoidea blandingii* 1999); and Species of Special Concern – wood turtle (*Clemmys insculpta* 1999), four-toed salamander (*Hemidactylium scutatum* 2003), a damselfly called the tulle bluet (*Enallagma carunculatum*

Historic), and a dragonfly called the brook snaketail (*Ophiogomphus asperses* 2004).

Priority Wildlife Habitats and Estimated Habitats of Rare Wetlands Wildlife as mapped by the Natural Heritage and Endangered Species Program are indicated on the Major Habitats Map (Map 2.4). These areas are known sites for rare or threatened species and receive an extra degree of protection from the Massachusetts Endangered Species Act, administered by NHESP and the Massachusetts Wetlands Protection Act, administered by DEP and the Holden Conservation Commission. There has been no intensive natural history inventory done in recent years and two of these rare species have not been noted within Holden for many decades. It is likely that there are other important wildlife habitats and many more vernal pools in Holden.

3.5.7. Riparian Corridors

One hundred-meter natural corridors along waterways, known as riparian corridors are thought to provide avenues of movement for some wildlife species and fulfill other ecological functions.

3.6. Natural Resources Observations

Holden has a rich natural heritage worthy of recognition and pride. The following is a summary of some of the most important considerations for the development of the master plan. Potential conflicts may exist between identified goals related to natural resources and other components of the Master Plan, such as traffic and economic development.

- Soil limitations mean that many areas are poorly suited for septic tank leaching fields, although recent sewer projects make septic systems unnecessary in many areas. Wetlands, streams, ponds and water supplies need to be carefully monitored to prevent contamination from incompletely filtered septic system effluent in areas that are not served by the municipal sewerage system.
- Holden still has some important agricultural areas that have not been developed and are in need of protection. These include areas to the east of Broad Street, areas to the north of North Main Street, some areas to the north of Malden Street, and other smaller areas scattered about Town. These scattered agricultural areas are both important to wildlife and provide part of the distinctive character of the Town.
- Holden is an important water supply area for several towns. Regional cooperation is necessary for conserving this limited resource. Many of these watershed lands are important recreation areas, but some, particularly watershed lands owned by the City of Worcester, lack public access.

- Several of the Town's ponds and streams offer good fishing (although often without official designated access) and serve as wildlife corridors. Access to these resources needs to be protected and in some cases improved.
- The protection of upland forests offered by watershed lands will help preserve the Town's semi-rural character.
- Much of the Town's wildlife diversity is a result of its variety of habitat types. Maintenance of that diversity requires protection of large areas like those identified in the BioMap Core Areas and in both small and large areas of different habitats; non-forested wetlands, forested uplands, open/vacant areas, and open space corridors that make connections between areas.
- Holden has about 2,300 acres in BioMap Core and Supporting Habitats with about 20% currently unprotected.
- Protection of BioMap Core Areas is an important conservation priority for the region as well as the Town. These areas include several already protected areas. Conservation of the remaining unprotected areas should be a priority.
- One vital aspect of retaining the Town's semi-rural quality lies in retaining some of the visual impact of the Town's forested land. Forests on hills are particularly desirable, since such land is both highly visible and highly vulnerable to development pressures and the concomitant erosion and runoff problems often associated with development. Holden's changes in topography contribute to the importance of these hills.

4. HISTORIC AND CULTURAL RESOURCES

One of the things that make Holden a great place to call home is that we possess truly noteworthy resources of each type. We appreciate them. We want to keep them. Holdenites often identify themselves, or provide some location context, by reference to one of the Town's historic villages or a well-known historic feature: "I'm from Jefferson;" "I grew up by Alden Lab;" or "two streets down from Grove Cemetery" are phrases that have meaning to us and our neighbors. The Red Barn is not only a useful landmark on the drive into Town, it is one of many threads that make Holden a town worthy of being called home, not just a collection of roads and buildings—we have cultural resources that we hold dear.

During the Master Plan visioning and outreach process, there was a mantra about a place that is clearly more than a repository of reading materials: "Whatever happens, make sure that you take care of MY Gale Library." While the Master Planning process helped document that many of us also value the bandstand concerts and other events at our great new Senior Center, it also helped us to understand the strong sentiment among many of our youth that they lack options when looking for worthwhile recreational or cultural activities within our borders. The writers of this Master Plan hope that such knowledge about what we as a Town both value and hope for have made this document a useful roadmap toward preserving and enhancing the historic and cultural resources that make Holden worthy of the effort.

Historic and cultural resources play an important role in shaping the character of Holden. While many of these resources no longer exist, many others remain, helping to document the Town's history. What follows is a list of opportunities for preserving these resources in the future, as well as summary of what they include, and of past efforts to preserve them.



Figure 4 1: Valley View Farm, located on Princeton Street near the Holden-Princeton line.

4.1. Issues and Tradeoffs Involved in Cultural Resources

The major cultural resource issues are protection and enhancement of important historical buildings, districts, and landscapes, and guiding future development in a way that preserves and enhances the Town's character. Historic resources, including buildings, neighborhoods and landscapes, are major attributes of Holden's existing character. Tradeoffs involve balancing the costs of protecting these resources and implementing regulations that encourage private owners and developers to build in a way that complement and enhance the Town's character without inhibiting appropriate private initiatives and creativity. It should be noted that placing a structure or landscape on a list of historic resources does not mean that it is or will be protected. Nor does their being listed assure that they are in good condition.

4.2. Summary of Major Cultural Resources Recommendations

- Expand the existing resources inventory (411 listed resources) to include all other historic resources, including heritage landscapes, scenic roads, and views.
- Develop a community-wide preservation plan, to complement the comprehensive master plan that addresses preservation needs in detail and spells out a strategic plan for fulfilling these needs.
- Create historic districts (National Register and/or local) Jefferson/ Eagleville, Quinapoxet, and other historic "villages" as a means of recognizing Holden's industrial past.
- Preserve the Town's historic cemeteries and burial grounds, including tree maintenance and removal and gravestone conservation. Priority should be given to the Park Avenue Cemetery, where the trees and gravestones are seriously deteriorated. Greater recognition should be given to historic Grove Cemetery, a fine example of a mid-19th century garden cemetery, and efforts should be made to retain and restore its distinctive historic features. At a minimum, Grove Cemetery should be nominated for listing on the National Register of Historic Places.
- Create "scenic road" designations for the Town's rural thoroughfares, such as South Road and Causeway Street, as a means of preserving Holden's rural character.
- Protect cultural landscapes such as land around the Red Barn, Alden Laboratories and one of Holden's only remaining farms (on Route 31 near the Princeton line).
- Enhance buildings and streetscapes of the Holden Common and Route 122A corridor leading to the Center.
- Explore a Demolition Delay Bylaw that may help save historic buildings that play an important role in shaping the look and feel of the Town. The Marshall House (Main Street) and a small farmhouse on Reservoir Street are two recent losses that may have been averted by such a bylaw.

near the corner of Main and Highland Streets. In 1741, Holden became a town, named after the Honorable Samuel Holden, a London merchant and benefactor of the New England colonies.

Holden's Colonial Period economy was centered on subsistence farming and saw and grist milling. Farmers grew vegetables and herbs, and maintained cows, sheep, pigs and oxen (for hauling crops, logs and other milled items). Fibers

In 1741, Holden became a town, named after the Honorable Samuel Holden, a London merchant and benefactor of the New England colonies.

for clothing came from sheep (wool) and flax (linen). In 1750, 55 families lived in Holden.

While most of Holden's extant historic resources date to the 19th and 20th centuries, several landscapes and structures survive from the Colonial period. According to the Town's inventory of historic resources, the oldest remaining building is the Rogers House (1733) on Boyden Road. Other Colonial period buildings include the Jonathan Lovell Farm (1752) on Malden Street, the Abbott



Figure 4-4: The mill at Lovellville, c. 1900. From Holden, The Evolution of a Town, 1976.

Tavern (1763) on Reservoir Street, the Thomas Davis House (1770) on Mason Road, and the Elisha Hubbard Farm (1775) on Wachusett Street. The Old Burying Ground (1742) and Hancock Common (1750), both located on Main Street, are two of the oldest landscapes, both dating to the Colonial period.

4.3.2. Federal and Early Industrial Periods (1775-1870)

Farming in Holden began to decline following the completion of the Erie Canal (1825) and opening of the west to large-scale agriculture. By the early 1800s, textile mills – cotton and woolen – began to emerge on Holden's many waterways, creating a series of small mill villages within the larger Town. The first mill, a cotton mill, was



Figure 4-5: The Quinapoxet Mill, c. 1900. Operations at the mill ceased in the 1920s. From Holden, the Evolution of a Town, 1976.

established in 1809 on the Quinapoxet River (near the junction of Wachusett and Bullard Streets) by Eleazer Rider & Sons (of West Boylston). Along with the mill, the Riders built several tenement houses and established Holden's first mill village – Unionville. A second textile mill appeared in 1817 in the south part of Town. Built by Royal Chaffin, it specialized in dyeing wool and coloring yarn. In the years immediately following, other mills developed at Lovellville (1820),

By the early 1800s, textile mills – cotton and woolen – began to emerge on Holden's many waterways, creating a series of small mill villages within the larger Town.

North Woods (or Ruralville, 1827), Eagleville (1826), Quinapoxet (1831), Dawsonville (1862), and other locations along Holden's many waterways.

Many of Holden's significant historic buildings and landscapes date to the Federal and Early Industrial periods. Examples of extant Federal period (1775-1830) buildings include the Bassett-Brewer House (1813) on Union Street, the Blake Farm (1800) on South Road, the Nathan Chaffin House (1793) on Salisbury Street, and the Davis-Flagg House (1779) on Main Street. Civic buildings from the Federal period include the Old First Baptist Church (1819) on Highland Street and the First Congregational Church (1789) on Main Street. The Park Avenue Burying Ground (1826) is one of Holden's prominent Federal period landscapes.

The Early Industrial period brought the construction of many mill complexes. Housing and other amenities accompanied the mills. The only extant mill complex stands at Jefferson – the Jefferson Manufacturing Company on Main Street, built in 1850. However, many examples of mid-19th century architecture still remain in both vernacular and high styles. Vernacular buildings include the Eagle Lake Woolen Company Worker Housing (1860s), located in Jefferson. The Miles Funeral Home (1854) on Main Street is



Figure 4-6: Holden in 1870. Mills stood throughout the Town, dominating the local economy. From the F. W. Beers Atlas of Worcester County, Massachusetts. Published in 1870.

an example of a high style Early Industrial period building. Grove Cemetery (1854) and St. Mary's Cemetery (1867) were laid out during this period and serve as fine examples of the rural/garden cemetery style.

4.3.3. Late Industrial Period (1870-1915)

Mill activity dominated the Holden economy through much of the 19th century. In 1871, the railroad came to Holden, eventually offering stops at Chaffins, Dawson, and North Woods, as well as at the Center, Jefferson and Quinapoxet. The immigrant population (largely Irish, Canadians and Swedes) grew to dominate the manufacturing labor force. In 1885, 40% of the workforce was foreign-born.



Figure 4-7: The Holden Central Railroad Station, originally a stop on the Boston, Barre, and Gardner Railroad line (opened in 1871). Courtesy of the American Antiquarian Society.

Many examples of late 19th and early 20th century architecture remain in Holden. Residential buildings include the Charles L. Hendricks House (1884), Charles Pomeroy House (1903) on Walnut Street, William Howe Warren House (1910) on Maple Street, and Benjamin H. Robbins House (1913) on Highland Street. Civic buildings include the Damon Memorial Building (1888) on Highland Street, and Marjery A. Rice School (1911) on Phillips Road.



Figure 4-8: The Mount Pleasant House, c. 1900, located at Route 122A and Pleasant Streets, was a popular summer retreat spot. Courtesy of the American Antiquarian Society.

4.3.4. Early Modern & Modern Periods (1915-Today)

Holden's location near an urban area and on a railroad line made it desirable as a rural retreat. Several summer hotels operated in the Town at the end of the 19th and beginning of the 20th centuries.

Beginning in the 1890s, the Metropolitan District Commission, charged with providing water to 41 Boston communities, began acquiring lands in Holden to protect the Wachusett Reservoir. Several of Holden's mills stood on these lands. The mill buildings were little by little demolished, and the lands preserved as

open space. Today only one mill village – at Eagleville and Jefferson – remains, with its manufacturing buildings, mill housing, Catholic Church and cemetery, and mill owner houses. Remains of the mill buildings and dams remain at ten other mill sites.

As the 20th century progressed, agricultural activity in Holden declined along with the mill industry, and the Town evolved slowly into a commuter town and

Today only one mill village – at Eagleville and Jefferson – remains, with its manufacturing buildings, mill housing, Catholic Church and cemetery, and mill owner houses.

bedroom community for Worcester and Boston. The construction of Interstate 190, to the east of Holden, contributed to this trend.

Several fine examples of 1920s-1940s architecture remain in Holden, including the William H. George House (1937) on Walnut Terrace, and the Dr. Gardner Cobb House (1920) on Stone House Hill Road. During the 1930s, the Works Progress Administration constructed several bridges over the Quinapoxet River, including those located at River Street and Princeton Street (both 1937). The Alden Laboratories, originally constructed in 1911, added a Rotating Test Boom Control House in 1937.

Until the 1950s, residential properties accounted for most of Holden's land use. In the late 1950s, 1960s and 1970s, Holden became a suburb, and as a result, many residential properties along Route 122A were demolished to make way for newer, commercial structures. Since the 1970s, however, demolition has slowed. The Chaffins School was replaced by the electric department building, and an 18th century home on Boyden Road was removed to make way for a medical arts building.

4.4. Preservation Efforts to Date

4.4.1. Holden Historical Society, Inc.

The Holden Historical Society is a private, not-for-profit corporation, dedicated to preserving and interpreting Holden's past. Headquartered at the Town-owned Hendricks House (1157 Main Street), the society is the main repository of Holden-related artifacts and memorabilia. The society hosts tours and programs and provides space for the Holden Garden Club to tend a designated plot. Recent projects include



Figure 4-9: The Charles Hendricks House, built in 1884 and located on Main Street near the Common, is home to the Holden Historical Society.

publication of Tour de Mill, a self-guided 17-mile bicycle tour stopping at eleven historic mill sites throughout the Town. This publication was a joint effort of the society, Holden Historical Commission (see below), and Wachusett Greenways.

4.4.2. Holden Historical Commission

Established in the late 1960s, the Holden Historical Commission is a six-member board appointed by the Board of Selectmen. Its mission is to preserve Holden's historic resources – buildings, landscapes, memorials, etc. – and to educate residents and visitors about their importance. Past efforts include completing inventory forms for 411 of the Town's historic resources, nominating and listing two historic districts and seven individual properties on the National Register of Historic Places, and many other joint activities with the Holden Historical Society, Inc. The Commission meets monthly at the Hendricks House.

4.4.3. Holden Historic Districts Commission (HHDC)

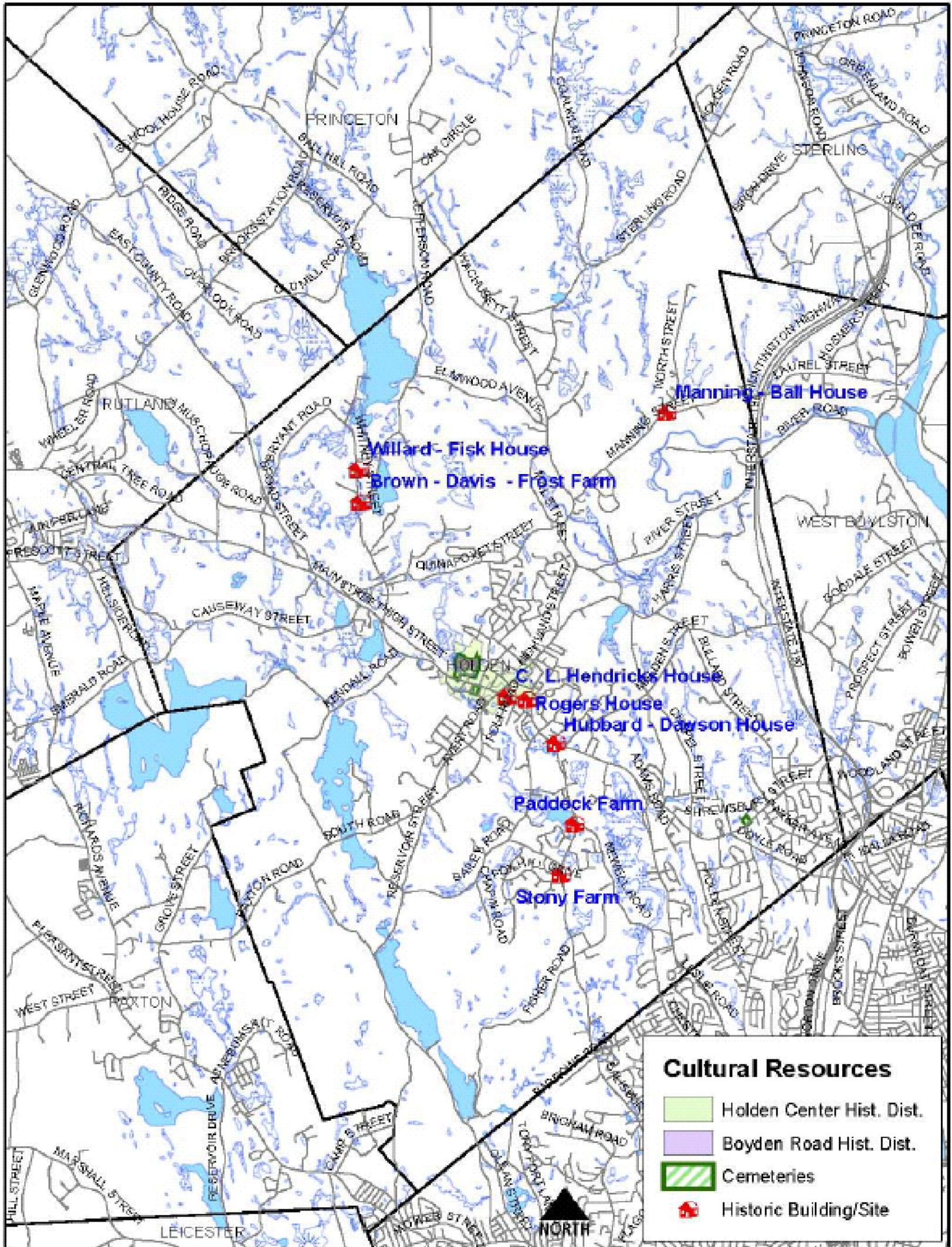
Holden maintains two local historic districts – Holden Center and Boyden Road – and the HHDC oversees the protection of them. Established in 1974 in accordance with the Historic District Act and Chapter 40C of the general laws of the Commonwealth of Massachusetts, the HHDC consists of seven regular members and two alternates appointed by the Board of Selectmen for overlapping three-year terms. The commission's purpose is three-fold:

- To preserve and protect the distinctive characteristics of buildings and places significant to the history of the Town;
- To maintain and improve the settings of those buildings and places including entire streetscapes; and
- To encourage compatibility with existing buildings when new buildings are planned in the districts.



Figure 4-10: Boyden Road and the Boyden Road Local Historic District.

The HHDC does not prevent changes within the two local historic districts. Rather, it assists property owners in making changes and/or additions that complement and enhance the districts. The commission has created A Guide to Holden's Historic Districts, a concise brochure that outlines the local historic district review and approval process.



Community Preservation Associates
 with Martha Lyon Landscape Architecture, LLC
 and Earth Tech, Engineers & Planners
 Source: MassGIS & MACRIS
 October 2008

0 0.25 0.5 1 1.5 2 Miles

Holden, Massachusetts

2008 Master Plan

Map 4.1: Cultural Resources

Table 4.1 – Major Historic Properties of Holden
(Shown on Map 4.1)

Name of Property	Address	Year
Rodgers House	28 Boyden Road	1733
Willard – Fisk Farm	123 Whiney Street	1772
Brown-Davis-Frost Farm	17 Whitney Street	1780
Manning-Ball House	370 Manning Street	1790
C. L. Hendricks House	1157 Main Street	1884
Hubbard-Dawson House	925 Main Street	1847
Paddock Farm	259 Salisbury Street	1780
Stony Farm	428 Salisbury Street	1790

Note: All 411 Historic Resources are listed in the appendix.

4.4.4. Gale Free Library Jane Wilson Local History Room

In 1888, Samuel C. and Susan Damon Gale made a gift of a new library and high school to the Town. Prior to that time, Holden residents joined the local library association for a fee and

borrowed books from a small collection housed at Town Hall. The Romanesque style building, located at 23 Highland Street, was designed by Stephen C. Earle, architect of the Worcester Art Museum, and constructed of Holden granite (a quarry on Kendall Road) by local craftspersons. The Local History Room, organized by acting library director Jane A. Wilson, contains vital records and books documenting Holden’s history and that of surrounding communities.



Figure 4-11: The Damon Memorial Building and Gale Free Library was built in 1888, as a gift of Samuel and Susan (Damon) Gale.

Specifically, it holds the Town’s historic resource inventory, as well as burial information for three of the Town’s four cemeteries.

4.4.5. Historic Resource Inventory

Holden completed an inventory of the Town’s historic structures in three phases. Several properties (mostly buildings) were researched and documented in 1972, and the historic archaeological resources were documented in 1978. A large effort to expand the inventory in 1989 brought the total documented resources

up to 411. As mentioned above, the complete inventory is stored in the Jane Wilson Local History Room of the Gale Free Library, and can be found in the Massachusetts Cultural Resource Information System (MACRIS), maintained electronically by the Massachusetts Historical Commission. The inventory consists of the following:

- **Historic Areas:** Jefferson, Eagleville, Holden Center, and Quinapoxet
- **Historic Buildings:** Properties on the following streets: Boyden, Brattle, Broad, Bullard, Causeway, Chapel, Chapin, Davis, Deane, Doyle, Fairview, Fruit, High, Highland, Hilltop, Kendall, Laurelwood, Lincoln, Lovell, Main, Malden, Manning, Maple (Road and Street), Mayo, Mill, Mixer, Moy Ranch, Muschopauge, Newell, North, Park, Parker, Phillips, Pleasant, Princeton, Quinapoxet, Reservoir, River, Salisbury, Shrewsbury, South, Sunnyside, Union, Wachusett, Walnut (Street and Terrace), Whitney, and Woodland
- **Monuments:** Knights Templar Monument, Alonzo Knapp Learned Tablet, Hancock Common Marker, Drinking Fountain (at Grove Street Cemetery), WWI/WWII Monuments, Roll of Honor, and Quinapoxet Dam Marker
- **Historic Archeological Sites:** Canada Mills, Dawson Mill, Fairbanks/Chaffins Mill, Lovellville Mill, Quinapoxet Mill, Shoddy Mill, and Unionville Mill.

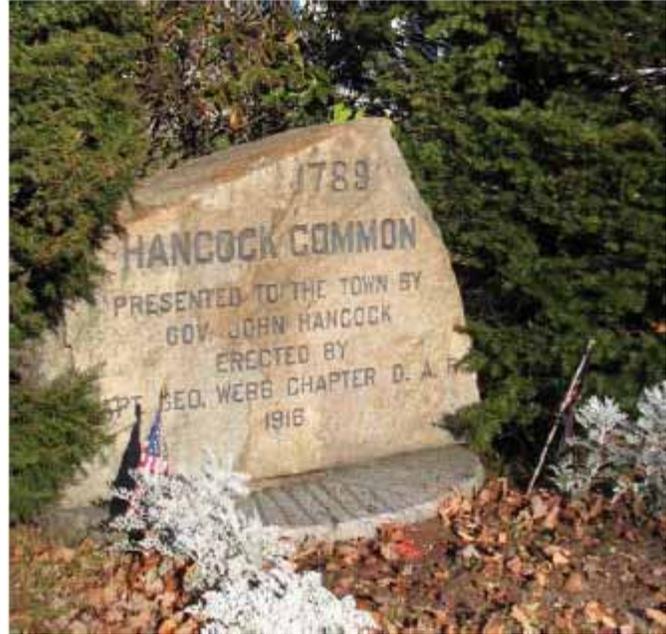


Figure 4-12: The boulder commemorating the establishment of the Holden or “Hancock Common,” located on the Common in front of the Congregational Church.

A copy of Holden’s inventory of historic resources appears in the appendix to this plan.

4.4.6. Local Historic Districts

As mentioned above, Holden has established two local historic districts (LHDs) in accordance with the Historic District Act and Chapter 40C of the general laws of the Commonwealth. The two districts are as follows:

Holden Center Historic District –consisting of 17 properties along Main Street at the intersection of Routes 122A and 31.

Boyden Road Historic District – consisting of 11 properties and encompassing all of Boyden Road. In 1982, the Town listed the Rogers House (1733) at 28 Boyden Road individually on the National Register. This property was incorporated into the Boyden Road Historic District in 1990.

4.4.7. National Register Efforts

In addition to properties included in the above LHDs, the Town has established one National Register Historic District and has listed several individual properties on the National Register, all in the 1990s. In 1995, a 290-property National Register District was created along Highland, Main, Reservoir, Pleasant and Walnut Streets, and Woodland, Phillips and Lovell Roads. Both the Holden Center and Boyden Road Local Historic Districts lie within the boundary of this National Register District. Of the individual properties, four were farms – the Brown-Davis-Frost Farm (Whitney Street, 1995), Paddock Farm (Salisbury Street, 1996), Stony Farm (Salisbury Street, 1995), and the Willard-Fisk Farm (Whitney Street, 1996). The other two were houses – the Hubbard-Dawson House (Main Street, 1995), and the Manning-Ball House (Manning Street, 1995).

4.4.8. Friends of the Red Barn, Inc.

This non-profit organization manages a mid-19th century barn and surrounding 7.7 acres on Shrewsbury Street, known as the Red Barn. This historic structure is one of the Town's last remaining large dairy barns, built by the Fairbanks family. The family farmed into the 1920s, when the property became property of Worcester Polytechnic Institute's Alden Research Laboratory. In 2000, after the sale of a portion of the laboratory land to a developer, the Friends acquired this small parcel and have since dedicated their efforts to preserving the building and grounds, and hosting interpretive programs.



Figure 4-13: The “Red Barn,” built in the mid-19th century and located on Shrewsbury Street, is one of the Town’s last remaining large dairy barns.

4.4.9. Holden Common

The original Holden or “Hancock” Common was laid out in 1750 as a linear common, as opposed to a square-shaped town green. The widening of Main Street through several highway improvement projects has eroded the size of the Common, yet its original configuration of civic and religious buildings and lines of trees still remain. Today, the Town hosts the yearly Holden Days celebration (in August), which is held, in part on the Common. A UMass Landscape Architecture class prepared a proposal for expanding and improving Holden Common. A copy of their study is included in the Appendix.



Figure 4-14: The beautification area along Main Street near the Common. The intimate landscape was created in conjunction with the project to widen Main Street/Route 122A.

4.4.10. Streetscape Beautification

In 2002, a project was begun to widen Route 122A/Main Street to accommodate the increase in traffic through the center of Holden. In conjunction with this MassHighway project, several improvements were made to the streetscape, including burying utilities, upgrading sidewalks and crosswalks, and placing streetlights and some street trees. In addition, beautification areas were created along Main Street. These small planted areas stand at the Common and at Main Street’s intersection of Boyden and Adams Roads.

4.4.11. Improvements to Privately Owned Historic Properties

Some of the most prominent preservation efforts have been made by individual property owners, making historically sensitive improvements to their homes.

Finding ways to encourage private owners will be critical if Holden is to preserve and build upon its historic heritage.

Examples of these efforts include the restoration of the vernacular homes in the Boyden Road Historic District, and many other properties scattered throughout the Town. Finding ways to encourage private owners will be critical if Holden is to preserve and build upon its historic heritage.

5. OPEN SPACE AND RECREATION

“I really like driving home to a Town with a ‘Moose Crossing’ sign at the Town line.” This statement was voiced during one of the Master Plan visioning and outreach sessions. While many echoed this sentiment, the variations were as numerous as the participants in the outreach process. At the same time, neither the moose aficionado nor any other resident interviewed seemed to be aware that Holden contains significant areas of state-designated “Core Habitat” – natural areas deemed to be special on a scale much larger than just our Town. Similarly, few residents know that we have a Town Forest.

Holden residents value open space. Many say that they choose to live here because of the abundant open space and rural character. They enjoy seeing open farm vistas and forested landscapes and participating in outdoor activities—both



active recreation and just taking a quiet walk in the woods. We are fortunate that, in the interest of protecting the drinking water watersheds within which we reside and play, the State of Massachusetts and the City of Worcester are the largest landowners in Holden. Those two entities own and preserve over 7,000 acres of undeveloped land in Holden.

5.1. Issues and Tradeoffs Involved in Open Space and Recreation

Still, many thousands of acres are privately held and available for development. Recognizing that protection of natural resources can be at odds with the

legitimate needs of economic development and housing, this Master Plan hopes to provide a thoughtful roadmap for encouraging the wise and creative stewardship of all of the land in Holden. If the Town proceeds in a rational, responsible and creative manner, our most important natural resources will be protected for the generations to follow, despite inevitable growth over the next few decades. Poorly planned development, on the other hand, will lead to loss of open space and loss of community character. Therefore, it is critical that efforts to preserve open space be ramped up considerably. The Open Space and Recreation section of the Holden Master Plan summarizes recent development trends, reviews the Town's past efforts to protect open space, describes the existing open space and recreation resources, and discusses future challenges and opportunities.

5.2. Major Recommendations for Open Space and Recreation

- Establish a Standing Open Space Committee
- Have an approved and up-to-date Open Space and Recreation Plan
- Continue efforts to preserve farmland.
- Protect rare landscape elements, such as wetlands, vernal pools, riparian zones (the areas along streams, rivers, and wetlands), state designated "priority habitats," BioMap areas, and large forested tracts.
- Retain large contiguous or connected areas that provide habitat for a diversity of wildlife.
- Increase appropriate public access to watershed protection areas.
- Protect riparian buffers to preserve/improve water quality and wildlife habitat.
- Minimize the introduction and spread of invasive, non-native species.
- Encourage additional use of tax incentives for private open space.
- Expand Trail Systems with a vision of creating an interconnected Town-wide system.
- Create linkages or corridors between already protected areas.
- Pursue adoption of conservation related bylaws and policies.
- Create skate park/ice skating rink.
- Increase utilization of Eagle Lake.
- Develop an Indoor Recreation Facility for Winter Use

5.3. Local and Regional Land Use Trends

In the last twenty years Holden has lost about 975 acres of forest, 115 acres of pasture, and 77 acres of cropland, while about 1,020 acres have been converted to residential use and 34 acres to commercial and industrial use. In 1985 about 82% of the lands in Town were "open" uses (forest, agriculture, un-forested wetlands, and water). By 2005 this percentage had dropped to 78% and the Town's population had grown from 13,336 in 1980 to 17,036 in 2005, an increase of almost 28%. Population is predicted to continue to grow to 19,500 by 2030.

In 1985 about 82% of the lands in Town were “open” uses (forest, agriculture, un-forested wetlands, and water). By 2005 this percentage had dropped to 78% and the Town’s population had grown from 13,336 in 1980 to 17,036 in 2005, an increase of almost 28%.

Please see the Land Use section for a full discussion of land use trends between 1985 and 2005.

The Central Massachusetts Regional Planning Commission¹ has noted that the Interstate 495 corridor has become the fastest growing area in the state in terms of job creation and housing construction and that many towns in Central Massachusetts have responded to pressures for services to growing numbers of residents by adopting large-lot residential zoning in an attempt to control

Recent land use data indicate an alarming trend towards suburban sprawl—scattered, low-density housing, stripping of highway corridors with business developments, deterioration of town centers, and loss of unprotected open spaces and town character.

population growth and made efforts to promote commercial and industrial development in hopes of increasing their tax bases. Recent land use data indicate an alarming trend towards suburban sprawl—scattered, low-density housing, stripping of highway corridors with business developments, deterioration of town centers, and loss of unprotected open spaces and town character. In response the Commission has adopted the concept of more compact development with a concentration of both residential and commercial uses in appropriate village centers—or “Smart Growth.”

5.4. Past Open Space Planning Efforts

To qualify for state funds, Holden is required to have an up-to-date Open Space and Recreation Plan. Holden has been working on an update of its 1999 Open Space and Recreation Plan. The draft plan is briefly summarized below.

5.4.1. Summary of Draft Open Space and Recreation Plan’s Goals and Objectives

The Draft of the Open Space and Recreation Plan sets forth goals and objectives for open space and recreation. These are included in the following table:

¹ Central Massachusetts Regional Planning Commission, 2020 Growth Strategy for Central Massachusetts, 2002.

Table 5.1 Holden’s Open Space and Recreation Plan’s Goals and Objectives

Goals	Objectives
Preserve aesthetic and natural resources in Holden, including wildlife, wetlands, scenic vistas, unique natural areas and historical resources.	<ul style="list-style-type: none"> ▪ Identify aesthetically valuable or sensitive land parcels or areas of Town. ▪ Promote Town government/private landowner cooperation and education in planning for conservation and preservation of aesthetically valuable land inventories. ▪ Encourage cluster developments for the preservation of green spaces in residential and commercial developments. ▪ Continue to develop and support connections of existing and future green spaces to create greenbelts and sidewalks for pedestrian access.
Provide active recreation resources and facilities in Holden.	<ul style="list-style-type: none"> ▪ Preserve, maintain and upgrade existing fields, parks, and recreational facilities in Holden. ▪ Expand active recreation opportunities by developing new active recreation fields and facilities to meet expanding youth and adult needs in Town. Recent trends in recreational sports have increased the need for specialty fields such as lacrosse and soccer.
Promote passive recreation and open space resources	<ul style="list-style-type: none"> ▪ Promote and maintain greenways including nature trails, bike trails, hiking areas, and cross-country ski trail areas on open space/conservation parcels. ▪ Develop partnerships between conservation groups, regional land trusts and the Town of Holden. ▪ Increase education awareness by creating a comprehensive trail brochure. ▪ Increase the markings and signage for trail systems throughout Town with particular need in the Eagle Lake and Trout Brook areas. ▪ Increase public awareness of the benefits of open space preservation
Develop and implement funding sources.	<ul style="list-style-type: none"> ▪ Use funding sources to create, preserve and maintain open space and recreational facilities. ▪ Encourage self-supporting and income-generating strategies through fee for service programs for recreational use and apply resulting revenues to the maintenance and upgrading of recreational facilities. ▪ Utilize creative conservation developments to fund preservation, i.e., develop large estate lots on roadway to preservation larger plots of open area.

5.4.2. Summary of Open Space and Recreation Plan’s Recreation Needs

The Open Space Plan also recommended several strategies to meet community recreation needs. These included the following:

- Upgrade existing recreation facilities.
- Explore the options for providing a skating venue.
- Continue to provide for handicapped access to recreation and open space facilities.
- Continue maintenance and expansion of playfields and parks.
- Require appropriate parkland set-asides in new subdivisions.
- Continue to develop passive recreation opportunities on open space land. Explore increased access for passive recreation on City of Worcester watershed lands.
- Continue to work with Wachusett Greenways on the development of the Mass Central Rail Trail.

5.5. Existing Open Space and Recreation Resources

As noted in the Natural Resources Section, Holden has a rich natural heritage with agricultural areas, forests, diverse wildlife habitats, and state-designated “BioMap” natural resources that are worthy of protection. In fact, as growth continues, much of the future character of the Town will depend on how effective the Town is in protecting these resources. Below is a summary of more detailed

...as growth continues, much of the future character of the Town will depend on how effective the Town is in protecting these resources.

information included in the Holden Open Space and Recreation Plan and in a table included in the appendix. Please see the Natural Resources section of the Master Plan for a more complete discussion of Holden’s natural resources.

Table 5.2 – Existing Open Space Land

<u>Conservation Owner</u>	<u>Acres</u>
Town Owned Land	
Permanently Protected	1,017.3
Limited Protection ²	169.3
Other	22.4
DCR Watershed Land	3,634.4
Other State-owned Land (DFW)	425.4
City of Watershed Worcester Land	3,809.9
Private Open Space	
Permanently Protected	1,542.6
Limited Protection	70.9
Other (No Protection)	157.1
Total Permanently Protected	10,429.6
Total Limited Protection	240.2
Total Other	262.6

5.5.1. Existing Open Space Resources

As a result of the protected watershed holdings of the Department of Conservation and Recreation (DCR) and the City of Worcester, Holden has more than 45% of its total area classified as permanently protected open space. Map 5.1 shows the existing open space resources.

² Includes Recreation and Education Lands

5.5.2. Chapter 61 Lands

In addition to the above open space resources there are 1,835.7 acres registered in the Chapter 61 tax abatement program. These private owners must meet certain criteria to qualify for property tax reductions. In return, the reduced taxes serve as an incentive for them to continue using their land for agriculture, forestry, or recreation. They also agree to pay the deferred taxes and give the Town the opportunity to purchase the land if they remove the land from the program or sell the property for development. There are 873 acres in agricultural program (Chap. 61A), 478 acres in the recreation program (Chap. 61B), and 484 acres in the forestry program (Chap. 61). These lands include the Holden Hills Country Club (132 acres), the Worcester Fox and Coon Club (81 acres), and the Nimrod League Sports Club (4 acres).

5.5.3. Existing Recreation Resources

The Holden Open Space and Recreation Plan noted needs for additional Town recreation facilities. Existing recreation facilities are listed in Table 5.3.

Table 5.3: Existing Recreation Facilities

Site Name	Owner	Location	Facilities	Acres
Trout Brook Conservation Area	Holden	Manning St.	Soccer field, trails, picnic area, pavilion, lodge, restrooms	664.4
Mason Park	Holden	Off Mason Street	Trails	Part of above total
Town Forest	Holden	Harris St.	Trails	153.04
Jefferson Park	Holden	Princeton Street	Benches	Less than 1 acre
Kimball Park	Holden	Wyoming Drive	Trails	8.9
Winthrop Oaks	Holden	S. Main & Colonial Dr.	Playground	25.0
Mayberry Park	Holden	Bullard & Shrewsbury	Benches	.3
Eagle Lake Town Beach	Holden	Causeway Street	Picnic area, swimming beach, changing rooms, beach volleyball court, playground, basketball court, nature trail	10.3

Table 5.3: Existing Recreation Facilities (continued)

Site Name	Owner	Location	Facilities	Acres
Dawson Recreation Area	Holden	Salisbury Street	Two outdoor pools, changing rooms, ball field, playground, paddleball court, 2 basketball courts, 4 tennis courts	11.5
Municipal Light Department	Holden	Holden Street	Soccer field, playground	6.1
Chaffin Men's Club Fields	Non-profit	Main Street	2 baseball fields	6.9
Eagle Lake Sanctuary	Non-profit	Causeway St.	Trails	159.5.
Davis Hill School	Holden	Jameson Rd.	2 baseball fields, playground	26.6
Dawson School	Holden	Salisbury Street	Playground	26.6
Senior Center	Holden	Main Street	Baseball field, playground	6.8
Jefferson School	Holden	Main Street	Baseball field, playground	5.2
Mayo School	Holden	Bullard Street	Baseball field, playground, soccer field	22.7
Mountain View School	Holden	Shrewsbury Street	2 baseball fields, soccer field, playground, 2 tennis courts	27.9
Wachusett Regional HS	Reg. Dist.	Main Street	Track, football field, baseball field	100+

Not listed in the above is the Mass Central Rail Trail (See Transportation Section for a map of the rail trail.) This rail trail, being developed by Wachusett Greenways, is rapidly becoming a favorite recreation resource for Holden and other area residents. Also not listed above are other private recreation lands: North Worcester Fox and Coon Club; Camp Kinneywood owned by Girls Inc; and lands owned by the White Oak Land Conservation Society and Greater Worcester Land Trust.

5.5.4. Recreation Standards

The Draft Holden Open Space and Recreation Plan does not include an analysis of the adequacy of the Town's recreation facilities. The accompanying chart compares Holden's existing recreation facilities to national standards.

Table 5-4: Recreation Standards

Type	Standard	Suggested for 2005 Population	Suggested for 2030 Population	Existing	Needed to Meet Standard
Playgrounds	1.5 acres per 1,000 persons	26 acres	30 acres	Schools = 20 acres estimate	None
Playfields	1.5 acres per 800 persons	32 acres	37	Schools = 30 acres estimate	None
Neighborhood Parks	2 acres per 1,000 persons	34 acres	39	15	19 acres
Community Park Min size 40 acres	3.5 acres per 1,000 persons	60 acres	68	664 (Trout Brook)	None
Regional Park Min size 500 acres	15 acres per 1,000 persons	255 acres	293 acres	State forests/ parks Watershed lands Limited facilities	None
Baseball/Softball Fields	1 per 1,500 persons	10	13	11	None
Trails	3 mile per 3,000 persons	15	20	?	?
Tennis Courts	1 per 1,500 persons	10	13	6 + private	?
Soccer Fields	1 per 4,000 persons	4	5	13	None
Football Fields	1 per 4,000 persons	4	5	2	2
Picnic Areas	4 acres per 1,000 persons	68 acres	78 acres	Trout Brook, Eagle Lake	None
Golf Course	1 per 25,000 persons	1	1	1	None
Indoor Recreation Center	1 per 10,000 persons	1.5	2	Schools	?
Water Sports Rowing, Fishing	1 lake or river per 25,000 persons	1	1	1 Access?	None

Standards suggested by National Recreation and Park Association

Based on the above estimates, Holden meets or exceeds the majority of these national standards. The deficiency noted for neighborhood parks is also documented in the Draft Holden Open Space and Recreation Plan. While many trails are available the Open Space Plan update showed strong support for additional recreation facilities, especially hiking and bike paths. Adequate recreation facilities are important for good health and enjoyment.



Figure 5-2: Trailhead in Holden

5.6. Open Space and Recreation Challenges and Opportunities

The Open Space Element of the Master Plan is largely based on the Draft Holden Open Space and Recreation Plan, which

- articulates goals and objectives for the Town;
- provides criteria for prioritizing parcels with conservation value;
- acknowledges the importance of improving access to and knowledge of the Town's natural resources and open space lands.

5.6.1. Open Space and Recreation Challenges

The future of large private land holdings, especially Chapter 61 lands, is the major open space issue that the Town will face in coming years. Ultimately, the environmental health of Holden will depend on both local decisions and the

The future of large private land holdings is the major open space issue that the Town will face in coming years.

landscape of surrounding towns. Each new development will reduce the remaining patches of natural vegetation and the area available for wildlife. Corridors that currently connect natural areas may disappear, further reducing the viability and population stability of both plants and animals. These impacts are cumulative and permanent. The Town's ecosystems change over time and many impacts may not be fully realized until years or decades from now.

As population increases there will be additional demand for recreation resources. Holden meets or exceeds national standards for recreation facilities in most categories. Fields for sports, as well as playgrounds, are currently adequate but more capacity is likely to be needed before 2030. There are few neighborhood parks and the Town could do more to encourage neighborhood parks in new subdivisions.

There are ongoing environmental concerns in the Town that must be addressed. These include (but are not limited to) reduced stream flow in the two sections of the Quinapoxet River, which has negatively impacted fish populations, diminished water quality in Eagle Lake, and several identified hazardous waste sites along the Main Street corridor (See section 3.4.6 - Hazardous Material and Underground Storage Tank Sites, in the Natural Resources Section).

5.6.2. Open Space and Recreation Opportunities

Holden is fortunate to have so much permanently protected land, but unplanned development could reduce opportunities to protect significant habitats and make connections between



Figure 5-3: Biking in Holden

Holden is fortunate to have so much permanently protected land, but unplanned development could reduce opportunities to protect significant habitats and make connections between already protected open spaces.

already protected open spaces. Holden will have to begin to aggressively protect existing open space and add to its permanently protected areas if it wishes to maintain its character.

The best strategies for maintaining the Town's character and environmental health will be:

- To facilitate preservation of farmland through the state's APR program;
- To protect rare landscape elements, such as wetlands, vernal pools, riparian zones (the areas along streams, rivers, and wetlands), state designated "priority habitats," BioMap areas, and large forested tracts.
- To retain large contiguous or connected areas that provide habitat for a diversity of wildlife. Guidelines published by the Environmental Law Institute³ call for at least 20% to 50% of a town to be protected natural habitat. They also recommend 137 acres (55 hectares) as a minimum contiguous size for a natural area. See the following discussion on corridors for improving connections between protected areas.

³ Environmental Law Institute, 2003, Conservation Thresholds for Land Use Planners, Washington, DC. [Hwww.eli.org](http://www.eli.org)H.

- To protect riparian buffers in order to preserve/improve water quality and wildlife habitat. The Environmental Law Institute recommends a 330-foot (100-meter) riparian buffer to provide for wildlife habitat functions. A 25-meter buffer will provide nutrient and pollutant removal and a 50-meter buffer will provide bank stabilization.
- To minimize the introduction and spread of invasive, non-native species. Many non-native species of plants and animals are known to disrupt the functioning of native ecosystems and contribute to a decrease in biodiversity.

The Holden Master Plan endorses the recommendations of the 2006 Holden Open Space and Recreation Plan Draft (Open Space Plan). Additional development will have major impacts on the Town's open space unless it is carefully managed. Many of the Town's protected open spaces could become isolated by future development of private lands. The Master Plan Open Space Map (Map 5.2) shows an open space system and potential corridor network. This map illustrates many opportunities and initiatives that were called for in the Open Space Plan. Many of the mapped opportunities and corridors will need further study and negotiation with private landowners to become realities. Many towns have a standing Open Space Committees that works closely with the Conservation Commission, the Selectmen, and the Planning Board to protect key open spaces. Such a committee could take the lead in negotiations with landowners and the Town to secure funding.

5.6.3. White Oak Land Conservation Society And Other Conservation Groups

The Town has an effective ally in its effort to preserve its open space. The White Oak Land Conservation Society is a local land trust that works to protect open space by acquiring lands through gift or purchase, or by acquiring conservation restrictions. They also:

- Advise landowners on how they may protect their lands, and collaborate with other entities, such as Town and State agencies, to this end;
- Provide responsible stewardship for their holdings;
- Provide educational opportunities to foster understanding and appreciation of natural environments, and to encourage conservation of natural resources; and
- Organize events to bring people together to enjoy fields, forests, ponds and wetlands.

Local land trusts are an important complement to a Town's effort to preserve open space. Some landowners and donors prefer a private non-profit as the ultimate custodian of land.

At least three other entities are pursuing preservation of additional open space in Holden – the Commonwealth of Massachusetts, through its DCR-MWRA program, the Trust for Public Land, in its role as agent for the City of Worcester DPW/Water Department, and the Massachusetts Audubon Society. These entities have preserved significant tracts of land within the past twelve months in Holden.

5.7. Creating an Open Space System

With all of the protected watershed land, Holden is close to having a complete network of interconnected open space with the potential of both maintaining viable habitat for wildlife and having a Town-wide trail system. The Mass Central Rail Trail provides a “spine” for such a trail system. The creation of offshoot and loop trails is possible if a few additional open spaces and corridors are protected. The proposed open space system shown on Map 5.2 includes all of the Town’s existing protected open space and recreation areas, all but a few isolated wetlands, potential corridors through currently privately owned or Chapter 61 lands, linkages to state-designated priority habitats, and opportunities for additions to already protected areas. The proposed system would include major open space opportunities—large undeveloped areas and potential corridors.

5.7.1. Major Open Space and Recreation Opportunities

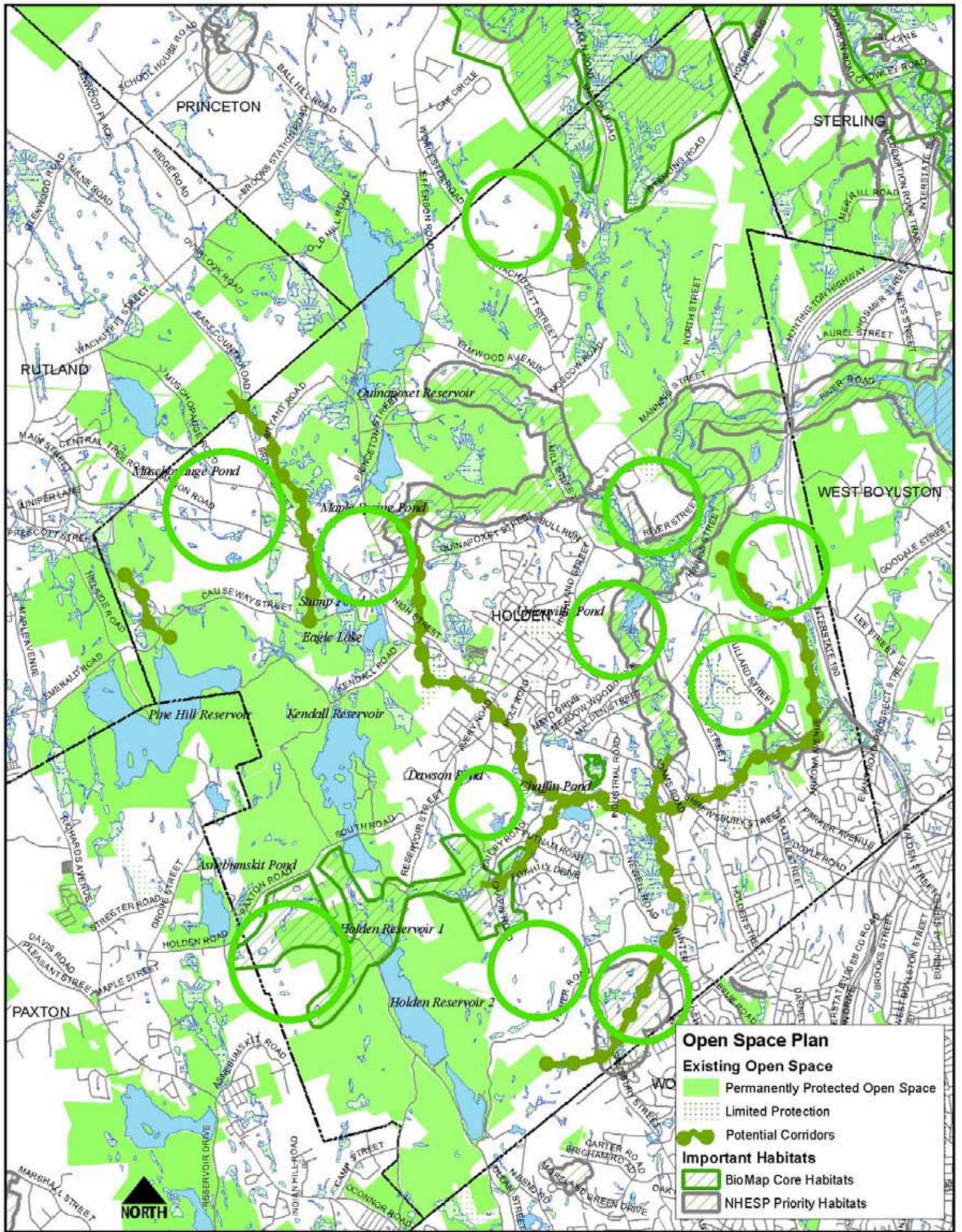
Map 5.2 identifies several major open space and recreation opportunities. Chapter 61 lands are key to realizing these opportunities. The Town should

A standing Open Space Committee that focuses its efforts on protecting open space, working with private land trusts, and implementing the Town’s Open Space Plan is essential.

develop a protocol to deal with these properties as soon as feasible, and preferably well before development plans are brought forward for these lands.

Preserving corridors and significant open space will be important considerations. New tools for guiding development of these lands are proposed in the master plan’s section on land use and zoning, Section 9. Also see the Open Space and Recreation Appendix for notes on Natural Corridors and Planning for Corridors.

The “Open Space Opportunities” are areas that have significant natural resources and some larger parcels that could be considered for open space protection. The private golf course also contributes to the Town’s character and opportunities for recreation. It will be critical to finalize the pending conservation restriction on the majority of the golf course to assure that its future use as open space is guaranteed.




 Open Space Opportunity

Holden
 2008 Master Plan
 Map 5.2: Open Space System

A standing Open Space Committee that focuses its efforts on protecting open space, working with private land trusts, and implementing the Town's Open Space Plan is essential. Lacking such a focused working group, most of the open space opportunities will be lost to unplanned development.

6. ECONOMIC DEVELOPMENT

In the visioning sessions, Holden residents expressed that they want carefully controlled commercial development. At the two public meetings held in October and December 2006, they also expressed desires for increasing opportunities for shopping and services. Two reasons for these preferences are that most of Holden's income is generated in reasonably well-paying jobs of residents working outside the Town, and additional economic development would most likely only result in minimal property tax relief for residents. Added to these factors is a fear of the new traffic that more shops, offices and industrial development would generate. Still economic development is important for three reasons. First, it creates jobs for local and other residents, thereby increasing income. Second, it spreads the real property tax burden, meaning residents bear less of the total costs for town services, because commercial and industrial developments generally pay more in taxes than they require in town services. Residential development generally costs more in town services (especially schools) than it produces in tax revenues (see Section 2.13 – Fiscal Impact Analysis of Residential Development in the Housing chapter). Third, commercial development creates more local opportunities to shop for goods and obtain privately provided services.

6.1. *Issues and Tradeoffs Involved in Economic Development*

The primary issue is that Holden residents want only limited economic development. The economic development they would like should be located along Main Street or in the Main Street Corridor. The tradeoffs are that fewer jobs will be created and lesser relief for residential property tax payers will result. The benefits are that shopping and service opportunities will be slightly expanded, and future traffic will be less than it would be with more business activities. If traffic on Main Street exceeds its capacity as a two-lane facility with a bike lane, it may have to be converted to a four-lane roadway, eliminating the bike lane.



6.2. Major Recommendations for Economic Development

- Rezone selected lands behind existing commercial development on Main Street from residential to commercial.
- In some selected land along Main Street rezone both commercial and residential to “village” which permits mixed use. Conduct a concentrated and timely public information campaign to better assure passage of commercial rezoning proposals.
- Encourage development of small office space with business support services to attract some existing home occupations into commercial space on Main Street where the businesses can grow.
- Use design review of commercial and mixed-use projects to better assure quality development in keeping with the existing character of Holden.
- Amend the zoning bylaw to eliminate undesirable commercial uses such as “big box” retail.
- Develop design standards and guidelines to ensure that new businesses contribute to the Town’s historic architecture and character.
- Implement a business recruitment program to get the types of businesses Holden residents want on Main Street, and conduct a storefront improvement program to upgrade the appearance of existing businesses. Identify the organization(s) that should be responsible for carrying out these activities.

6.3. Employment and Wages

Holden is not an important employment center in the Worcester Metropolitan Area, accounting for only about 1.6% of total employment. However, the share has been increasing very slightly recently from 1.56% to 1.68% from 2001 to 2004, as shown in Table 6.1. Only 2 % of Holden’s land is used for commercial and industrial activities (excluding the quarries), while about 3% of its land is zoned for commercial and industrial activities, excluding the areas zoned for quarries. Quarries occupy .06% of Holden’s land and quarry zoning accounts for 1.8% of all zoned land.

Table 6.1: Holden’s Share of Worcester Metropolitan Employment, Businesses and Wages

Year	Holden			Worcester Metropolitan Area			Holden Share of Metro Area
	Total Employ.	# of Businesses	Average Weekly Wages	Total Employ.	# of Businesses	Average Weekly Wages	
2001	3,544	308	\$648	227,415	12,328	\$728	1.56%
2002	3,575	322	\$644	223,718	12,826	\$739	1.60%
2003	3,643	327	\$679	223,128	12,239	\$761	1.63%
2004	3,793	333	\$749	225,182	13,585	\$780	1.68%

Source: Mass. Department of Employment and Training

Total employment in Holden has remained fairly stable, with shifts within major categories. Table 6.2 shows employment by type of business in Holden from 1981 to 2005.

Table 6.2: Employment in Holden, 1981-2005

Year	Total	Agr/Forest/ Fish	Gov.	Const.	Manuf.	TCPU	Trade	FIRE	Services
1981	4,048	51	701	189	1,072	89	757	73	1,116
1982	3,838	61	678	192	931	85	744	74	1,073
1983	3,848	70	663	270	877	78	792	71	1,027
1984	4,089	68	663	265	1,128	77	856	74	958
1985	4,447	83	650	243	1,381	78	910	78	1,024
1986	4,619	102	671	325	1,273	75	948	78	1,147
1987	4,382	98	671	381	961	75	994	79	1,123
1988	4,347	111	699	388	1,056	80	1,014	73	926
1989	4,297	107	720	385	1,002	57	1,028	73	925
1990	3,869	67	741	266	944	113	932	71	735
1991	3,368	53	664	181	852	150	883	71	514
1992	3,281	64	675	120	790	114	875	77	566
1993	3,450	72	693	127	784	112	1,003	86	573
1994	3,556	73	696	200	788	101	1,053	112	533
1995	3,611	89	718	163	842	81	1,036	96	586
1996	3,731	75	714	165	846	126	1,066	107	632
1997	3,883	77	813	171	783	109	1,121	118	391
1998	3,906	82	824	174	770	98	1,166	99	693
1999	3,826	84	855	190	732	67	1,041	121	736
2000	3,708	77	847	192	665	49	718	98	1,062
2001	3,544	71	782	164	608	32	675	117	1,095
2002	3,575	72	806	164	493	47	666	116	1,211
2003	3,643	74	855	134	502	51	661	121	1,245
2004	3,793	76	989	147	476	64	641	118	1,282
2005	3,781	76	1,053	137	409	61	643	120	1,282

TCPU = Transportation, Communication and Public Utilities

FIRE = Finance, Insurance and Real Estate

Source: Mass. Department of Employment and Training; Note: Definitions of categories changed somewhat in 2000 when reporting shifted from the earlier Standard Industrial Classification (SIC) to the current North American Industry Classification System (NAICS).

Total employment has dropped since 1981, peaking in 1986, with a low in 1992. Total employment has remained somewhat stable, increasing and decreasing with national and regional economic trends. It is notable that employment

Total employment has remained somewhat stable, increasing and decreasing with national and regional economic trends.

levels in Holden are just beginning to approach the levels it had during the 1980s. Manufacturing has dropped to less than half it was at the beginning of the 1980s. Wholesale and retail trade peaked in 1998 and has dropped to about

60% of what it was at its peak. Services have increased lately after dropping in the 1990s. Government has grown somewhat. Most government employees in Holden are employed in the school system. Other smaller employment categories have fluctuated with general economic conditions. In 2005 services accounted for thirty-seven percent of total employment, followed by government with twenty-eight percent, and trade accounting for another seventeen percent. These three categories accounted for eighty-two percent of all employment.

Table 6.3 shows payrolls, wages and number of businesses in Holden from 1981 to 2001.

Table 6.2: Payrolls, Wages and Number of Businesses, in Holden, 1981-2005

Year	Total Payroll	Average Annual Wage	# of Businesses
1981	\$49,428,600	\$12,177	237
1982	\$49,267,700	\$12,820	242
1983	\$53,042,000	\$13,748	252
1984	\$61,180,600	\$14,925	261
1985	\$70,820,400	\$15,882	276
1986	\$79,136,400	\$17,106	309
1987	\$77,391,900	\$17,665	313
1988	\$86,728,900	\$19,946	331
1989	\$88,139,600	\$20,507	315
1990	\$83,716,200	\$21,632	315
1991	\$79,555,300	\$23,614	297
1992	\$80,271,900	\$24,458	285
1993	\$85,509,200	\$24,778	306
1994	\$92,781,000	\$26,091	324
1995	\$95,331,500	\$26,400	316
1996	\$100,632,300	\$26,972	329
1997	\$111,749,900	\$28,779	312
1998	\$116,166,100	\$26,642	320
1999	\$120,232,700	\$31,278	327
2000	\$120,997,400	\$32,631	312
2001	\$119,348,200	\$35,204	308
2002	\$119,708,700	\$38,844	322
2003	\$128,643,000	\$40,404	327
2004	\$147,797,800	\$41,392	333
2005	\$148,005,000	\$41,964	328

Dollars in current year (not adjusted for inflation)

Source: Mass. Department of Employment and Training

Total payroll and number of businesses have steadily increased from 1981 to 2001. The number of businesses has increased slowly with some downturns. In 1985 the number of businesses is just about up to the level of 1996. The number of businesses in Holden has increased by 38% since 1981, while the total payroll (in current dollars) increased by 199% over that period.

Most businesses in Holden are located along Route 122A (Main Street). For the most part, these are highway-oriented retail and service businesses that serve town-wide markets. The Big-Y Shopping Center located on Reservoir Street is functionally part of the Main Street commercial corridor. This shopping center also serves basically a town-wide market.

The Central Massachusetts Regional Planning Commission (CMRPC) has prepared employment forecasts for Holden to the year 2030. This forecast is based on an analysis of regional trends and projected population growth. In this forecast, by 2030 total employment in Holden is expected to be about 4,650. This represents a 23% increase over the 2005 figure. Forecast data by five-year intervals are shown in Table 6.4.

Table 6.4: Forecasts of Total Employment for Holden: 2005 - 2030

	Year					
	2005	2010	2015	2020	2025	2030
Total Employment	3,781	4,270	4,390	4,490	4,570	4,650

Source: CMRPC Forecast of Employment

The figure of 4,650 maintains the metropolitan area share of about 1.6% for Holden. The forecast shows about 869 more employees in Holden in 2030 than were reported in 2005. A build-out analysis completed by Mass. EOEa shows about 297,660 sq. ft. (about 6.8 acres) of vacant commercial/industrial space that could be created on land currently zoned for those uses. 869 new employees could be reasonably fit on to the 6.8 acres available if higher density employment were developed. Typical employment densities for commercial and industrial space are between 200 and 400 sq. ft. per employee. This means that 869 new employees would require between 175,000 and 350,000 sq. ft. of building area. The higher figure (lower employment density) exceeds the 297,660 sq. ft. of land available. It is very likely that Holden will require additional commercially/ industrially zoned land by 2030, and earlier if it is to attract the employment forecast for it. Typically, two or three times more land than is needed should be

It is very likely that Holden will require additional commercially/ industrially zoned land by 2030, and earlier if it is to attract the employment forecast for it.

zoned for commercial and industrial activities to allow businesses to have choices of sites. Even more land should be zoned for commercial and industrial activity if Holden wants to attract more employment than the modest gains forecast by CMRPC.

A more recent build-out analysis was performed by RKG Associates as part of Holden's Community Development Plan. That study included redevelopment opportunities on property that was not zoned for commercial or industrial use, as

well as the Main Street Corridor, which is zoned for commercial and industrial use. In the Main Street Corridor, that study concluded that 156,618 sq. ft. of new commercial space could be added, potentially adding \$10,193,040 in assessed value. The Holden Sand and Gravel property on Highland and River Streets and Holden Hospital on Woodland Road were considered for mixed residential and commercial use, adding \$5,535,605 in commercial assessed value and \$28,793,160 in residential assessed value. The Rice School was also considered in this study for residential adaptive reuse, potentially adding \$2,047,500 in assessed value. A request for proposals has been issued for this residential reuse, and a developer selected. The Holden Zoning Board of Appeals has granted a variance requested by the developer, and the Holden Planning Board held a public hearing on the project on January 23, 2007. The site was approved for 25 condo units with 1 and 2 bedrooms and was nearly completed in April 2008.

6.4. Resident Labor Force and Unemployment

About 52% of Holden's resident workforce is in professional and other related relatively high paying occupations. Table 6.5 shows the composition of the work force in 2000. 86% of Holden's resident labor force worked out-of-Town. Average commuting time to work, according to the 2000 Census was 25.4 minutes.

Table 6.5: Labor Force Composition by Occupation in 2000

All Employed Persons 16 Years of Age and Over	7,940
Management, professional and related occupations	4,104
Service occupations	823
Sales and office occupations	1,927
Construction, extraction and maintenance occupations	429
Production, transportation, and material-moving occupations	657

Source: 2000 U.S. Census of Population

In 2000 there were 451 self-employed residents in Holden, while there were 1,374 residents employed as government workers and 6,102 workers in the private sector. In 1999, as reported in the 2000 Census, median household income was \$64,297.

Table 6.6 shows how the resident labor force and their employment and unemployment have changed from 1990 to 2005.

Table 6.6: Labor Force, Employment, and Unemployment in Holden

Month	Year	Labor Force	Employed	Unemployed	Unemployment Rate
July	2006	8,744	8,359	385	4.0
Average	2005	8,687	8,337	350	4.6
Average	2004	8,744	8,342	402	4.9

Table 6.6: Labor Force, Employment, and Unemployment in Holden (continued)

Month	Year	Labor Force	Employed	Unemployed	Unemployment Rate
Average	2003	8,719	8,296	423	4.3
Average	2002	8,592	8,221	371	2.7
Average	2001	8,478	8,248	230	2.1
Average	2000	8,362	8,184	178	2.4
Average	1999	8,288	8,087	201	2.2
Average	1998	8,264	8,080	184	2.6
Average	1997	8,110	7,902	208	2.8
Average	1996	7,911	7,691	220	3.4
Average	1995	7,837	7,568	269	4.0
Average	1994	8,088	7,764	324	5.0
Average	1993	7,969	7,568	401	6.8
Average	1992	7,870	7,335	535	7.2
Average	1991	7,826	7,261	565	4.9
Average	1990	7,852	7,469	383	

Source: Mass. Department of Employment and Training

The unemployment rate for Holden residents has been fairly low, reflecting a well-educated labor force that participates in a growing metropolitan economy and competes well for jobs. The higher rates of 1991 and 1992 reflect the overall

The unemployment rate for Holden residents has been fairly low, reflecting a well-educated labor force that participates in a growing metropolitan economy and competes well for jobs.

state and national economic downturn of that period. One rationale to promote economic development is to provide jobs for Town residents who may need them. Given the low unemployment rates of Holden residents and high labor force skills, it does not appear that they need many new locally provided jobs

6.5. Property Taxes

Another of the reasons to encourage further economic development is to increase the property tax base. As noted above, it was only weakly held as an objective for economic development by Holden residents attending the two public meetings in October and September 2006. Table 6.7 shows the position of Holden in relation to the tax rates and average tax bill of surrounding communities.

Holden has a higher than average residential tax rate. Of the towns, only Paxton has a higher rate. It is important to note however that, of the towns, only Rutland has a lower average single-family property tax bill. Worcester has a split tax rate, with its commercial/industrial rate being almost double its residential rate and is thus not comparable to the towns.

Table 6.7: Fiscal Year 2006 Tax Rates and Average Residential Tax Bills

City or Town	FY 2006 Tax Rate		Average Single-family Tax Bill
	Residential	Commercial/Industrial	
Holden	\$12.36	\$12.36	\$3,705
Princeton	\$11.98	\$11.98	\$4,283
Rutland	\$10.42	\$10.42	\$2,719
Paxton	\$12.41	\$12.41	\$3,866
Sterling	\$11.59	\$11.59	\$4,282
West Boylston	\$12.13	\$12.13	\$3,843
Worcester	\$12.53	\$25.20	\$2,879
Average	\$11.92	\$13.73	\$3,654

Source: Mass. Department of Revenue

Holden's tax base is only 5.4% commercial, industrial and personal properties. Table 6.8 shows how much of surrounding town's tax base is commercial, industrial and personal property. The remainder of property taxes is paid by residential and open space uses. Personal property is mostly equipment in commercial and industrial businesses. It includes pipes, wires and conduits used for business purposes that may be located off-site.

Table 6.8: Commercial, Industrial, and Personal Property Percentages of Tax Bases in Surrounding Towns – 2006

% of Tax Base	Town or City						
	Holden	Princeton	Paxton	Rutland	Sterling	West Boylston	Worcester
Comm. & Indus.	5.4	2.5	4.3	4.0	11.1	14.1	18.5

Source: Mass. Department of Revenue

Holden falls in the middle of these municipalities with three substantially higher than Holden and three lower, but not by much. Holden's tax base resembles the more rural communities of Princeton, Paxton and Rutland.

As mentioned there are 297,660 sq. ft. (about 6.8 acres) of vacant commercial and industrial land that could be developed in commercially and industrially zoned areas. Development of this land would only slightly contribute to improving Holden's tax base. RKG Associates estimated the potential gain at \$10,193,030; an increase of 12% in Holden's industrial and commercial tax base, but a gain of only 4% in the total tax base of Holden. This would decrease the tax rate by 6 cents and reduce the average residential tax bill by about \$18.

Even with only a 4% gain some infill and intensification of the business areas in the commercially zoned land along Main Street (State Route 122A) is desirable

because it would increase shopping and service provision. This should be encouraged, although its design should be controlled to create more pedestrian oriented mixed-use “village” type shops, offices and apartments. This could be implemented by applying design guidelines and requiring detailed design

...some infill and intensification of the business areas in the commercially zoned land along Main Street is desirable because it would increase shopping and service provision. This should be encouraged, although its design should be controlled to create more pedestrian oriented mixed-use “village” type shops, offices and apartments.

review. An example of how infill and intensification might occur is shown using Holden Plaza and vicinity on Main Street as an illustration below. The example is not intended to be a definitive initial plan for the area, but only to show how some good site planning principles could be applied. There may be reasons why it is not feasible to carry out the example on the Holden Plaza site, but it is likely that such principles could be applied at one or more locations on Main Street.



The drawing shows two new buildings on two adjacent lots. The new buildings are placed to create semi-enclosed spaces that can be landscaped and provided with walkways and pedestrian amenities. The front of the site is landscaped and all parking is placed to the rear of the existing and new buildings. Focal points to create visual interest and encourage pedestrian gathering should be provided in the landscaped areas in front of the buildings. The parking behind the buildings is connected between the two lots for better circulation and is landscaped on lot edges to provide buffers for adjacent properties and more attractive parking areas. The rear of the buildings should be made as

attractive as the fronts and direct entrances from the parking areas should be provided. The three vacant lots behind the existing buildings provide an opportunity for future commercial expansion, a condition that exists up and down Main Street. This particular site has commercial zoning that extends 500 feet back from Main Street. The vacant lots are currently zoned for commercial

use. In most other areas along Main Street commercial zoning would have to be extended beyond the 250 to 300 feet that now exists. Deepening commercial

Deepening commercial zoning presents opportunities to create small-scale attractive and inviting shopping villages along Main Street.

zoning presents opportunities to create small-scale attractive and inviting shopping villages along Main Street.

A split tax rate (with commercial and industrial property taxed at a higher rate than residential property) is a commonly used device to balance the tax base of towns. Holden may want to consider this to increase the share of taxes paid by commercial and industrial uses, although given the small amount of commercial and industrial activities a split rate would not contribute substantially to Town revenues. An argument against a split rate is that it may deter new commercial activities from moving to Holden. As mentioned, neighboring Worcester has a split rate. Age-restricted housing is discussed further in the housing chapter. It too is becoming a more common practice in land development as a means of better balancing the property tax situation. Holden has some age-restricted housing now.

6.6. Market Considerations

It is clear that markets exist for some future economic development in Holden. Services, which occupy office space, are expected to continue to grow in the area. They have increased in Holden by 17% over the past 5 years. The fastest

Retail trade generally increases as population increases, so with further population growth Holden's retail activities are expected to increase.

growing sector of Holden's economy recently has been government (35% growth over the last 5 years). Wholesale and retail trade has actually declined over the last 5 years (by -5%). Retail trade generally increases as population increases, so with further population growth Holden's retail activities are expected to increase. Table 6.9 shows projected regional employment growth in the Central Massachusetts area.

Table 6.9: Projected Employment in the Central Massachusetts Region

Employment Category	Existing 2000	Projected 2030	2000 to 2030		Ave. Weekly Wage in 2004
			Change	% Change	
Education	62,609	84,889	22,280	36%	\$763
Manufacturing	34,749	14,706	-20,043	-58%	\$1,048
Professional	29,943	35,253	5,478	18%	\$889
Retail	29,075	35,253	6,178	21%	\$540
Leisure	19,298	26,472	7,174	37%	\$284
Finance	14,382	18,111	3,729	26%	\$1,077

Table 6.9: Projected Employment in the Central Massachusetts Region (continued)

Employment Category	Existing 2000	Projected 2030	2000 to 2030 Change	% Change	Ave. Weekly Wage in 2004
Construction	11,486	14,531	3,045	26%	\$879
Wholesale	10,202	11,791	1,589	16%	\$913
Transportation	9,494	11,727	2,233	23%	\$873
Public Administration	8,914	10,787	1,973	21%	\$876
Other Services	8,722	12,109	3,387	39%	\$480
Information	5,232	5,104	-128	-2%	1,231
Agriculture	396	630	234	59%	\$321

Source: Central Massachusetts Regional Planning Commission

Holden is located on Route 122A, north of Worcester, an important and economically growing city. Worcester is running out of good developable commercial and industrial space along the I-190 Corridor, so Holden can expect some spillover employment growth from Worcester if adequate sites and zoning can be made available. Forecasts show that Worcester is expected to gain almost

Holden can expect some spillover employment growth from Worcester if adequate sites and zoning can be made available.

19,000 jobs (of all types) by 2030, an 18% increase. Holden can expect that some of these jobs are candidates for capture. The Town should prepare for this capture with a strategy and guidelines that inform developers what the Town wants from its economic development, in terms of location, income, jobs, wages and design, and most importantly, zones more suitable land for industrial and commercial uses.

Other market factors are the home occupations that exist in residentially zoned areas of Holden. There are 52 businesses listed by the Town that have been issued “Doing Business As” certificates. They are listed in an Appendix. About half of these appear to be located in residential zones and as these businesses grow, they may become candidates for location in commercial and industrial zones. They could constitute part of a market for new “infill” space along Main Street.

6.7. Location

Commercial locations require good highway access and adequate traffic capacity in roadways. Industrial locations require good access to express highways and inter-town connections. The most obvious locations for new retail activities are along Main Street where they now exist. Main Street is centrally located with respect to the residential areas of Holden and has good arterial roadway connections to them. However, Main Street is not well located to serve regional commercial needs because it lacks good connections to surrounding towns, except for the commuter traffic from Rutland and Princeton that passes through

Holden. This traffic provides a market for some of the highway-oriented businesses on Main Street.

Office business services will seek locations similar to industrial activities, that is, near express highway intersections and with good local road access into their parking areas. These activities need good sub-regional and regional access because they draw on labor pools in surrounding towns. Personal, medical, legal and finance, insurance and real estate services generally desire locations on arterial roads, such as Main Street, to serve local markets. Some of these activities are candidates for location in office parks if they are located near local arterials.

Retail activities desire locations on local arterial roads. As mentioned, it is important to minimize strip development aspects by clustering retail activities in attractive shopping villages with mixed uses including residential and office. Expanding the limited commercial zoning districts along Main Street, combined with design review is essential to maintaining and enhancing the existing small-town character of Holden. The intersection of Main Street and Reservoir Street

Expanding the limited commercial zoning districts along Main Street, combined with design review is essential to maintaining and enhancing the existing small-town character of Holden.

and Highland Street (State Route 31) is an area of special concern for commercial activities, because of the need to keep the historic character of the area (this is one of the Town's two historic districts), while adding selective small-scale retail uses to increase the activity level of the area.

A major economic development initiative would be to develop industrial and office uses in the area of a potential new interchange between I-190 and Malden Street. If such an intersection were to be built the relatively flat land both north and south of Malden Street west of I-190 could be rezoned for industrial and office uses. The land is illustrated in the air and ground photos shown on the next page.

The area is open with a few rural residences. The land is used for pasture and woodland. There is a small stream and some wetlands in the area that would have to be protected in any industrial and office development. The area is flat and appears to be well drained. Sewer and water lines would have to be extended down Malden Street to service the area if capacity limits could be increased. The environmental feasibility of commercial and industrial development in the area would have to be fully evaluated before it could proceed. Other impacts such as traffic and visual impacts would also have to be fully



Aerial Photo of the Intersection Area



Ground Photo of Malden Road Looking East

evaluated. To summarize, economic development areas exist at the potential Malden Street intersection with I-190, along Main Street, on the Holden Hospital and Holden Sand and Gravel properties and in the Jefferson Mills.

6.8. Income to the Town

High value property and furnishings and equipment can make a contribution to the property tax base. This generally means manufacturing and research and development and office activities with high-tech and high-value machinery and equipment. Warehousing and storage and trucking activities generally have a lower relative property value.

6.9. Jobs and Wages

Professional, technical, clerical and sales jobs that match Holden's labor force are desirable because they allow local residents to take the jobs. Wage levels that permit workers to live in Holden are also desirable. Moreover, jobs for entry level and part-time job seekers are desirable for Holden residents seeking second or supplementary jobs to increase household income. Some Town residents have expressed a desire to have a second supermarket in Town to assure competitive prices. Presently there is only the Big Y. Some Holden residents shop for groceries in surrounding towns. A supermarket of appropriate scale (less than 50,000 sq. ft.), and with an appropriate mix of food products will provide entry level and part-time job opportunities.

6.10. Design

To maintain the character of the Town it is important to have well-designed and landscaped buildings that fit into the overall architecture of the Town. Minimizing strip commercial development is very important; both to maintain the traffic carrying function of Main Street and to reduce visual disorder. Well-designed signs that are not out of scale with the roadways and buildings are

needed. It will be important to create gathering areas in shopping villages for retail and service activities, and to provide mixed commercial/

Minimizing strip commercial development is very important; both to maintain the traffic carrying function of Main Street and to reduce visual disorder.

residential areas to build local markets, require less travel, and offer activities in evening hours.

6.11. Transportation Access to Jobs in Holden

Workers can readily access the employment opportunities in Town by automobile, since there are two state highways that traverse the Town, with connections to I-190, a limited access roadway with two interchanges just east of Holden that connect to local road entering the Town, Manning Street in the north and Chapel Street in the South. Access by other modes of transportation is not readily available. There is one Worcester Regional Transit Authority bus route (No. 32) that traverses Main Street up to Jefferson, but it has only four inbound and four outbound trips per weekday (two in each direction in the morning and two in the afternoon). It runs from Saint Mary's Church in Jefferson to City Hall in Downtown Worcester, a 32-minute trip.

6.12. Land Use and Zoning for Economic Development

Land use and zoning have been mentioned where appropriate in the text above. To sum up, there is very little land zoned for economic development in Holden, not even enough to support the modest increases in economic development projected for the Town. Clearly, more land needs to be zoned for both industry and commercial activities if the Town wants more economic development. It appears there is some vacant developable land behind the existing commercial developments on Main Street. Rezoning it for commercial uses or mixed commercial and residential uses would help create the depth needed to create shopping villages and allow separate commercial areas to emerge, each with their own identity, rather than continue the strip development that has appeared along Main Street. Holden has passed and used village zoning,

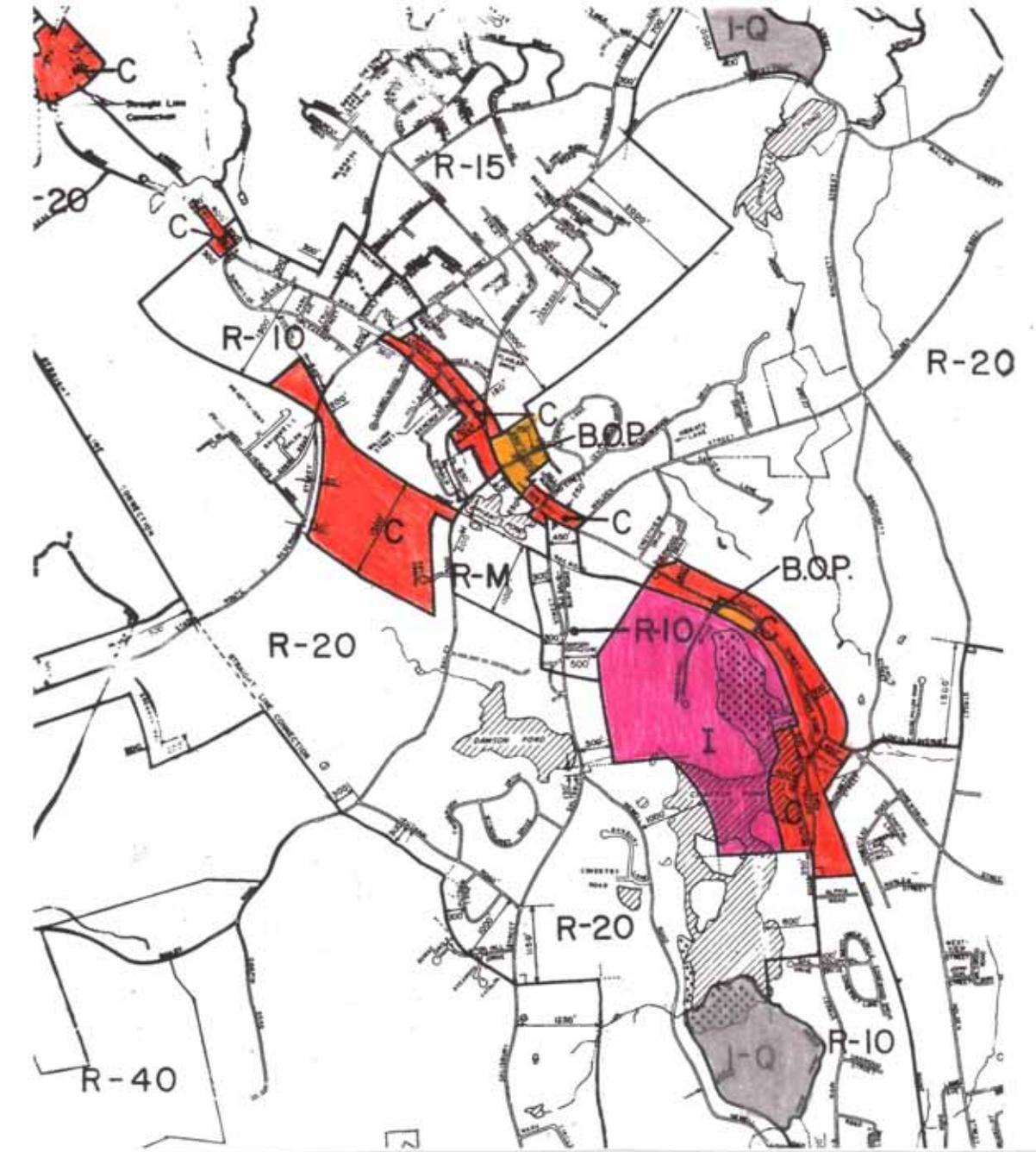
It appears there is some vacant developable land behind the existing commercial developments on Main Street. Rezoning it for commercial uses or mixed commercial and residential uses would help create the depth needed to create shopping villages and allow separate commercial areas to emerge, each with their own identity, rather than continue the strip development that has appeared along Main Street.

permitting mixed uses in Jefferson. There is a current proposal under the State's "40R" Program to create 56,000 sq. ft. of mixed use retail, office and housing (70 units) on property located off Bailey Road and Salisbury Street. It would be appropriate to apply the same village zoning and design principles and

practices to this area, and to the Main Street area. Given that the Town has turned down commercial rezoning proposals in the past it will be desirable to conduct a concentrated and timely public information campaign to get the proposed commercial rezoning passed at Town Meeting. For reference an aerial photograph and a zoning map of the Main Street Corridor are shown below.



Figure 6-1: Aerial Photo of Main Street Corridor in Holden



Zoning Districts in the Main Street Corridor



Community Preservation Associates

Map 6-1: Zoning Districts in the Main Street Corridor

7. TRANSPORTATION

“You can’t get there from here during rush hours!”

Main Street congestion ranked as a high concern in the visioning sessions held to gather public input for the Master Plan. This is understandable when one realizes that our local transportation system should provide efficient and safe mobility for all as well as reasonable connections to regional facilities.

The life of every resident in Holden is affected by transportation. The mother pushing the stroller down the sidewalk; the grade school student waiting for the school bus; the wage earner going to work in the morning; the accident victim waiting for an ambulance; and the senior citizen boarding the van to the Senior Center are all affected by and use transportation. It is equally important to our businesses since they rely on efficient transportation to attract workers and customers.

Efficient, timely, and safe transportation is critical because residents, businesses, students, visitors, and emergency services all depend upon it. The maintenance and enhancement of the transportation system can be used to attract development and expand the tax base. Towns with excellent transportation are in a better competitive position to attract new development that would expand the tax base. In addition, the transportation system has impacts on resources, community character, and the quality of life.

This section summarizes the existing transportation system in Holden and how it connects with the regional transportation system. The following elements are summarized in this section:

- Issues and Tradeoffs Involved in Transportation
- Summary of Major Recommendations for Transportation
- Travel Characteristics
- Traffic Volumes
- Roadway Functional Classification
- Traffic Congestion
- Maintaining Roadway Infrastructure
- Safety
- Pedestrian and Bicycle Facilities
- Transit
- Railroads
- Air Travel
- Areas of Concern

The inventory of the existing transportation system in Holden is used to identify deficiencies and needs and as the basis from which to evaluate future conditions and potential improvement measures.

7.1. *Issues and Tradeoffs Involved in Transportation*

The primary transportation issues identified by the community include:

- Geometric roadway and intersection deficiencies that affect safety
- Traffic congestion
- Limited access to regional highways resulting in cut-through traffic
- Inadequate pedestrian and bicycle facilities
- Inadequate transit options
- Deteriorating pavement conditions

Since only limited funding is generally available for transportation projects, the tradeoffs are that priorities must be identified to select where improvements are made. The benefits are that the mobility and safety of the transportation system will be improved for all users that may also spur new development.

7.2. *Major Recommendations for Transportation*

- Evaluate feasibility and impacts of new I-190 interchange in the vicinity of Malden Street.
- Implement safety and operations improvements at critical intersections such as Doyle Road at Brattle Street and railroad gates at Industrial Drive.
- Develop and implement a Pavement Management System for Town roadways using information developed by the Central Massachusetts Regional Planning Commission.
- Implement a sidewalk program to install new sidewalks and maintain existing sidewalks at critical locations such as elementary schools.
- Coordinate with the Worcester Regional Transit Authority as to the potential demand and feasibility for improved bus service and a local shuttle.
- Further develop traffic impact mitigation analysis and fee requirements for new development to help fund improvements.
- Coordinate with Wachusett Regional High School to develop a program to discourage students from driving to school.

7.3. *Inventory of Existing Transportation Conditions*

Existing transportation conditions in and around Holden are described below.

7.3.1. *Travel Characteristics*

The population in Holden was 14,628 in 1990 and 15,621 in 2000 based on US Census Bureau data, indicating a growth rate of approximately 0.6 percent per

year during that time period. In 2005, population had grown to 16,499, representing about a one percent annual population growth rate.

Figures 7.1 and 7.2 show major work destinations for Holden residents for years 1990 and 2000. The majority of employed residents work in either Holden or Worcester. However, both communities employed fewer Holden residents in 2000 than in 1990. In 1990, 1,630 residents worked in Holden versus 1,099 in 2000. Work trips from the entire Central Massachusetts Regional Planning Commission (CMRPC) region to Boston area communities (inside Route 128) increased by 65% from 1990 to 2000 (from 8,889 to 14,465)¹. However, Holden residents working in Boston decreased from 132 in 1990 to 90 in 2000.

Figures 7.3 and 7.4 show the major residence locations for Holden workers for 1990 and 2000, respectively. As discussed above the number of residents working in Holden decreased from 1,630 in 1990 to 1,099 in 2000. Other communities providing fewer jobs for Holden residents include Worcester, Princeton, Spencer, and West Boylston. Communities employing more Holden residents in 2000 than in 1990 include Rutland, Barre, Leominster, Sterling, and Fitchburg.

Regionally, statewide, and nationally, people are traveling further to their jobs. Perhaps residents are moving further away from their jobs to places like Holden for improved quality of life at decreased cost of living. Or, perhaps Holden

Regionally, statewide, and nationally, people are traveling further to their jobs.

residents are traveling further to take advantage of better employment opportunities. Regardless, if this trend continues, transportation needs may shift. Safer and more effective access to the interstate system and other long-haul routes could become a higher priority, while the local circulation issues that were the focus in the past could become more of an ongoing maintenance and management issue.

Table 7.1 summarizes registered motor vehicles statewide and in Holden for the years 1990 and 2005. Between 1990 and 2005, Holden experienced a 46% growth in registered vehicles compared to a 38% growth statewide over the same time period. During the same period between 1990 and 2005, Holden witnessed a 13% increase in population. A number of factors are often cited for the trend toward increased registered vehicles. These include

¹ CMRPC analysis of US Census 1990 and 2000.

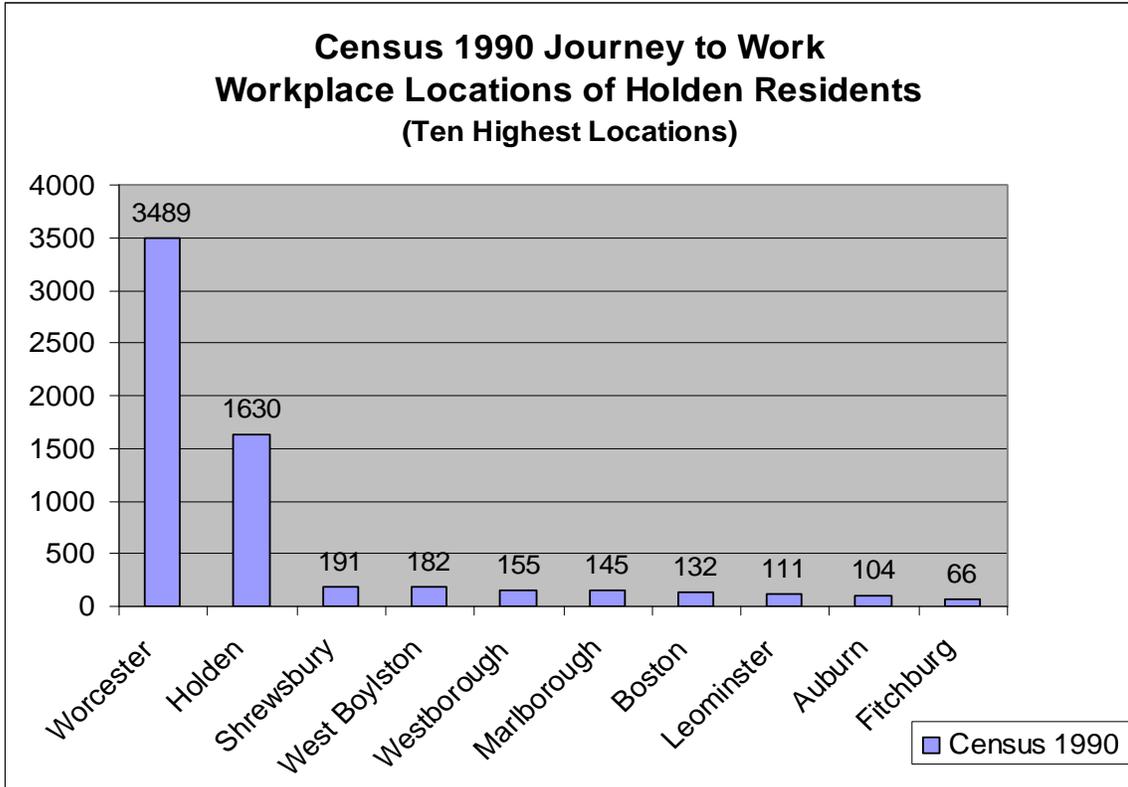


Figure 7.1: 1990 Journey to Work

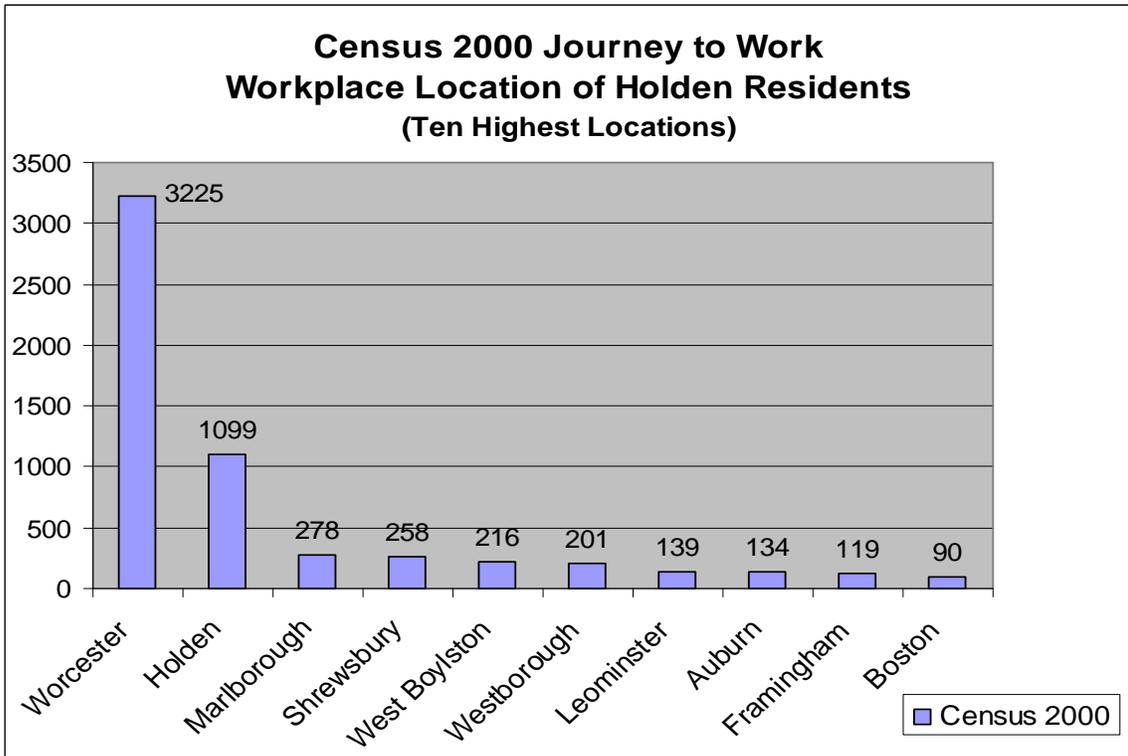


Figure 7.2: 2000 Journey to Work

the increase in young driver ownership, people working more than one job, out of the home child and day care, and business vehicles registered in Town, but the ultimate effect is that there are more vehicles on the roadway system today than in the past.

Table 7.1: Registered Motor Vehicle in Holden Compared to State

	REGISTERED VEHICLES		% GROWTH
	1990	2005	
Massachusetts State-Wide	4,074,063	5,639,105	38%
Holden	10,961	15,988	46%

Source: Massachusetts Department of Revenue/Division of Local Services.

7.3.2. Traffic Volumes

Traffic volume counts are one method used to evaluate traffic. Daily roadway traffic volumes on roadways in Holden are shown in Table 7.2, and graphically on Map 7.1. Daily traffic volumes in Holden range from 11,000 to 17,100 vehicles on Main Street north of Route 31, and 20,200 to 27,600 vehicles on Main Street south of Route 31. Other high volume roadways include Shrewsbury Street (14,500 vehicles per day, or vpd); Doyle Road (13,300 vpd), and Route 31 (up to 10,000 vpd). These traffic volumes include both locally generated and through-travel traffic. Daily traffic volumes on Interstate I-190 are 34,300 vpd.

Table 7.3 shows historical count data for several key intersections in Holden. In general, the morning peak hour falls between 7:15 and 8:15 AM, and the afternoon peak hour is between 4:30 and 5:30 PM.

...the morning peak hour falls between 7:15 and 8:15 AM, and the afternoon peak hour is between 4:30 and 5:30 PM.

The highest volume intersection in Table 3 is Highland-Reservoir (Route 31)/Main Street (Route 122A), with over 2,100 vehicles per hour (vph) during AM and PM peak hours.

Counts indicate that peak hour traffic volumes at this intersection increased between 20 and 25% from 1996 to 2005. Main Street (Route 122A)/Shrewsbury Street carries 2,086 PM peak hour vehicles.

At Chapel Street/Holden Street/Shrewsbury Street, PM peak hour volumes decreased by 13% between 1991 (1,921 vph) and 2000 (1,678 vph). Peak hour volumes at Main and Broad Street (Rt. 68) and Main and Pleasant Street were between 1,200 and 1,441 vph for 2003 and 2004.

All locations along Main Street experience moderate to high truck volumes during the morning peak period (1 to 6 percent). Most of the truck trips are through trips along Main Street, Shrewsbury Street, and Doyle Road. The

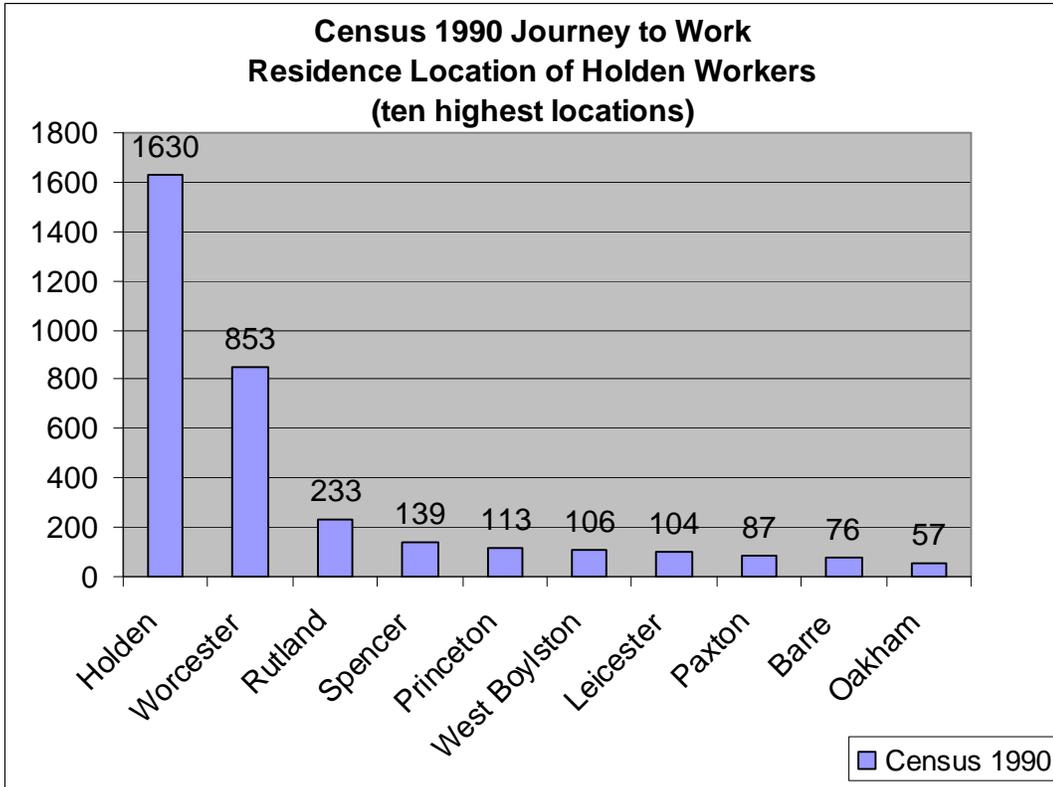


Figure 7.3: 1990 Residence Locations

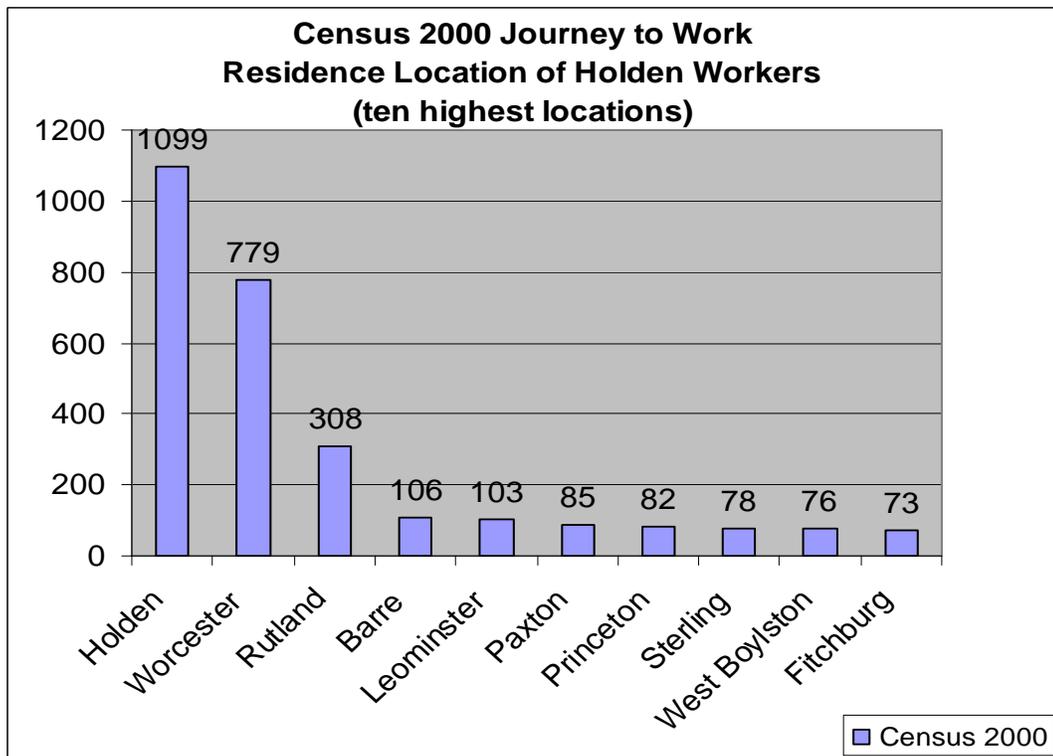


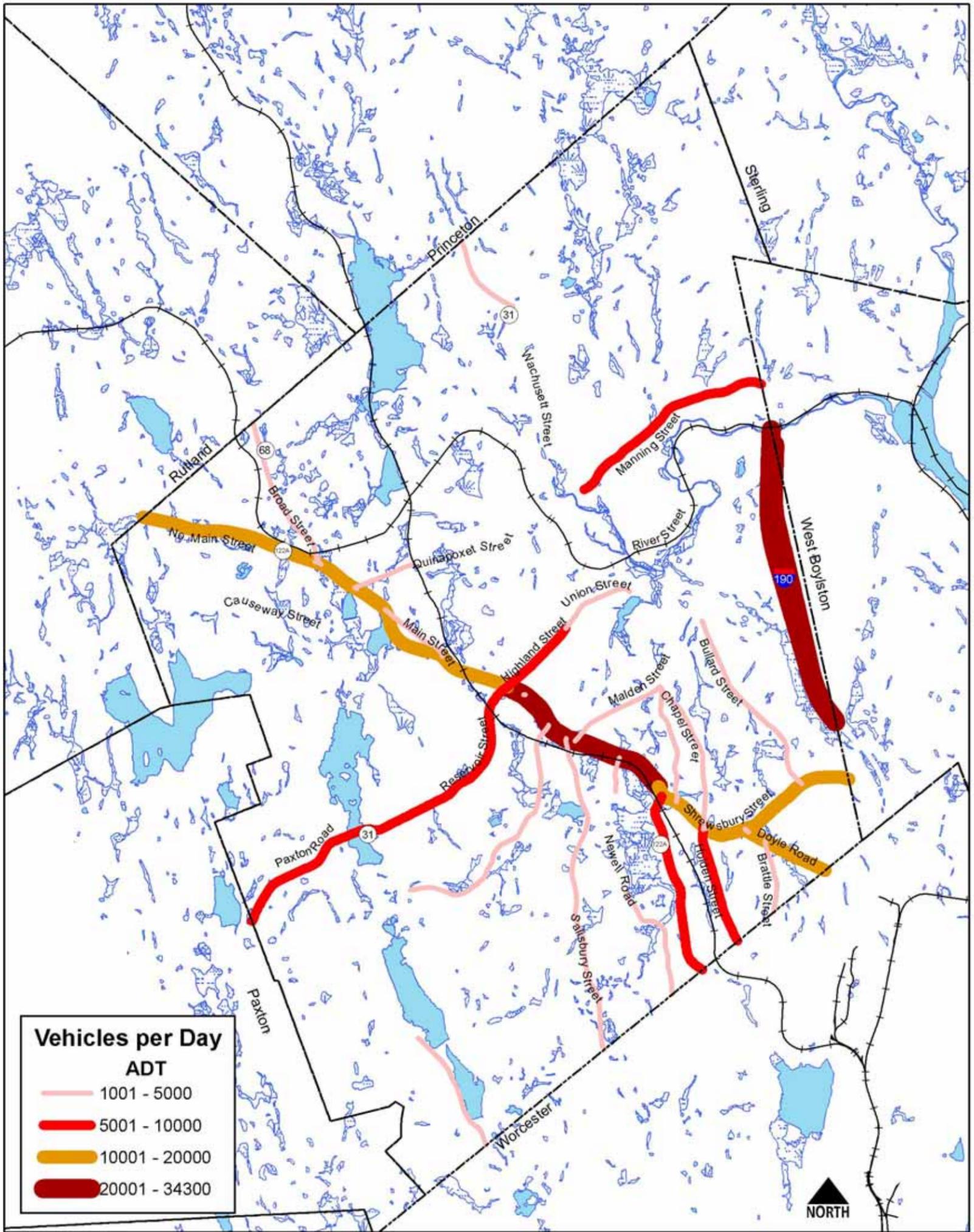
Figure 7.4: 2000 Residence Locations

highest percentage of heavy vehicles occurs at Doyle Road/Brattle Street, where 73 trucks in the AM peak hour represent 8% of the total peak hour volumes (892 vph) at this intersection.

Table 7.2: Holden 2006 Daily Traffic Volumes on Selected Roadways

LOCATION	DAILY TRAFFIC
Rt. I-190 W. Boylston N/O Exit 4	34,300
Main St. (122A) S/O Holt Rd.	27,600
Main St. (Rt. 122A) N/O Shrewsbury St.	20,200
Main St. (Rt. 122A) N/O Rt.31	17,100
Main St. (Rt. 122A) N/O Mt. Pleasant Ave.	15,200
Main St. (122A) S/O Kendall Rd.	15,100
Main St. (Rt. 122A) N/O Broad St. (Rt. 68)	11,000
Main St. (Rt. 122A) At Worcester C.L.	7,800
Shrewsbury St. E/O Chapel St.	14,500
Doyle Rd. At Worcester C.L.	13,300
Reservoir St. (Rt. 31) S/O Main St.	10,000
Highland St. (Rt. 31) N/O Main St.	7,500
Paxton Rd. (Rt. 31) At Paxton T.L.	5,700
Wachusett St. (Rt. 31) At Princeton T.L.	3,100
Broad St. (Rt. 68) S/O Muschopauge Rd.	3,500
Broad St. (Rt. 68) At Rutland T.L.	3,000
Holden St. At Worcester C.L.	7,900
Manning St. At W. Boylston T.L.	5,300
Chapel St.	4,700
Salisbury St. N/O Cranbrook Dr.	4,000
Salisbury St. At Worcester C.L.	3,400
Quinapoxet St. W/O Summit Rd.	3,500
Reservoir St. At Worcester C.L.	3,000
Bailey Rd. W/O Main St.	2,700
Union St. E/O Highland St.	2,600
Mt. Pleasant Ave.	2,500
Newell Rd. S/O Cranbrook Dr.	2,400
Industrial Dr. S/O Sherwood Hill Dr.	2,400
Bullard St. N/O Shrewsbury St.	2,300
Brattle St. At Worcester C.L.	1,900
Malden St. N/O Main St.	1,600
Wachusett St. S/O Chapel St.	1,000

Source: Central Massachusetts Regional Planning Commission, Massachusetts Highway Department and Traffic Impact Studies conducted by Abend Associates and MS Transportation Systems, Inc. between 2000 and 2006. Data adjusted to 2006 conditions assuming 2.0% per year growth rate.



Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners

Holden 2008 Master Plan

Map 7.1: Average Daily Traffic
On Selected Roadways

0.5 0.25 0 0.5 1 1.5 Miles

Table 7.3: Intersection Operations Data

Count Date ¹	Location	Peak Hour	Peak Hour Vol. ²	Heavy Vehicle %	Critical Level of Service Movement ³
3/2004	Main (Rt. 122A)/Broad St (Rt. 68)	7:00-9:00	1,264	Na	SBLT – F
3/2004	Main (Rt. 122A)/Broad St (Rt. 68)	4:00-6:00	1,333	Na	SBLT – C
11/12/2003	Main (Rt. 122A)/Broad St (Rt. 68)	7:00-9:00	1,202	5	SBLT – F
11/12/2003	Main (Rt. 122A)/Broad St (Rt. 68)	4:00-6:00	1,416	1	SBLT – F
9/14/2000	Malden/Wachusett/Chapel	7:15-8:15	719	Na	SB – C
9/14/2000	Malden/Wachusett/Chapel	4:30-5:30	709	Na	NB – B
11/12/2003	Main (Rt. 122A)/Mt. Pleasant St	7:00-8:00	1,196	5	SBLT – E
11/12/2003	Main (Rt. 122A)/Mt. Pleasant St	4:30-5:30	1,441	1	SBLT – D
9/21/2000	Wachusett/Union	7:15-8:15	818	1	SBLT – D
9/21/2000	Wachusett/Union	5:00-6:00	812	1	SBLT – C
9/21/2000	Highland/Union	7:15-8:15	811	1	WB – C
9/21/2000	Highland/Union	5:00-6:00	939	2	WB – E
6/15/2005	Main (Rt. 122A)/Newell	7:00-8:00	640	2	EBLT – B
6/15/2005	Main (Rt. 122A)/Newell	5:00-6:00	683	1	EBLT – C
9/30/1991	Chapel St/Holden St/Shrewsbury St	4:45 - 5:45	1,921	3	Na
6/6/2000	Chapel St/Holden St/Shrewsbury St	7:15 - 8:15	1,765	5	Na
6/6/2000	Chapel St/Holden St/Shrewsbury St	4:15 - 5:15	1,678	2	Na
7/7/2005	Doyle Rd/Brattle St	7:30 - 8:30	892	8	Na
7/7/2005	Doyle Rd/Brattle St	4:30 - 5:30	1,135	2	Na
3/13/1996	Highland-Reservoir(Rt.31)/Main(Rt.122A)	7:15 - 8:15	1,741	4	Na
3/13/1996	Highland-Reservoir(Rt.31)/Main(Rt.122A)	4:30 - 5:30	2,110	1	Na
9/7/2005	Highland-Reservoir(Rt.31)/Main(Rt.122A)	7:00 - 8:00	2,176	6	Na
9/7/2005	Highland-Reservoir(Rt.31)/Main(Rt.122A)	4:30 - 5:30	2,534	3	Na
9/13/1994	Main St (Rt.122-A)/Shrewsbury St	7:15 - 8:15	1,731	5	Na
9/13/1994	Main St (Rt.122-A)/Shrewsbury St	4:45 - 5:45	2,086	2	Na

Source: CMRPC and Traffic Impact Studies.

Notes:

1. Wachusett Regional High School staff confirmed that Holden schools were in session all of the count dates listed except July 7, 2005.
2. Volume of vehicles passing through the intersection (total of all approaches)
3. Level of Service presented for worst movement from minor road. SBLT=Southbound Left Turn, etc.

7.3.3. Roadway Functional Classification

Highway travel involves movement through a network of roads. Functional classification is the process of grouping streets and highways according to the character of service they are intended to provide. This classification determines how travel can be guided within a road network in a logical and efficient manner.

The three basic functional classes are: arterials, collectors, and local roads. All roads are grouped into one of these classes, depending upon the character of the traffic and the degree of land access allowed. Arterials provide the highest level of service at the greatest speed for the longest uninterrupted distance (typically some level of access control), and are typically used for longer through-travel

between major trip generators (larger cities, recreational areas, etc.). Collectors provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials, and connecting smaller cities and towns with each other and to arterials. Local roads provide access to private property or low volume public facilities. Arterials and Collectors have further sub-classifications of “Urban” or “Rural,” and “Major” or “Minor” based on population density characteristics.

The functional classification of Holden’s roadways is shown in Table 4 and Map 7.2. Holden has approximately 120 miles of roadway. Most of these (78 miles) are designated as local roadways under Town jurisdiction. Arterials and collectors each account for approximately 20 road miles in Holden. I-190 runs for about 2.5 miles through Holden with no access.

Table 7.4: Holden Roadway Classification

	Interstate	Arterial	Collector	Local	Total
Centerline Miles	2.5	19.45	20.43	78.58	120.96
Percent	2%	16%	17%	65%	100%

Source: CMRPC

Arterials in Holden include Route 122A, Route 31, and Route 68. Collector roads in Holden include Manning Street, Shrewsbury Street (west of Doyle Road), Doyle Road, Holden Street, Salisbury Street, and Cranbrook Drive.

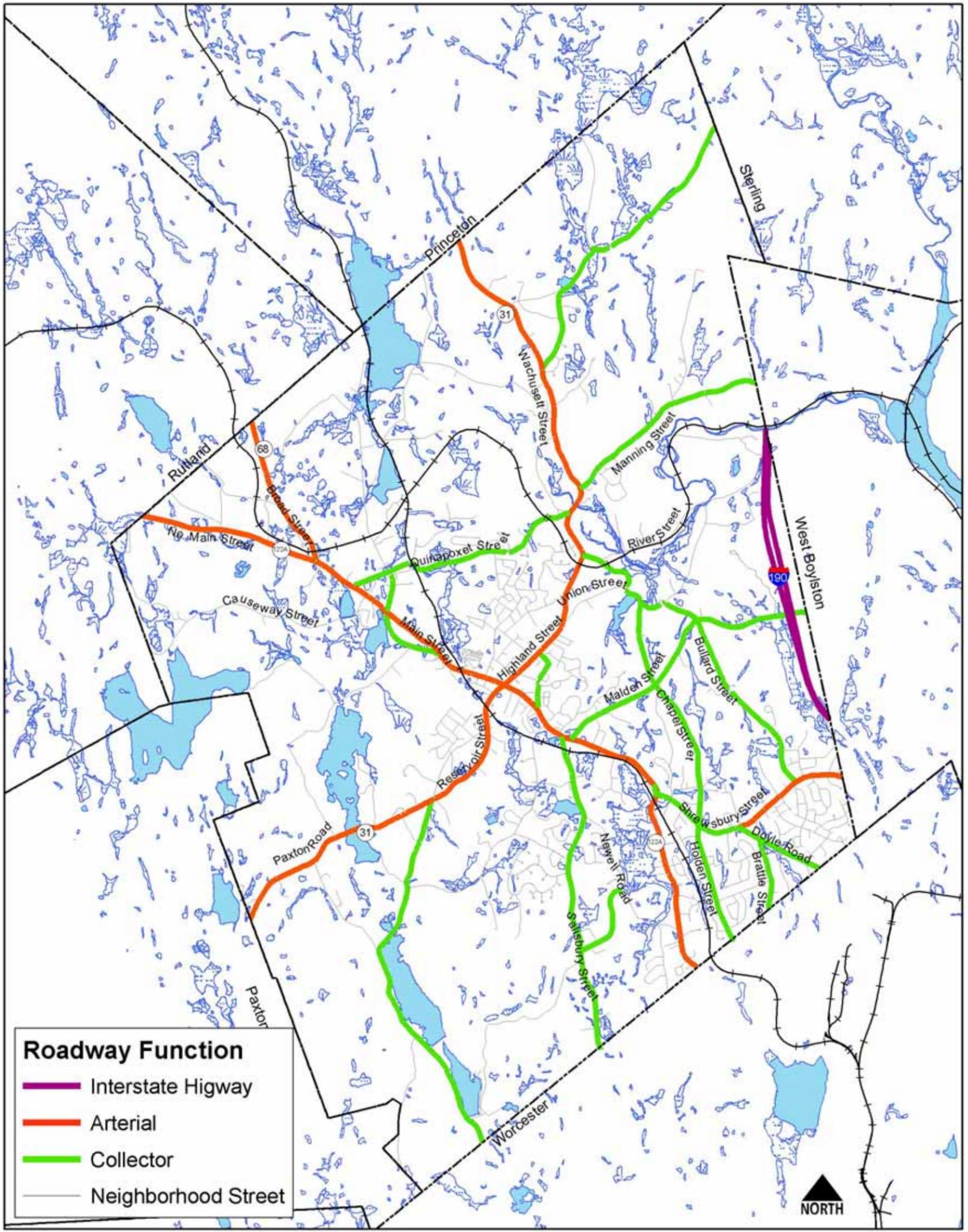
7.3.4. Traffic Congestion

Holden is located near several major regional roadways, including I-190 passing north/south through the easterly border of Town, and Interstate Routes 290 and

Good transportation access serves the community in terms of economic development. However, access to Holden and the surrounding region is constrained by increasing congestion. As congestion intensifies on the major roads, traffic spills over into local neighborhood streets.

90 to the south in the vicinity of Worcester. Good transportation access serves the community in terms of economic development. However, access to Holden and the surrounding region is constrained by increasing congestion. As congestion intensifies on the major roads, traffic spills over into local neighborhood streets.

Congestion costs time and money for the traveling public. Although slower travel speeds tend to decrease fatalities and serious injuries, congestion also inhibits the efficient movement of emergency vehicles.

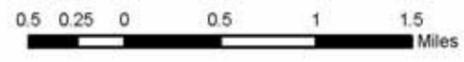


Community Preservation Associates
 with Martha Lyon Landscape Architecture, LLC
 and Earth Tech, Engineers & Planners

Holden

2008 Master Plan

Map 7.2: Roadway Function



7.3.5. Congestion Management System

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) required urban areas across the country to assess traffic congestion using a management system approach. This involves the identification of issues through a systematic process of data collection and analysis. Recommendations are developed to address the issues, solutions are implemented, and their effectiveness monitored. The EOTC, MassHighway, the Local Metropolitan Organizations (MPOs), the MBTA, other Regional Transit Authorities (RTAs) and Caravan for Commuters initially developed the Massachusetts Congestion Management System (CMS) as a cooperative effort. The intent of the CMS is to not only address existing traffic congestion, but to prevent congestion from occurring elsewhere. A CMS Technical Team was established in 1994. The staff of the Central Massachusetts Regional Planning Commission (CMRPC) actively participated on this team, which was charged with the responsibility for the overall design of the Commonwealth's CMS as well as the development and evaluation of various CMS strategies (improvement options). The Technical Team also selected standard performance measures and congestion monitoring techniques to be used statewide. Results of the region's ongoing CMS efforts have been considered in the development of the CMRPC's Regional Transportation Plan (RTP) and Transportation Improvement Plan (TIP) documents since October 1995.

Focus roadway segments are defined as segments with volume-to-capacity (V/C) ratios in excess of 1.0. Critical intersections are selected along the defined focus segments. Public participation input also assists staff in identifying critical intersections. A list of roadway focus segments and critical intersections in Holden, most of which are included in the region's CMS program (unless otherwise noted), are as follows:

- Route 122A from Route 31 to Rutland Town Line
- Route 122A from Shrewsbury Street to Route 31
- Route 122A from Worcester City Line to Shrewsbury Street²
- Salisbury Street from Worcester City Line to Main Street
- Shrewsbury Street from Route 122A to West Boylston Town Line
- Chapel Street from Shrewsbury Street to Lincoln Avenue³
- Shrewsbury Street at Chapel Street/Holden Street
- Route 122A at Route 31⁴
- Doyle Road at Brattle Street

² This location is a local concern although it was not specifically included in the CMRPC's list of focus segments/critical locations in the 2003 Regional Transportation Plan.

³ Local experience indicates that this stretch of roadway operates below capacity.

⁴ These locations are a local concern although they were not specifically included in the CMRPC's list of critical intersections in the 2003 Regional Transportation Plan.

Since 1995, CMRPC has monitored the congested conditions at these and selected critical locations in the region via field travel-time-and-delay studies and intersection turning movement counts. It is noted that not all critical

The intersection of Shrewsbury Street/Chapel Street/Holden Street in Holden is identified as the 21st worst intersection out of 68 monitored locations in the region.

intersections have been evaluated as part of this program. The intersection of Shrewsbury Street/Chapel Street/Holden Street in Holden is identified as the 21st worst intersection out of 68 monitored locations in the region. Using year 2000 traffic volume data it is estimated to experience 3,804 car-minutes per hour in the AM and PM peak hours.⁵

7.3.6. Traffic Operations

The arterial routes 122A (Main Street) and 31 (Reservoir Street and Highland Street), and Shrewsbury Street provide access to the retail and employment centers for Holden. Traffic generators include the Holden Health Care Center, the U.S. Post Office, Alden Research Laboratory, Inc., businesses, restaurants, an industrial park, and the Wachusett Regional High School. Motorists traveling to and from these generators experience congestion and delay on Main Street and Shrewsbury Street.

Holden also experiences traffic that uses its arterial roadways to access the regional roadway system including I-190 and the City of Worcester. Residents of communities to the north and west of Holden, including Paxton, Princeton, and Rutland, Hubbardston, Barre and Oakham, travel through Holden to commute to and from work. The major flows are eastbound in the morning peak period to access Worcester and I-190 and westbound in the afternoon peak period. As a

Over the last several years, adjacent communities such as Rutland have experienced a significant growth in residential units. This growth has increased the amount of commuter traffic traveling through Holden and exacerbating already congested conditions.

result, the commuter traffic from these communities combines with traffic driving into Holden and local traffic to create high volumes of traffic creating congestion on Route 122A and Shrewsbury Street. Over the last several years, adjacent communities such as Rutland have experienced a significant growth in residential units. This growth has increased the amount of commuter traffic traveling through Holden and exacerbating already congested conditions.

⁵ “In car-minutes per hour” refers to the total number of minutes that drivers as a group wait at the intersection during the AM and PM peak hours. Source: CMRPC, WRTA, EOT, MassHighway, et al, 2003 Regional Transportation Plan, Chapter III, Regional Highway System, 2003.

Numerous curb cuts are located along Route 122A and sections of Route 31 providing access to adjacent land uses. MassHighway is the permitting

Highway operation, efficiency, and aesthetics can be improved with access controls such as shared driveways, shared parking, and landscaped median traffic islands requiring right-turns only at adjacent driveways.

authority for curb cuts on state roadways. Highway operation, efficiency, and aesthetics can be improved with access controls such as shared driveways, shared parking, and landscaped median traffic islands requiring right-turns only at adjacent driveways.

More parents are driving their children to school than in the past, as evidenced by traffic back-ups at area school driveways. In addition, the Regional High School has increased its on-site parking supply from approximately 550 to 850 spaces with approximately 650 spaces (76%) designated to students. This encourages students to drive rather than walking, biking, or carpooling. In general, the use of roadways is increasing over a wider area, rather than the more traditional conduit of travel on major roads. This places a greater stress on the roadway system and negatively affects air quality and the ability of fire and police to serve the community.

7.3.7. Maintaining the Transportation Infrastructure

The Holden Highway Department is responsible for delivering safe, well-maintained public roads to provide for efficient transportation in the community. An inventory of Holden Roadways was prepared by the Holden Department of Public Works and is provided in Appendix A. The inventory provides

Today, some Holden roads are reaching the end or have surpassed their functional lifespan.

information regarding roadway length, width, drainage, sidewalks, and last maintenance actions. Many of Holden's roads were built between 15 and 20 years ago as new subdivision streets. Today, some Holden roads are reaching the end or have surpassed their functional lifespan. New residential developments steadily add to the number of miles of roadway for which the Department is responsible.

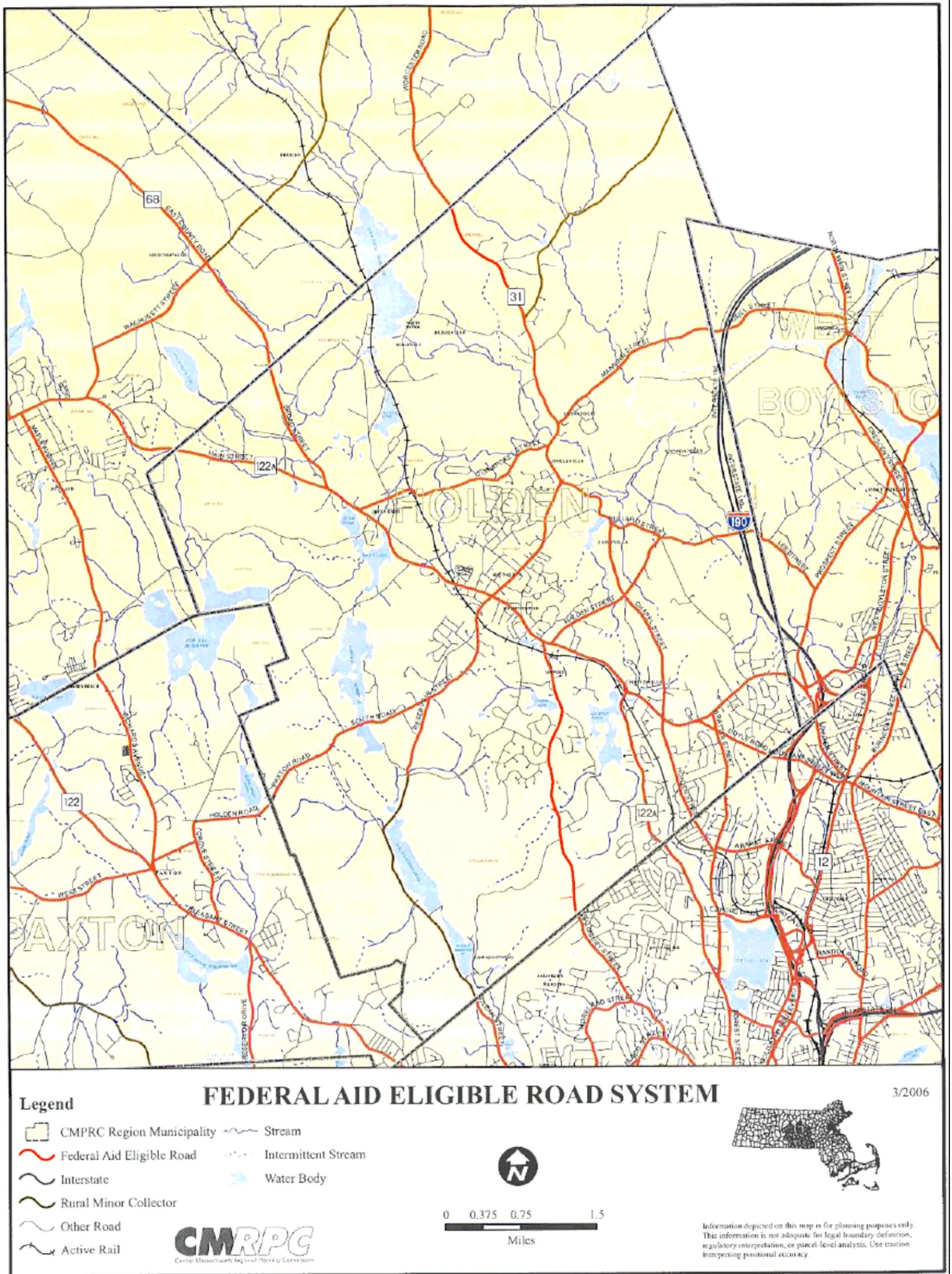
Pavement Management: In 1993, the Central Massachusetts Metropolitan Planning Organization (CMMPO) initiated a regional Pavement Management System (PMS) for federal-aid highways to prioritize and optimize the use of the limited federal funding available for the repair and maintenance of the region's National Highway System (NHS) and Surface Transportation Program (STP) roadways. In recent years, data has been collected along roadway segments

identified as potential candidates for inclusion on the CMMPO Transportation Improvement Plan (TIP). The CMRPC now focuses its pavement management program on the Town-maintained Federal-Aid Roadways within the region. Map 7.3 shows the Federal Aid Eligible Road System in Holden. Pavement distress data on these roadways will be collected every three years in rotation throughout the entire region. As part of their 2005 program, CMRPC collected pavement distress data and digital images for the following roadway segments in Holden:

- Brattle St from Shrewsbury St to Worcester City Line (CL)
- Broad St from Rutland Town Line (TL) to Main St
- Bullard St from Shrewsbury St to Wachusett St
- Chapel St from Shrewsbury St to Wachusett St
- Doyle Rd from Shrewsbury St to Worcester CL
- Highland St from Main St to Wachusett St
- Holden St from Worcester CL to Shrewsbury St
- Malden St from West Boylston TL to Main St
- Manning St from Wachusett St to West Boylston TL
- Route 31 from Paxton TL to Princeton TL
- Route 68 from Route 122A to Rutland TL
- Salisbury St from Worcester CL to Main St
- Shrewsbury St from Main St to West Boylston TL
- South Rd from Paxton Rd to Reservoir St

In addition to the locations listed above, the Transportation and Circulation Committee noted that poor pavement conditions exist on Reservoir Street and River Street continuing into West Boylston. CMRPC continues to collect pavement distress data along roadway segments and provide assistance in statewide pavement management coordination efforts. By the close of the 2007 Program Year, CMRPC will produce a regional report of pavement conditions and prioritized improvement strategies that can be used to support the development of CMMPO TIP project listings and Regional Transportation Plans (RTPs). It is hoped that the availability of this data will encourage communities like Holden to develop and maintain a local pavement management system.

Bridges: Table 7.5 summarizes the structurally deficient and functionally obsolete bridges in Holden as identified in the CMRPC's Regional Transportation Plan. These terms are used by MassHighway to identify bridges that need repair or upgrading.



Map 7.3: Federal Aid Eligible Road System

Table: 7.5: Structurally and Functionally Obsolete Bridges in Holden

Bridge Identification #	Roadway	Over	Owner	Built
<i>Structurally Deficient Bridges:</i>				
H18008	Wachusett St (Rt. 31)	Quinapoxet River	State	1922
H18011	Mill Street	Quinapoxet River	Town	1940
H18020	River Street	Quinapoxet River	Town	1937
H18022	Princeton Street	Quinapoxet Res. Outlet	Town	1936
<i>Functionally Obsolete Bridges:</i>				
H18004	Salisbury St	P&W Railroad	State	1907/1958
H18014	Mt. Pleasant Avenue	Asnebumskit Brook	Town	1985

Source: CMRPC, WRTA, EOT, MassHighway, et al, 2003 Regional Transportation Plan, Chapter III, Regional Highway System, 2003.

The following bridges are listed in the Central Massachusetts Metropolitan Planning Organization CMMPO Endorsed 2006-2010 Transportation Improvement Program:

- Princeton Street Bridge over Quinapoxet Reservoir outlet (2006 Federal-Aid Project)
- Mill Street Bridge over Quinapoxet River (2007 Federal-Aid Project)
- Wachusett Street (Rt. 31) over Quinapoxet River (2007 Federal-Aid Project)

In addition, the Town had identified the Unionville Pond Dam at Wachusett and Bullard Streets being in need of repair. The dam was temporarily repaired by replacing the culvert and reinforcing the bridge.

7.3.8. Safety

One measurement of safety is the history of accidents at Holden intersections. The Holden Police Department provided crash data for years 2000 through 2006.

Vehicle Crash Information: Table 7.6 and Map 7.4 outline the number and locations of vehicle crashes that occurred in Holden during the last seven years. As shown in Table 7.6, the number of annual Town-wide crashes was relatively

However, after 2003 the average annual number of accidents decreased to 82. The most likely cause of the reduction in accidents is attributed to the roadways improvements made along the Main Street corridor since 2003.

consistent up to 2003 with an average annual Town-wide total of 117 reported accidents. However, after 2003 the average annual number of accidents decreased to 82. The most likely cause of the reduction in accidents is attributed to the roadways improvements made along the Main Street corridor since 2003.

Table 7.6: Town-wide Intersection Accident Summary 2000 – 2006

MONTH	2000	2001	2002	2003	2004	2005	2006	TOTAL	AVERAGE
January	13	16	13	13	19	7	7	88	13
February	8	5	8	12	7	8	5	53	8
March	9	13	11	9	9	11	1	63	9
April	13	2	2	8	1	5	3	34	5
May	7	10	6	9	3	6	6	47	7
June	7	14	12	16	14	6	6	75	11
July	10	8	5	4	5	7	8	47	7
August	8	6	11	6	5	6	5	47	7
September	7	7	9	6	11	5	7	52	7
October	11	16	13	16	8	6	7	77	11
November	8	6	19	13	8	8	10	72	10
December	9	13	7	14	5	7	5	60	9
TOTAL	110	116	116	126	95	82	70	715	9

Source: Holden Police Department.

The average number of accidents per month in Holden is nine. Table 7.6 and Figure 7.5 show that accidents were above average during the months of January, June, October, and November. The highest number of accidents occurred in January, with an average of about 13 incidents per month. June and October were the next highest months with an average of about 11 incidents per month.

Locations in Holden with 12 or more accidents over the study period are shown in Table 7.7 and illustrated in Map 7.4. Locations are listed in order from highest to lowest number of total accidents.

Map 7.4 shows that the highest accident locations in Holden tend to occur along the Main Street-122A corridor in the southeast portion of the Town. The highest traffic volumes in Town are correspondingly located in this area. Over the seven-year study period, the highest number of accidents (66) occurred at Main Street/Highland Street/Reservoir Street. This location has averaged about nine accidents per year. However, only four accidents were reported for the year 2006, indicating that accident rates may be decreasing as a result of roadway improvements on Main Street. The next highest accident location is Main Street/Shrewsbury Street, with 58 total accidents. This location averages about eight accidents per year. Doyle Road/Brattle Street is next with 41 total accidents, or approximately six accidents per year.

**Holden Master Plan
Townwide Accidents by Month 2000-2006**

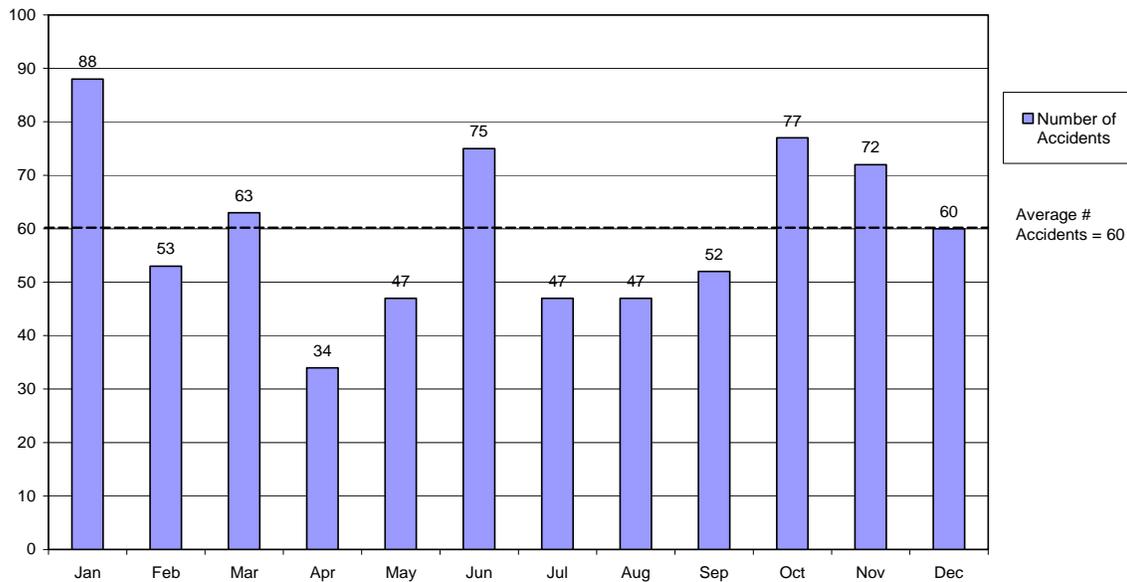


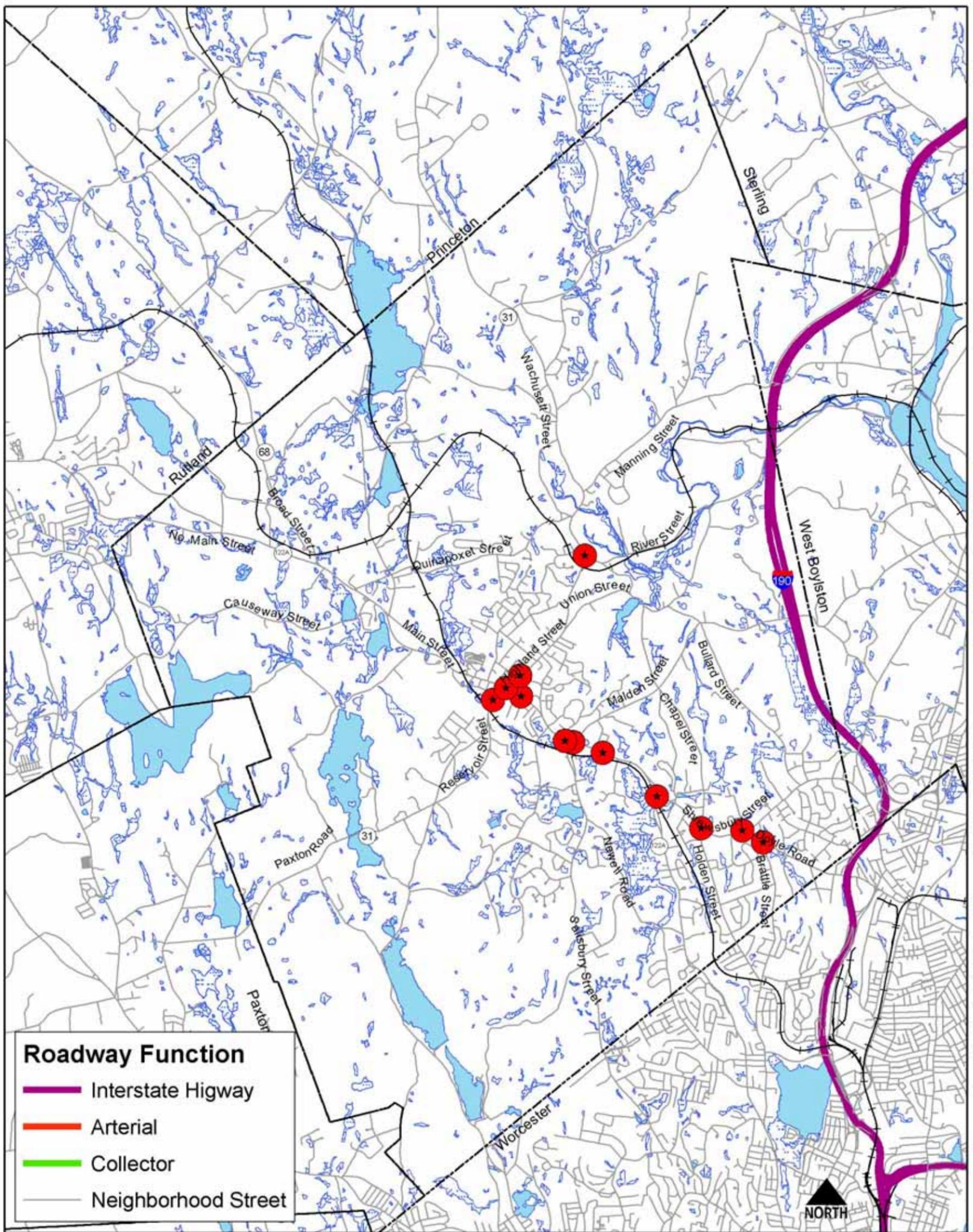
Figure 7.5: Town-wide Accidents by Month

Crash rates are a ratio of the average accidents per year to average yearly traffic through an intersection. MassHighway uses crash rates as a measure to demonstrate accident rates in relation to regional and statewide accident rates. Current MassHighway District 3 average crash rates are 0.84 for signalized intersections and 0.79 for un-signalized intersections.

Crash rate calculations were performed for the 12 high-accident locations using available accident and traffic volume data. The crash rate results are shown in Table 7.8. Locations are listed in order from highest crash rate to lowest crash rate. District 3 average crash rates are exceeded for the following two intersections in Holden:

- Doyle Rd/Brattle Street
- Main Street/Shrewsbury Street

Main Street/Highland Street/Reservoir Street is just below (0.83) the average crash rate of 0.85, but has been identified locally as having safety concerns. The highest crash rate (1.06) occurs at the unsignalized intersection of Doyle Road/Brattle Street, which experienced the third highest total number of accidents over the six-year study period. This intersection experiences a high crash rate because it has approximately half the average daily trips compared to Main Street intersections with Highland/Reservoir Street and Shrewsbury Street.



Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners

Holden 2008 Master Plan

Map 7.4: High Accident Intersection Locations
12 or More in Survey Period

Table 7.7: Holden High Intersection Accident Locations

LOCATION	2000	2001	2002	2003	2004	2005	2006	TOTAL
Main St./Highland St./Reservoir St.	15	4	11	16	6	10	4	66
Main St./Shrewsbury St.	5	8	6	15	8	7	9	58
Doyle Rd./Brattle St.	7	4	7	5	7	3	8	41
Main St. / Malden St.	7	2	3	4	1	7	6	30
Shrewsbury St./Holden St./Chapel St.	4	5	5	3	3	4	3	27
Main St./Salisbury St.	6	3	3	4	6	1	0	23
Reservoir St./Pleasant St.	3	3	1	1	3	5	3	19
Main St./Industrial Dr.	2	4	0	3	2	4	4	19
Main St./Boyden Rd.	3	3	0	3	3	2	3	17
Shrewsbury St./Doyle Rd.	1	2	1	6	2	1	3	16
Wachusett St./Highland St.	2	1	1	2	1	3	4	14
Phillips Rd /Highland St.	1	3	3	3	1	1	0	12

Source: *Holden Police Department.*

Note: Includes locations with accidents >11 over the 7 years.

Lower average daily traffic (ADT) is also the reason Wachusett Street/Highland Street jumps from second-to-last in Table 7.7 (14 accidents total, an average of two per year) up to fourth in Table 7.8. While the crash rate does not exceed the state average, this intersection nonetheless is identified as having poor sight distance in combination with moderate speeds and bears monitoring in the future. Crash rates at Shrewsbury Street/Doyle Road and Main Street intersections with Malden Street, Salisbury Street, Industrial Drive, and Boyden Road remain low (0.4 or lower), in part because the intersection ADTs are all greater than 20,000 vehicles per day.

A Peak Hour Signal Warrant analysis was performed for the intersection of Doyle Road/Brattle Street to determine if signalization of this intersection is necessary. The analysis was performed using year 2005 peak hour volumes provided by the CMRPC according to procedures outlined by the Manual on Uniform Traffic Control Devices (MUTCD). This preliminary analysis indicates that the Doyle Road/Brattle Street intersection does not currently meet the minimum Peak Hour Signal Warrant requirement in either the AM or PM peak hour. This is due primarily because the minor street volumes on Brattle Street do not meet the minimum requirements. Additional warrant analysis can be

Table 7.8: Top Crash Rate Location in Holden

Location	Control	Average Accidents Per Year ¹	2006 ADT All Legs ²	Crash Rate ³	Exceeds MassHighway District 3 Average ⁴
Doyle/Brattle	Unsignalized/Flashing	5.9	15,300	1.06	YES
Main/Shrewsbury	Signal	8.3	25,100	0.91	YES
Main/Highland/Reservoir	Signal	9.4	31,100	0.83	NO
Wachusett/Highland	Unsignalized	2.0	8,750	0.63	NO
Reservoir/Pleasant	Unsignalized	2.7	12,000	0.62	NO
Shrewsbury/Holden/Chapel	Signal	3.9	20,800	0.51	NO
Phillips/Highland	Unsignalized	1.7	10,500	0.44	NO
Main/Malden	Unsignalized	4.3	28,400	0.41	NO
Main/Salisbury	Signal	3.3	30,100	0.30	NO
Shrewsbury/Doyle	Signal	2.3	22,000	0.29	NO
Main/Industrial	Signal	2.7	25,200	0.29	NO
Main/Boyden	Unsignalized	2.4	29,100	0.23	NO

Notes:

1. Holden Police Department, 2000 through 2006
2. Vehicles per day based on 2006 roadway volumes calculated from counts conducted between 2000 and 2005
3. MassHighway Crash Rate Work Sheet Standard Procedures
4. District 3 Average Crash Rates: Signalized = 0.84; Unsignalized = 0.79

performed to determine if this intersection meets other warrant tests or if it will meet warrants under future traffic conditions.

At-Grade Roadway/Railroad Crossings: At-grade intersections of roadways and railroads create potential safety hazards. This section discusses the existing at-grade roadway railroad crossings in Holden.

The Providence and Worcester Railroad (PWRR) provides freight service in southern New England. PWRR freight trains run through the central portion of Holden between Gardner and Worcester. The railroad enters Holden on the north adjacent to the Quinapoxet Reservoir and crosses under Route 122A and Route 31 near the center of Town. Near Shrewsbury Street it crosses over to the east side of Route 122A and continues along this alignment to the Worcester City Line.

The following six at-grade PWRR crossings are located within Holden:

- Princeton Street
- Quinapoxet Street
- Sunnyside Avenue
- Pleasant Street
- Bailey Road
- Industrial Drive

The PWRR tracks cross under/over all high volume roadways on Holden such as Route 122A, Route 31, and Salisbury Street. The at-grade crossings are located in the northern and central portions of Holden. There are no at-grade crossings located south of Industrial Drive.

Except for Industrial Drive, the at-grade crossings occur on low volume roadways. The at-grade crossing at Industrial Drive is estimated to have the highest volume (2,400 vpd) of any of the existing at-grade crossings. This location will be evaluated to determine if gates are warranted at this location.

Flasher beacons and crossbuck signs are provided at each of the at-grade crossings. No drop-down gates are provided. No accidents have been identified occurring at any of the at-grade crossings since 2000.

7.3.9. Pedestrian and Bicycle Facilities

This section discusses the current level of pedestrian and bicycle facilities in Holden including sidewalks, trails, paths, and bike accommodations. Pedestrian and bicycle facilities are used for both commuting and recreational purposes. Providing sidewalks and controlled crossings in areas where pedestrian activity is significant or encouraged are common strategies to ensure safety. For bicycles, any segment of roadway having a paved shoulder of at least four feet in width is generally considered appropriate.

Sidewalks: Sidewalks are provided in Holden along most arterial/collector roadways and some local roadways. During winter months, Holden's Highway Department is responsible for plowing sidewalks along Boyden Road, Chapel Street, Doyle Road, Flagler Drive, Highland Avenue, Holden Street, Jamieson Road, Lovell Road, Main Street (Route 122A), Maple Street, Mt. Pleasant Avenue, Princeton Street, Quinapoxet Street, Reservoir Street, Salisbury Street, Shrewsbury Street, Walnut Street, Phillips Road, and Woodland Road. An inventory of Holden sidewalks prepared by the Holden Department of Public Works is provided in Appendix B. The inventory indicates that the following sidewalks are in poor condition:

- Doyle Rd (right side) from Shrewsbury Street to the Town Line
- Duxbury Dr (both sides) from Greenbriar Ln to Valley Hill Ln
- Flagler Dr (right side) from Phillips Rd to Elderly Housing
- Greenwood Pkwy (both sides) from Forest Dr to Cul-de-sac
- Mayo Rd (both sides) from Main St to Surrey Ln
- Pinebrook Ln (both sides) from Wachusett St to Cul-de-sac
- Pincroft Ave (both sides) from Parker Ave to W. Boylston Town Line
- Plymouth Rd (right side) from Birchwood Dr to Pilgrim Dr
- Salisbury St (right side) from Main St to Twinbrooke Dr
- Sheffield Way (both sides) from Pincroft Ave to Cul-de-sac

- Shrewsbury St (both sides) from Main St to Bullard St
- Terry Ln (left side) from Valley Hill Ln to Greenwood Pkwy
- Wilde Willow Rd (left side) from Lincoln Ave to Cul-de-sac

In 2002, Holden's Transportation/Circulation Committee conducted an analysis focusing on providing sidewalks on both arterial and major collector streets with

Review of existing pedestrian facilities indicates an incomplete network of adequately maintained sidewalks and safe crossing areas within walking distance of Holden's public schools.

high traffic volumes within one mile walking distance of the Town's schools. Review of existing pedestrian facilities indicates an incomplete network of adequately maintained sidewalks and safe crossing areas within walking distance of Holden's public schools. The improvement of pedestrian facilities is discussed in the recommendations section of the master plan.

Bike Accommodations: The recent reconstruction of Main Street included the delineation of wide shoulder lanes to improve traffic flow (e.g., allow through vehicles to pass left-turning vehicles). While the shoulders are not formally designated as bicycle lanes, these lanes can be used to accommodate bicycle travel. Figure 7.6 shows the bicycle accommodation lane on Main Street.

As part of the Main Street improvement project, bicycle detection equipment was provided at signalized intersections as shown in Figure 7.7.

Multi-Use Pathways: The Massachusetts Department of Conservation and Recreation (DCR) maintains a system of pedestrian/bike trails within the Wachusett Reservoir Watershed in Holden. Map 7.5 shows the locations of the DCR trails.

One group of paths is located northeast of the Jefferson neighborhood. This area of paths is bounded by Quinapoxet River to the north and east, Quinapoxet Street to the south, and the Providence and Worcester Railroad line to the west. Trailheads are provided on Mill Street at near the bridge over the Quinapoxet River and at the old mill/waterfall.

Another DCR path system is located in the vicinity of the Quinapoxet River and bounded by Manning Street to the north, I-190 to the east, Malden and Bullard Streets to the south, and Wachusett Street to the west. Trailheads are located on Manning Street and River Street near Harris Street. Each of these locations provides approximately 10 miles of off-road pedestrian/bike paths.



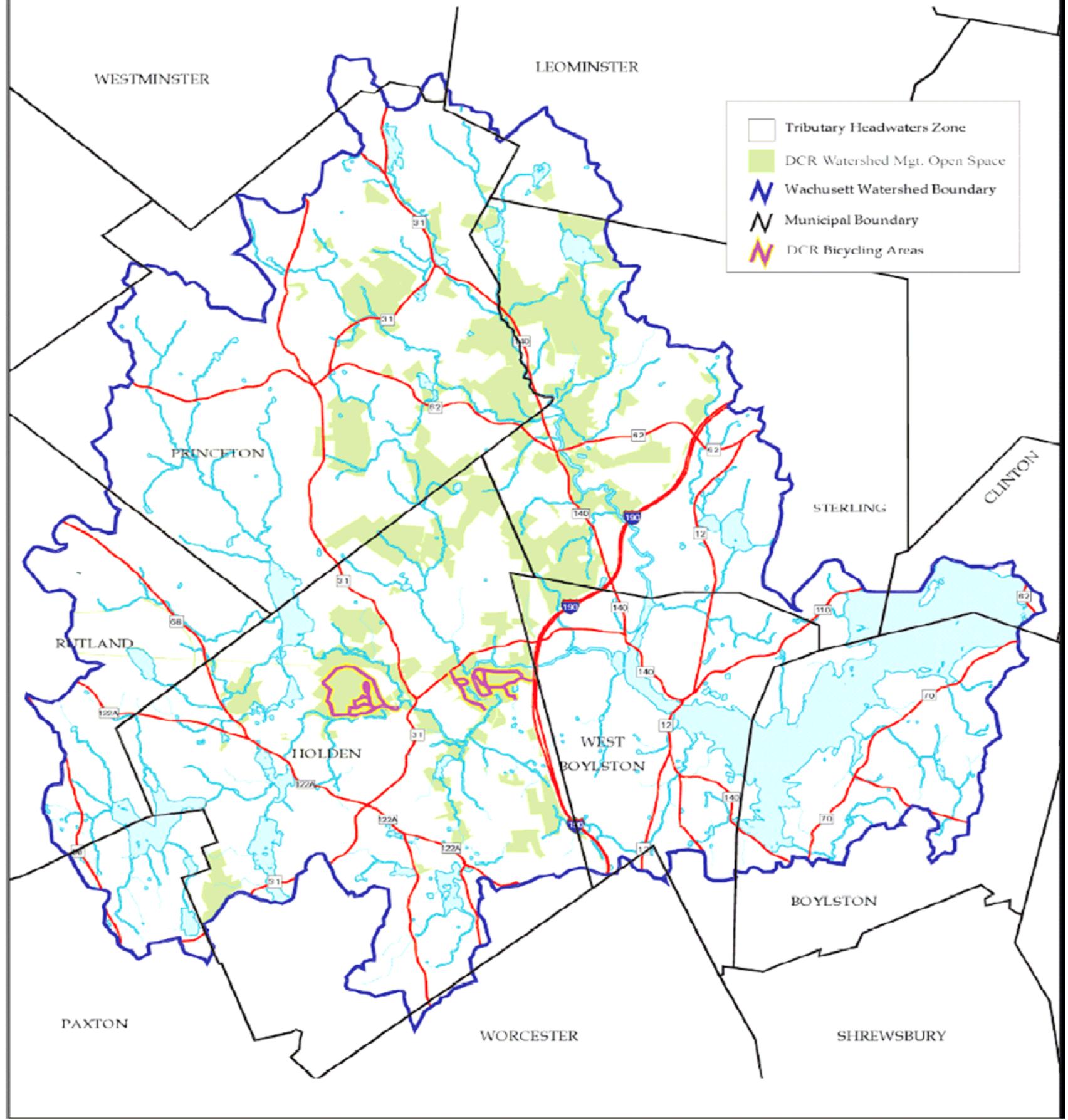
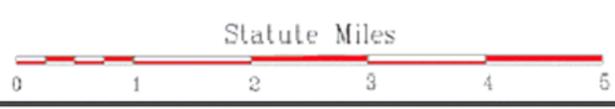
Figure 7.6: Main Street Bicycle Accommodation



Figure 7.7: Bike Signal Sign

There is informal access into DCR property from several public roadways in Town. In addition, trailheads in adjacent towns are available that provide informal trail connections into Holden. One of these is located along the west side of the I-190 frontage in West Boylston.

Mass Central Rail Trail (MCRT) is in the process of completing Wachusett Greenways multi-use pathway system running roughly 22 miles through Holden and connecting Sterling Center (10 miles northeast of Holden) with Oakham (12 miles west of Holden). The trail, referred to as the “Holden-



Map 7.5: DCR Bike Areas

Rutland Rail Trail,” will be 10 feet wide with smooth stone dust. Portions of the trail running through Holden include:

Thomas Street off Route 140 (West Boylston) to River Street (Holden). This three-mile section of the trail is on the rail bed and follows the Quinapoxet River. It crosses the Charlotte Kaplan and Jeremiah Kaplan Bridges to reach River Street in Holden. It is excellent for walkers, cyclists, non-motorized recreation, and suitable for wheelchairs. Parking is available on River Street (see Figure 7.8).

Connector from River Street to Manning Street, to Route 31 at Mill Street. The 2.2-mile connector is not part of the original railroad. The trail is completed with a medium-coarse surface, which is better for hybrid or mountain bicycles than road bikes. Near the MCRT crossing on Manning Street is the Trout Brook Reservation entrance, which accesses the 10 miles of trails for hiking, mountain biking, horseback riding, and cross-country skiing in the vicinity of the Canada Mills neighborhood in Holden.

Route 31 at Mill Street to Princeton Street. This 3-mile portion of the trail is on-road along Mill Street for one mile. Then the trail returns to the railroad grade, traveling along the railroad bed and old logging roads. From this point to Princeton Street is not yet developed, but there are trails currently used for hiking, mountain biking, and cross-country skiing. The trail is also not developed from Princeton Street near Maple Spring Pond to the Holden/Rutland Town Line off Route 68. Currently, one must travel on road to reach the Town line at Route 68 and climb back to the railroad bed or continue on-road to Route 68 and Wachusett Street. Parking is available at the old mill site on Mill Street.

Wachusett Street off Route 68 (Rutland) to Holden Town Line. A 1.2-mile section of trail, finished with stone dust, extends from Wachusett Street/Route 68 in Rutland to the Holden line or a bit beyond. This portion of the trail is suitable for road bikes and wheelchairs.

In and around Holden, parking is provided for MCRT trail access at the following locations:

- Thomas Street adjacent to the Quinapoxet River just off Route 140 (West Boylston)
- River Street just west of where River Street bridges the Quinapoxet River at Harris Street (Holden)



Figure 7.8: Mass Central Rail Trail at River Street

- Manning Street where the MCRT trail crosses (Holden)
- Mill Street at Quinapoxet River and Old Mill
- Wachusett Street just west of Route 68 (Rutland)

Figure 7.9 shows the Wachusett Greenways Mass Rail Trail between Oakham and Sterling.

7.3.10. Transit

Transit provided in Holden includes Worcester Regional Transit Authority (WRTA) fixed-bus service and paratransit service. Bus service can be used to access locations in and around Worcester, as well as commuter rail routes where transit connections to other locations are possible. From Worcester, Amtrak passenger rail service is also available to Boston, Springfield, New York City, Cleveland, OH, Chicago, IL, and all other points along the Amtrak “Lake Shore Limited” route.⁶

WRTA Fixed-Route Bus Service: The WRTA, based in Worcester, provides fixed route transit service for communities in Central Massachusetts. Specifically, WRTA operates 30 fixed bus routes within Worcester and 13 surrounding towns. Holden is a member of the WRTA, and the two fixed routes that serve Holden represent approximately five percent of the WRTA operational budget⁷. Map and schedule information for the two WRTA fixed-bus routes that serve Holden (Routes 32 and 14) are provided in Appendix

⁶ Source: www.Amtrak.com

⁷ Urbtran Associates, Inc. in association with Abrams-Cherwony & Associates, Final Draft Report – Worcester Comprehensive Service Design, November 2004.

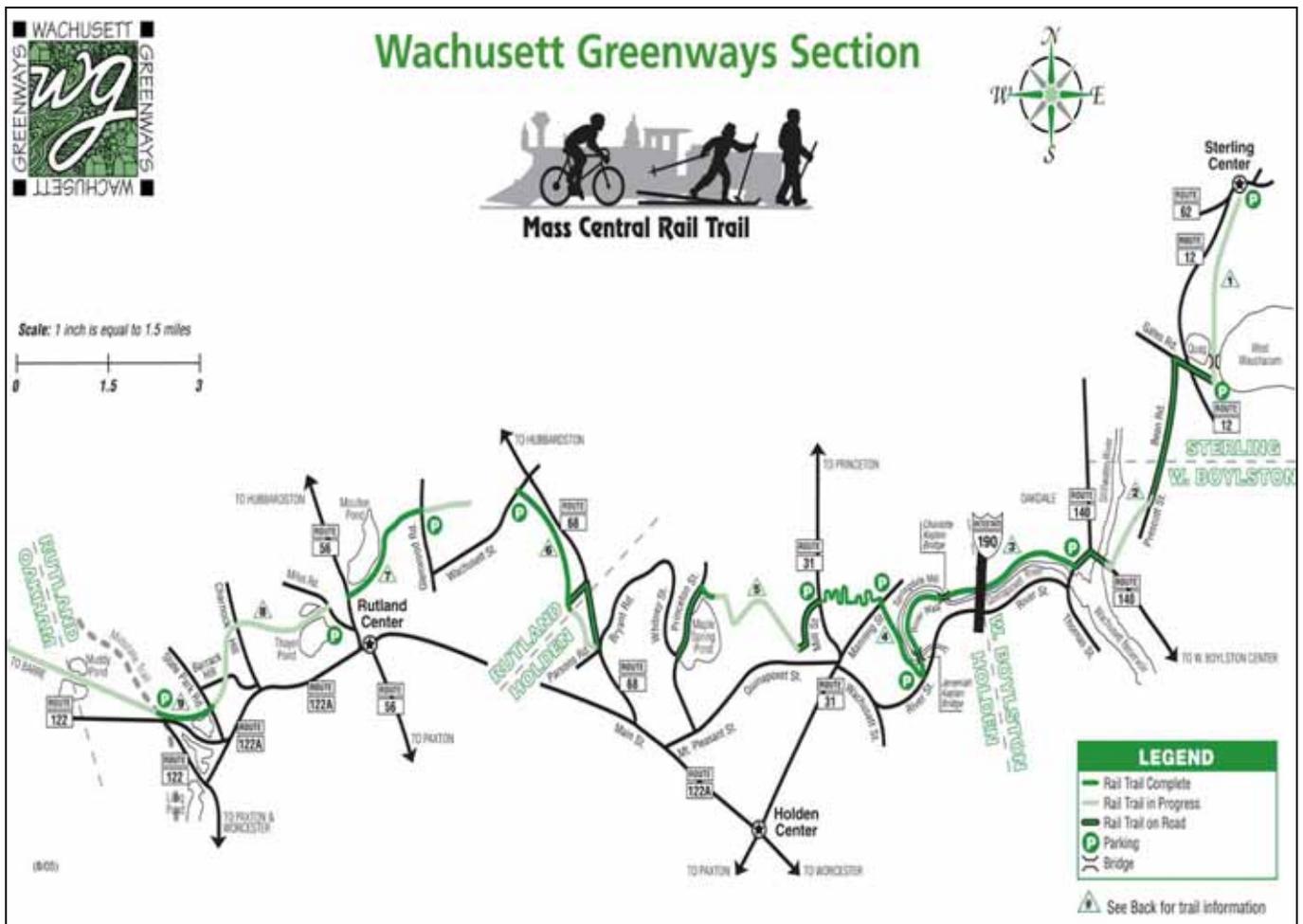


Figure 7.9: Wachusett Greenways Mas Central Rail Trail

C. Note that the WRTA plans to eliminate Route 32 in Holden effective July 1, 2008.

WRTA Route 32 is 10.6 miles long and travels from Downtown Worcester (departing from Front Street at Commercial Street), through Holden center via Main Street, then north to the intersection of Princeton Street/Jackson Street in Holden. Major Worcester stops along Route 32 include the Worcester Art Museum, WPI, Henry Lee Willis Community Center, Nelson Place School and St. Peter Marion High School. Major stops along this route in Holden include Holden Industrial Park, Holden Town Hall, Wachusett Regional High School and St. Mary's Church. Route 32 provides four inbound trips to Worcester and five outbound trips to Holden on regular weekdays. The route operates during peak commuter hours between 6:45 and 8:40 AM and between 3:10 and 5:30 PM. No service is provided on weekends. Peak hour running time for Route 32 is between 32 and 33 minutes.

WRTA Route 14 (formerly Route 19N) is 5.41 miles long with a peak hour running time of approximately 30 minutes. This route departs from Worcester City Hall (Main Street between Front and Franklin Streets) and travels north along Lincoln, Burncoat, and Mountain streets into Holden ending at the intersection of Brattle Street/Shrewsbury Street. Primary Worcester stops along Route 14 include Mechanics Hall, Adcare Hospital, Burncoat Jr. and Sr. High Schools, Quinsigamond Community College, the Price Chopper Market at Pullman/East Mountain Street, and Showcase Cinemas North off Brooks Street. Route 14 provides nine inbound (from Holden to Worcester) and eight outbound trips to Holden on regular weekdays. The service runs between 6:20 AM and 8:15 PM with headways of 30 minutes inbound in the morning and 60 minutes outbound to Holden in the afternoon. There are only three off-peak buses during the day that serve Holden. No service is provided to Holden on weekends.

The fare for WRTA bus travel within town/city borders is \$1.25, and the incremental zone charge (fare to cross one town/city border) is \$0.25 up to a maximum of \$2.00. Monthly passes and Ten Ride Tickets are also available. Discounted fares are available to children between the ages of 5 and 13. (Children under age 5 ride free when accompanied by a paying adult).

Elderly and disabled fares are available at a discounted rate as mandated by the federal government. Elders and people with disabilities can ride the bus for half of the regular fare with proper identification (WRTA Senior Pass or Senior ID Card, Statewide Access Card, or a Medicare Card). WRTA Senior Passes and applications for Transportation Access IDs are available at the WRTA Customer Service Center in Worcester. The cost for each pass is \$3.00. The Senior Pass requires proof of residence and date of birth. An Access ID application must be completed by a licensed health care provider unless the applicant has documented coverage under Medicare, and the pass is good for six months. WRTA serves approximately 130 elderly and disabled riders per route per weekday (approximately 18% of the riders) on WRTA routes serving Holden⁸.

Ridership and cost data for WRTA routes servicing Holden in 2003 are shown in Table 7.9. Overall, ridership on WRTA fixed route service has declined in the past as a result of financial constraints resulting in decreased service span and

Without significant investment in the system, ridership declines can be expected to continue.

⁸ Source: 2003 Regional Transportation Plan, Section IV.

frequency on some routes and modifications in other segments of the service area. Whereas fixed route ridership experienced some increases prior to 2002, ridership declined by 15% between 2002 and 2003. Similarly, Saturday and Sunday ridership increased from 2000 to 2001, but decreased in both 2002 and 2003. Without significant investment in the system, ridership declines can be expected to continue⁹.

Table 7.9: 2003 WRTA Bus Data – Holden Routes

Route	Average Daily Ridership	Passengers per Hour	Passengers per Mile	Cost per Passenger	Operations Cost	Farebox Revenue
14 (19N) – Burncoat	495	22.22	1.87	3.49	\$1,726	\$331
23 – Holden/Jefferson	50	10.55	0.55	7.35	\$368	\$34

Source: Urbtran Associates, Inc., in association with Abrams-Cherwony & Associates, Final Draft Report – Worcester Comprehensive Service Design, November 2004.

Many of WRTA's regular riders are people who are transit dependent, that is, they use the bus for daily commutes to work or school because they don't own a vehicle or don't drive. According to the WRTA Advisory Board, about 85 percent of the existing bus riders are disabled, elderly or low income¹⁰.

The WRTA commissioned a *Comprehensive Redesign Study* to address current and future mobility needs in its service area.¹¹ The study produced a five-year plan of changes to the WRTA's fixed route transit service. The following are proposed changes for Holden from that plan:

Year 1 – No specific changes for Holden routes.

Year 2 – Route 32 should be combined with Route 6N. The combined route would use the 6N routing between Downtown Worcester and the intersection of Grove Street and Holden Street. North of this intersection, the route would follow Route 32 serving the Venus Drive diversion on the current Route 32 where the route will terminate. The new route, to be called “Route 32,” would use the service frequency of the current Route 6N (60 minute headways).

Year 3 – No specific changes for Holden routes.

Year 4 – Route 32 should increase the frequency of peak hour service by providing three morning peak hour and three afternoon peak hour round trips without service to Holden.

Year 5 – General system changes should include increasing the service span for weekend service on WRTA fixed routes.

⁹ Robin Harned, “Campaign Aims to Increase WRTA Ridership,” Holden News, July 7, 2005.

¹⁰ *Ibid*, July 7, 2005.

¹¹ Urbtran Associates, Inc. in association with Abrams-Cherwony & Associates, Final Draft Report – Worcester Comprehensive Service Design, November 2004.

Note: Since the Comprehensive Redesign Study was completed a decision has been made to eliminate all bus service to Holden effective in July 2008. According to the WRTA this decision was necessary due to financial pressures.

The WRTA will seek public input on the changes annually, prior to implementing each year's recommendations. Suggested improvements will likely be refined with further public input and operational analysis.

Paratransit Service: The WRTA offers complementary paratransit ADA and non-ADA Demand-Response (curb-to-curb) services for the elderly and disabled in 37 communities surrounding Worcester, including Holden. Service is provided using accessible vehicles, and is available outside the City of Worcester within $\frac{3}{4}$ of a mile surrounding WRTA bus routes. WRTA paratransit providers service elders and people with disabilities, regardless of age, who qualify for service under the Americans with Disabilities Act (ADA). ADA eligible riders have no limitations on their trip purposes and can travel whenever and wherever bus service operates. Non-ADA eligible riders can travel between 8:00 AM and 5:00 PM Monday through Friday (service hours can vary slightly by community).

Paratransit services in neighboring Worcester include the Elder Medical Service, which is available to elders (60 and over) Monday through Friday for medical related trips; and a free Elder Shopper service that provides scheduled service to various grocery stores. Registration is required for these services and the ride costs 50 cents each way.

The Holden Council on Aging is the primary agency that assists and provides WRTA paratransit service for Holden. The paratransit service primarily provides in-town and out-of-town medical trips, as well as in-town errands and nutrition site trips for Holden's elderly and disabled. This year volunteers for this organization provided over 11,281 hours of service, saving the Town of Holden approximately \$173,600. Some of the transportation-related services provided by the Holden Council on Aging include escorted transportation service for seniors; meals on wheels; friendly visitors; and book deliverers. Besides the Town budget monies, the Holden Council on Aging recently received a Formula grant of \$14,188 from the State Executive Office of Elder Affairs, a portion of which was used to subsidize the salaries of the outreach workers, van escort service, and bus rides for nutrition site participants¹².

In total, WRTA Elder Bus services provided more than 50,000 trips in 2005. Forty percent of these trips were health care related. Holden's Elderly/Disabled vans served 4,450 trips in 2003, with an average of 2.67 passengers per vehicle

¹² Source: Town of Holden website (TownofHolden.net).

and an average fare of \$6.90 per passenger trip¹³. Although WRTA system-wide demand response (paratransit) ridership remained fairly level over the last decade, improvements to the level and type of service provided will be considered. The *Worcester Comprehensive Design Report*¹⁴ highlighted potential improvements for on demand WRTA services. Improvements that affect the Town of Holden include:

Year 1 – General improvements were suggested for paratransit service, including: rate reductions; alternative funding sources (eg, Congestion Mitigation and Air Quality grant program); lower ADA and Elder service expenses; Parapass (free travel on the fixed route system for ADA eligible paratransit passengers); Access-A-Cab program (WRTA pays \$4.00 towards taxi fare for ADA eligible trips); more use of contractors; adjust administrative costs; inclusion of functional and temporary capabilities in ADA eligibility guidelines; Travel Training for ADA eligible passengers; monitoring of scheduling standards; introduction of feeder service; convert some fixed route service to flex routes; and restrictions on the use of non-mandated paratransit services to the level of available funding or seek alternative local funding sources.

Year 2 – Establish demand response feeder services to address trip needs in outlying communities, including Holden.

Year 3 – Establish demand response zones throughout the fixed route service area to provide trips between the hours of 10:00 PM and 1:00 AM.

Year 4 – No specific changes for paratransit service.

Year 5 – Consider extending demand response feeder routes to the adjacent communities based on service productivity.

Railroads: The Providence and Worcester Railroad (PWRR) provides freight service in southern New England. PWRR freight trains run through the central portion of Holden between Gardner and Worcester. The railroad enters Holden on the north adjacent to the Quinapoxet Reservoir and crosses under Route 122A

The Town of Holden has considered utilizing the existing railroad service for commuters. However, the facilities do not meet pedestrian code standards, and, as evidenced by the recent decline in commuters to Boston, there may not be a significant demand for this type of service. If commuter trends change, this may be an option in the future.

and Route 31 near the center of Town. Near Shrewsbury Street it crosses over to the east side of Route 122A and continues along this alignment to the Worcester City Line. The Town of Holden has considered utilizing the existing railroad

¹³ Source: 2003 Regional Transportation Plan, Section IV, Table IV-15.

¹⁴ Urbtran Associates, Inc. in association with Abrams-Cherwony & Associates, *Final Draft Report – Worcester Comprehensive Service Design*, November 2004.

service for commuters. However, the facilities do not meet pedestrian code standards, and, as evidenced by the recent decline in commuters to Boston, there may not be a significant demand for this type of service. If commuter trends change, this may be an option in the future.

Air Travel: The Worcester Municipal Airport, a Primary Commercial (PR) facility, is easily accessible from Holden. However, it has no regularly scheduled public air service with only periodic passenger service. It has two asphalt runways 5,500 feet and 6,999 feet long. Precision and non-precision instrument approaches are available.

7.3.11. Areas of Concern

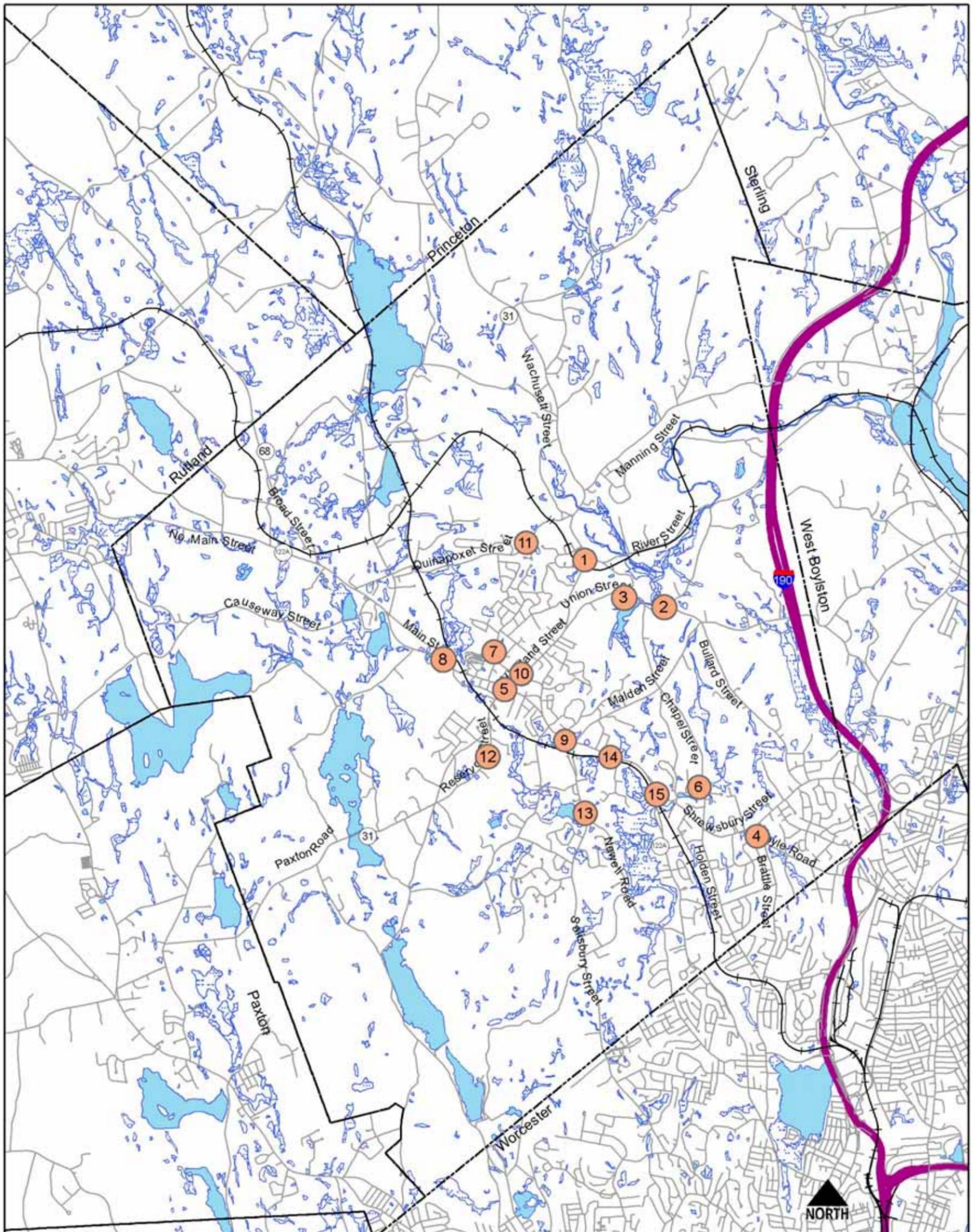
Transportation system areas of concern were identified through

1. the inventory of existing conditions;
2. discussions with Town staff and committees;
3. high school student surveys; and
4. input from Town residents at public meetings.

Identified areas of concern represent specific locations and Town-wide issues that are noted as experiencing mobility, safety, and/or access issues. The transportation areas of concern are summarized in Table 7.9 and Map 7.6.

Table 7.9: Transportation Areas of Concern

ID NUMBER	LOCATION	ISSUE
1	Highland St/Wachusett St	Restricted sight distance
2	Wachusett St/Bullard St/Unionville Pond Dam	Poor Alignment
3	Wachusett St/Union St	Restricted sight distance
4	Doyle Rd/Brattle St	Poor alignment and sight distance
5	Main St/Highland St/Reservoir St	Congestion/Poor Access to Mobil Station
6	Red Barn Rd/Chapel St	Vegetation restricts sight distance
7	Highland St/Walnut St Maple St/Walnut St	Vegetation restricts sight distance
8	Wachusett Regional High School	Traffic congestion in the morning and afternoon
9	Main St/Salisbury St	Lane utilization, Southbound RTOR sign not warranted
10	Highland St/Phillips Rd	Restricted sight distance
11	Quinapoxet St	Used to bypass Town Center
12	Reservoir St	Insufficient pedestrian facilities for seniors
13	Salisbury St Newell Rd	No sidewalks to Dawson Elementary School
14	Main St/Industrial Dr	Southbound lane designation
15	Main St/Shrewsbury St	Lane utilization
Townwide	Improved bicycle facilities on roadways	Demand for adequate bicycle facilities
Townwide	Improved/expanded sidewalks	Insufficient pedestrian facilities
Townwide	Improved transit service and facilities	Mobility and convenience for elderly, students and other transit riders
Townwide	Implement pavement management system	Deteriorating pavement conditions



Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners

Holden

2008 Master Plan

Map 7.6: Areas of Traffic Concern

Numbers Correspond to
Table 7.9



The areas of concern can be separated into six general categories:

1. Sight Distance/Geometric Deficiencies/Poor Lane Utilization
2. Congestion/Cut Through-Traffic
3. Limited Access to Regional Highways
4. Inadequate Pedestrian and Bicycle Facilities
5. Inadequate Transit Service
6. Deteriorating Pavement Condition.

About half of the areas of concern consist of sight distance and roadway alignment issues. Restricted sight distance and substandard geometry reduces visibility for motorists and can increase the possibility of accidents. The Transportation and Circulation Committee (TCC) suggested that a development review process include input from Town staff and the TCC to ensure that roadway alignment, operational and safety improvements are not precluded by new development.

The Holden DPW has begun to review potential improvements at the intersections of Wachusett Street/Bullard Street/Unionville Pond Dam and Highland Street/Phillips Road. Lane utilization issues occur at the Main Street intersections with Salisbury Street, Industrial Drive, and Shrewsbury Street. These issues can be potentially addressed by improvements that can be completed in the short-term.

Congestion is a problem in many areas during weekday peak commuter periods. High traffic volumes and multiple driveways create congestion and safety issues along Main Street, particularly at the intersection of Main Street/Highland Street/Reservoir Street. The capacity of urban roadways is dependent on control delay, which is attributable to traffic signals. Several intersections along the Main Street corridor, particularly between Broad Street and Shrewsbury Street, are already operating at or near capacity.

Traffic cutting through Holden to reach regional highways from adjacent communities has been identified as a major concern. Commuters and commercial traffic to the north and east travel on Route 122A to reach I-190 and Worcester during the morning peak period and reverse this pattern in the afternoon. As a result, Route 122A experiences a combination of regional commuter traffic, local traffic, and business-related traffic that creates congestion and delay for motorists. This congestion leads to motorists seeking alternative routes through neighborhoods, such as Quinapoxet Street, to reduce delay.

The Wachusett Regional High School experiences congestion in the morning and afternoon due to high numbers of drop-offs, drivers, and buses maneuvering on and off the busy Main Street roadway. In recent High School student surveys,

suggested improvements included an alternate (side street) entrance to the high school, improved roadway conditions, and more sidewalks. Some students also suggested a shuttle bus service to accommodate students without licenses traveling to friend's homes or to work.

Inadequate pedestrian and bicycle facilities have been noted as an issue throughout Town, particularly at the senior facility on Reservoir Street and around elementary schools. The Town's Traffic and Circulation Committee has begun a process to prioritize where sidewalks (improved or expanded) are most needed.

Public transit is not widely used in this area due to availability and preference. Mobility is also an issue for the transit dependent population, including elderly and school children. One suggestion is for a trolley/shuttle service for elderly and students to get to and from shopping areas, schools, after school jobs, etc. Another suggestion is a bus station that could provide service between Holden Center and Union Station in Worcester. These types of improvements may attract more transit riders due to improved transit system efficiency and attractiveness.

Residents have expressed concern that roadway pavement conditions have deteriorated over time. The Town currently has no pavement management system in place. A pavement management system will allow the Town to assess current pavement conditions and prioritize improvements on a yearly basis. The Central Massachusetts Regional Planning Commission (CMRPC) will be evaluating pavement conditions in Holden in 2007. The results of this analysis can be used as the first step in developing a pavement management system.

Possible solutions to the cut-through traffic and congestion issues on Main Street include an I-190 connector at Malden Street, widening Main Street to four lanes throughout, or a Main Street by-pass. Roadway widening may already be warranted to address issues of high traffic volumes, excessive delays, safety, and/or access issues along Main Street. However, some believe that a reduction of traffic on Main Street might be best accomplished with a Main Street by-pass.

Earth Tech staff coordinated with CMRPC staff to forecast future year 2030 traffic volumes assuming a new I-190 interchange was in place in the vicinity of Malden Street. Traffic volume forecasts were made using the RPC's regional traffic model. The model was revised to include the following assumptions for a new I-190 interchange:

- For year 2030 No-Build scenario assume CMRPC projections without interchange at Malden Street

- For Build Scenario assume diamond-type interchange at Malden Street

- Malden Street is four lanes wide at interchange

The year 2030 Build scenario would induce land development. Assume a new business park with 1,000 employees north of Malden Street and a new motel with 50 employees south of Malden Street

Provide daily traffic volume forecasts on main roadways within Holden for year 2007 and 2030 scenarios.

Initial traffic volume forecasts were developed through the model and reviewed by Earth Tech, Town of Holden, and CMRPC staff. Based on comments, slight adjustments were made to the model to better calibrate to existing traffic conditions. Revised traffic volume forecasts were then developed and summarized.

Table 7.10 summarizes daily traffic volume forecasts on Holden roadways for 2007 and 2030 No-Build and Build scenarios. Year 2006 volumes are shown for some roadways for comparison.

Under the Build scenario (with interchange), Malden Street would experience over 14,000 vehicles per day in the vicinity of the interchange. Weekday commuter peak hour volumes are estimated to be about 10 percent of the daily forecast volume. Therefore, four-lanes on Malden Street near the interchange would be required to accommodate approximately 1,450 vehicles during peak hours. The interchange is shown to attract over 6,000 vehicle trips per day to Malden Street near the interchange. West of the interchange, traffic volumes split to other roadways. As a result, the traffic volume increase on Malden Street near Wachusett Street is less than 1,000 daily vehicles.

Bullard Street and Harris Street, which connect to Malden Street, would experience traffic volume increases of nearly 4,000 vehicles per day due to the interchange. The daily traffic volume on these roadways would increase from approximately 5,500 under No-Build to 9,300 vehicles with the interchange (approximately +70%).

Daily traffic volume on Wachusett Street near Union Street would increase by approximately 1,000 vehicles while daily traffic volume on Wachusett Street south of Harris Street would decrease by approximately 2,600 vehicles. Volume increases on Quinapoxet Street and Mt. Pleasant Street are less than 200 vehicles per day.

Table 7.10 shows that the interchange would result in low to modest reductions (600 vehicles or less) in daily traffic on several roadways including Shrewsbury Street, Manning Street, Broad Street, Main Street, Reservoir Street, and Highland Street.

Table 7.10: Summary of Daily Traffic Forecasts 2007 – 2030¹ – Holden, MA

Roadway Location	Daily Traffic Volumes				Difference Build/No Build	% Difference
	Existing 2006 ²	Model 2007	2030 No-build ³	2030 Build ⁴		
Malden W/o I-190			8,196	14,554	6,358	78%
Malden E/o Bullard			6,397	11,491	5,094	80%
Malden E/o Wachusett-Chapel			1,659	2,501	842	51%
Malden W/o Wachusett		886	1,272	1,939	667	52%
Bullard N/o Malden			5,367	9,301	3,934	73%
Bullard S/o Malden	2,300		1,099	1,245	146	13%
Union W/o Wachusett	2,600		2,862	2,887	25	1%
Wachusett N/o Union			8,998	9,971	973	11%
Wachusett S/o Union			11,599	12,707	1,108	10%
Wachusett S/o Harris			6,416	3,810	-2,606	-41%
Wachusett N/o Manning			8,246	8,735	489	6%
Wachusett N/o Highland			11,841	12,035	194	2%
Harris E/o Wachusett			5,499	9,246	3,747	68%
Shrewsbury E/o Bullard			6,142	5,819	-323	-5%
Shrewsbury W/o Bullard			6,030	5,674	-356	-6%
Shrewsbury E/o Main			14,717	14,666	-51	0%
I-190 S/o Malden			57,182	62,117	4,935	9%
Manning Street	5,300	5,057	5,797	5,223	-574	10%
Quinapoxet E/o Whitney		4,702	4,826	4,991	165	3%
Mt. Pleasant E/o Main	2,500		4,269	4,453	184	4%
Broad St N/o Main		9,245	12,574	12,535	-39	0%
Main N/o Broad	11,000	5,862	7,674	7,684	10	0%
Main N/o Reservoir	17,100	13,283	19,976	19,788	-188	-1%
Main S/o Reservoir			22,409	22,114	-295	-1%
Main N/o Shrewsbury	20,200	17,596	19,707	19,510	-197	-1%
Main S/o Shrewsbury		9,654	6,879	6,699	-180	-3%
Reservoir W/o Main	10,000		9,357	9,167	-190	-2%
Highland E/o Main	7,500	4,177	6,981	6,604	-377	-5%
Highland W/o Wachusett			7,563	7,087	-476	-6%

¹ Forecasts developed by the Central Massachusetts Regional Planning Commission

² Compiled by Earth Tech, Inc

³ Without New I-190 Interchange

⁴ With New I-190 Interchange

The following conclusions are made based on the traffic sensitivity analysis of a new I-190 interchange at Malden Street:

A new interchange at Malden Street would improve access to I-190.

A new interchange would stimulate development in adjacent parcels.

A new interchange would attract over 6,000 vehicle trips per day on Malden Street assuming new development would occur in adjacent parcels.

Malden Street would require widening (four lanes) and improvements in the vicinity of the interchange to accommodate additional traffic.

A new interchange would increase traffic volumes on some roadways (Bullard, Harris, and Wachusett Streets) in the vicinity of Malden Street that may require capacity, operations, and safety improvements.

Traffic volume increases on other roadways west of Wachusett Street, including Quinapoxet Street, would be marginal.

A new interchange would reduce traffic volumes on several roadways by 1 to 10 percent. This level of reduction would not significantly improve operations on those roadways.

While a diamond-type interchange configuration appears feasible, engineering is required to further determine constraints and constructability.

The impacts of a new interchange on West Boylston would need to be considered.

This interchange is not a high priority on any municipal or regional agenda and does not provide any significant benefit to Holden. Consequently, pursuing this interchange is not a recommendation of the Master Plan.

8. PUBLIC FACILITIES AND SERVICES

This chapter identifies and describes the public facilities and services that the municipality of Holden provides to its residents. As the Town continues to grow, municipal services will need to change to reflect the needs of the community. Aging facilities will need to be replaced and/or upgraded. Existing Town services will need to be adjusted and adapted to meet code, changes in technology, changes in available methods for increased efficiency, etc. New services and facilities may be needed to accommodate a growing elderly population. These changes will impact the way in which services are provided, the buildings that house them, as well as their capital needs, and therefore, the Town budget.

Holden has been fortunate to have good planning in the past that has resulted in modern schools at all levels, a new Municipal Light Department building, a wonderful Senior Center, both in beauty and functionality, and a new pool that attracts thousands of swimmers each year, both from Holden and surrounding communities. However, needs are clearly there for other services and facilities, most importantly, satisfying the age, space, and usefulness of our public safety services, fire, police, and emergency responses. Current debate is ongoing as to how to resolve the need for these new facilities and their growing costs.

The following highlights some of the other major issues in the area of public facilities and services:

- The ageing DPW facility is located on a site with limited space to expand and with outmoded capabilities for the growing services demanded in Holden. Staff living conditions (areas to eat, rest, and clean up) are totally inadequate for the hard working Town employees who often work extended hours in snow storms and under stressful and dirty conditions maintaining roads, aiding in repairing broken service lines, checking and repairing sewer pump stations, and dozens of other chores that help make Holden a good place to live.
- A growing and changing senior citizen base will require Holden to take a hard look at space needs as well as types of services provided to meet those changing needs. Much can be said of our need to address recreational needs of our teens and space for indoor activities of our children of all ages. Our current recreation department space is woefully lacking in such capabilities and services are scattered throughout the Town.
- Our current administrative services are housed in two lovely historic buildings, but unfortunately their age and space limitations are significant drawbacks to effective and efficient provision of services and staff is housed in cramped, outmoded facilities
- Our current sewer capacity, driven by many factors not directly under the control of the Town, may well result in a ban within the next couple of

years on sewer connections in Holden. Rutland is already embroiled in this very issue.

With so many other important areas, one must wonder why sewer capacity rises to the level of the most important issue in public facilities and services. Sewer capacity, or lack thereof, may well define how Holden will manage its future in terms of growth, housing, and economic development. These are not only important unto themselves, but provide the financial ability to address the many other needs and desires of the community. These include quality schools, road maintenance, upkeep of our infrastructure, library services, and all the other services instrumental in making and keeping Holden a good place to live and raise a family.

As noted in other chapters, Holden is a rapidly expanding community, driven by good schools, good public services, and location ideal for commuting to major metropolitan areas, namely Worcester, the Boston area, and Providence. We are however both blessed and challenged by the abundance of our natural resources, as within our boundaries are major components of the two largest water systems in the State, the City of Worcester reservoirs and watershed for the Wachusett reservoir which services the entire metropolitan Boston area. The State has invested millions of dollars to upgrade our sewer system to allow thousands of homeowners to terminate use of septic systems that can degrade the quality of surface and groundwater within these watersheds.

- The sewer system is a maze of complexities that can and do limit our ability to determine for ourselves the additional capacity for continued growth as a healthy and viable community. Four entities, Holden, Rutland, West Boylston, and Anna Maria College share the system. Each has a designated allocation, which together utilize the physical capacity as determined by the operator of the trunk lines, the State Department of Conservation and Resources (DCR) through which all of the waste flows before entering the City of Worcester sewer system. The waste travels some eight miles through their system before reaching the wastewater treatment plant located in Millbury.
- Our current allocation leaves us with only enough capacity to allow some 220 new homes between now and the year 2020, which breaks down to some 15 homes a year. Any new capacity needs for commercial, industrial, educational, or municipal facilities would further deplete our allocation. The only way we can increase our allocation would be for major trunk line work at Newton Square and Cambridge Street in Worcester to be completed. These were critical parts of the City's understandings and agreements to allow the initial allocations to flow through their trunk lines. Those projects have been seriously under funded by the State. Based on what Holden currently has up for consideration as new projects it is likely we will be facing a sewer

moratorium within the next 2-3 years. The Town of Rutland, in July of 2007, was notified by the State that it had reached its allocation limit and told not to allow any further hookups without demonstrating they can do such within their current allocation.

- Absent available sewer capacity, the Town could be placed in a stranglehold on new growth and reduction in tax base that comes from new growth. Whether that is ultimately good or bad is another issue entirely. Under such circumstances developers may propose using forms of septic systems again which, absent serious thought and controls by the Town, could place the very groundwater we have worked so hard to protect, back in jeopardy.

Holden needs to work on several fronts simultaneously, to minimize major adverse impacts that would come from a crisis in this critical infrastructure service. It needs to work with the other sharing members to apply pressure where needed to keep important work on track, or support sustainable arguments, if any exist, to increase current allocations. It also needs to continue to examine whether any inflow and infiltration could be reduced to gain increases through reducing illegal hookups, such as sump pumps, or groundwater through lines or manholes. Perhaps most significant and daunting is the need to examine what Holden would propose to do under conditions of sewer connection prohibition. This may include policies, zoning changes, and evaluation of what types of local systems may be acceptable and under what conditions.

Holden is blessed with a good and solid government system and should be able to move forward on all of the above issues and needs, using a Master Plan as a solid base to facing these challenges.

8.1. Summary of Resident Input

Participants at a Community Roundtable held on December 19, 2006 unanimously agreed that public safety needs should be addressed first and in the near future. A proposed combined Public Safety Building project was approved at two annual Town Meetings, but both times voters failed to approve the borrowing necessary to fund the facility. In order to avoid this from happening again, participants at the Community Roundtable made the following suggestions for successful implementation of improvements to Holden's public safety facilities:

- Increase educational outreach, develop a public relations campaign, and include all points of view in the process.
- Public officials need to provide vocal support from the beginning and throughout the process.

After an intense review of all the information and data by a second Public Safety Building Committee, a proposal similar to the original decision for a combined facility on the property of the current police station was recommended. This third attempt to convince voters of the need was successful when voters supported the project at a March 10, 2008 Town Meeting and then at a follow up Town wide debt exclusion vote on March 17, 2008. In addition to the excellent work by the committee and outreach to various groups in the community, support by 4 of the 5 members of the Board of Selectmen, and an intense phone bank campaign during the week between votes were critical elements to the successful vote. The key issue again was the cost, pointing out the importance of long range planning for facility needs and developing long term financing mechanisms that will aid in bringing large funding projects to a successful completion.

When asked which other public facilities and services need improvement or upgrading, there was strongest agreement regarding the following:

- Department of Public Works facility
- Town Administration Buildings
- Centralized Recreation facility (indoor)

The information presented in this chapter is a compilation of a review of relevant previous studies, and documents and information posted on the web and presented in annual Town Reports. Additionally, for each facility and service, at least one “leadership interview” was conducted (e.g. Police, Chief, Superintendent of Schools, Director of the Library, etc). Site visits were also conducted.

8.2. Issues and Tradeoffs Involved in Public Facilities and Services

For the most part Holden’s public facilities are in good condition and well maintained. In fact the Town Management Plan completed in 2005, which conducted a survey of all Town-owned buildings in terms of their deferred maintenance and repair needs found them to be in fair to good condition: “As a general statement, only minor repairs are required on the municipal buildings.” However, there are programmatic needs currently not adequately met at some of the Town’s facilities as well as the need to plan for future needs related to the anticipated growth in the population.

When it comes to public facilities, tradeoffs are related to the phasing of improvements, renovation and construction projects. That is, given the Town’s limited resources, service and facility needs must be prioritized by using criteria based on such issues as safety, significance of need, extent of impact, etc.

In addition to facility needs, sewer and water capacities impact economic development, housing and other long-term planning and potential growth issues. The most significant capacity issue in Holden is the limits posed by the sewer capacity. More specifically, the Department of Conservation and Recreation has set a limit of no more than 1.45 MGD (million gallons per day) in average daily flow through the Year 2020 (the annual average day flow has been 1.40 MGD). If no additional flow capacity is created, this capacity limitation results in being able to support approximately 250 new single-family connections.

Based on a review of recent studies, interviews with department heads, and site visits, the following capital requirements will need to be planned for:

- The most pressing need was the replacement of the ageing and inadequate Fire Department, Police Department and Emergency Medical Response facilities. As noted earlier, this need was successfully addressed in March of 2008. Several Town studies have identified the following needs as priority and interviews and site visits confirm this.
- The DPW Garage is inadequate in terms of the amount and type of space to fulfill its functions and the Department of Public Works would be more efficient if it were consolidated in one location instead of the current several locations.
- The Town of Holden Building Study (1998) found that all the Town's administrative buildings require more space to adequately serve their functions. Interviews confirmed this finding.
- The Town of Holden Building Study (1998) recommends that a hazardous materials and abatement survey be conducted on all Town-owned buildings. This recommendation should be implemented.
- In the short term, the Town should review the recommendations in the Town of Holden Facilities Study and implement Priority 1 recommendations. These are the projects identified as requiring immediate action and involve the following facilities: Town Hall, Starbard Building and the Gale Free Library.
- For the long term, Holden residents have expressed their desire to maintain the high quality of the school system. The Town of Holden has historically been a strong supporter of school facilities as demonstrated by the relatively recent building of two new elementary schools, Davis Hill and Mayo and a major renovation of Dawson Elementary. Future facilities as well as curriculum matters and staff performance are beyond the scope of this master plan, as planning for educational matters can only be influenced through Holden's participation in the Wachusett Regional School District. We strongly encourage the District to perform a similar planning effort for educational matters, including facility needs.

8.3. Major Recommendations for Public Facilities and Services

The following is a summary of the main recommendations for the phasing for improvements to Public Facilities and Services. For more detailed discussion regarding the issues related to these recommendations, please see the last section of this chapter.

- The most important general recommendation is to develop a comprehensive long-range capital improvements plan for future improvements.
- Less pressing but still important needs include
 - DPW Garage/Fire Station
 - Town Administration Offices
 - Improved indoor recreation space

8.4. Overview of Previous Studies

The *Town of Holden Building Study* (William H. Rowe, 1998), while somewhat out of date, provides a detailed evaluation of Town-owned buildings and some guidance as to how to proceed to repair these. The subsequent *Town of Holden Facilities Study* (LPA, June 2006) provides additional information as does the *Town Maintenance Plan* (Builders Systems, Inc., 2005).

The *Town of Holden Building Study* (1998) grouped buildings by degree of need.

- Priority I projects were defined as those buildings which required immediate attention due to programming and/or safety considerations. These were identified as: the Senior Center, Rice School, DPW, and the Dawson Pool. Of these, the Senior Center and Dawson Pool have been completed, Rice School was sold, demolished, and now provides housing consistent with the neighborhood setting. The DPW building remains, as a priority need.
- Priority II projects were defined as those which should be implemented as funding becomes available. These were identified as the Town Administrative Offices, Police & Fire Departments and the Light Department. Of these only the Holden Municipal Light Department (HMLD) has been completed. A new Police and Fire Department were approved in March of 2008.
- Priority III projects were identified as those which can be implemented at any time. These were identified as the disposition of the closed Chaffin school, now home for the new HMLD and closed Jefferson School, now home to the Regional School District Administrative offices.

The *Town of Holden Facilities Study* completed very recently (in June of 2006) by the Lamoureux Pagano Architects (LPA). The consultants conducted site visits and interviewed Town Department heads in order to identify facility needs. The study identifies deficiencies and future needs, estimates project costs

and assigns priorities to each project based on the existing buildings' a) physical condition and b) ability to support each department's functional requirements.

The LPA study only focused on the Town Administration Offices in the Starbard Building and the Town Hall, the Recreation Department, the Council on Aging, the Municipal Light Department and the Gale Free Library. Recommendations include the following:

- Town Administrative Offices – Town Hall & Starbard Building:
 - Update electrical and mechanical & automatic fire suppression systems in both buildings*
 - Expand or relocate to provide additional space
- Recreation Department
 - Provide modifications so that building meets ADA code
 - Enclose lap pool
 - Provide new indoor program space
- Gale Free Library
 - Provide repairs to exterior envelope*
 - Provide new HVAC rooftop equipment
 - Expand to provide additional program space

An asterisk (*) indicates that the LPA study recommends these as “Priority One” recommendations, that is requiring immediate attention.

The *Town Maintenance Plan* – which focused solely on building systems and not on whether or not the buildings were supporting department functions adequately – found that most of the buildings were in fair to good condition. The study, completed in November of 2005, found that in general only minor repairs are required on municipal buildings throughout the Town. Buildings surveyed by Builders Systems, Inc. were: Starbard Building, Town Hall, Gale Free Library, Damon House, Senior Center, DPW Garage/Fire Sub-station, Light Department, Creamer House, Water Department, Fire Department, and Police Department. These building surveys did not include reviews of the mechanical and electrical systems with the owners/tenants nor historical operating costs. Additionally, the surveys did not include any programmatic concerns.

The Town Maintenance Plan identified the following buildings as being the most in need of repair. Repair Ratings are on a scale of 1-5 with the following meanings:

- 1 = no repair is needed
- 2 = minor repair needed
- 3 = major repair in spots
- 4 = mostly major repair
- 5 = replacement is required

Table 8.1: Repair Rating

Building	Building Average
DPW/Fire	2.38
Town Hall	2.20
Creamer House	2.00
Damon House	1.92
Fire Department	1.81
Water Department	1.77
Starbard Building	1.72
Police Department	1.33

It is important to note that this plan focused only on needed routine care and maintenance, not on whether they meet other important criteria for adequate use.

Additional sources are listed at the end of the chapter.

The following public facilities and services are described in this chapter:

Schools

Town Administrative Offices

- Town Hall
- Starbard Building

Public Safety

- Fire Department
- AMR
- Police Department

Other Facilities & Services

- Gale Free Library
- Senior Center
- Storm Management

Recreation Department (Creamer House)

Public Meeting Spaces

Other Town-owned Buildings

- Hendricks House
- Damon House

Utilities and Infrastructure

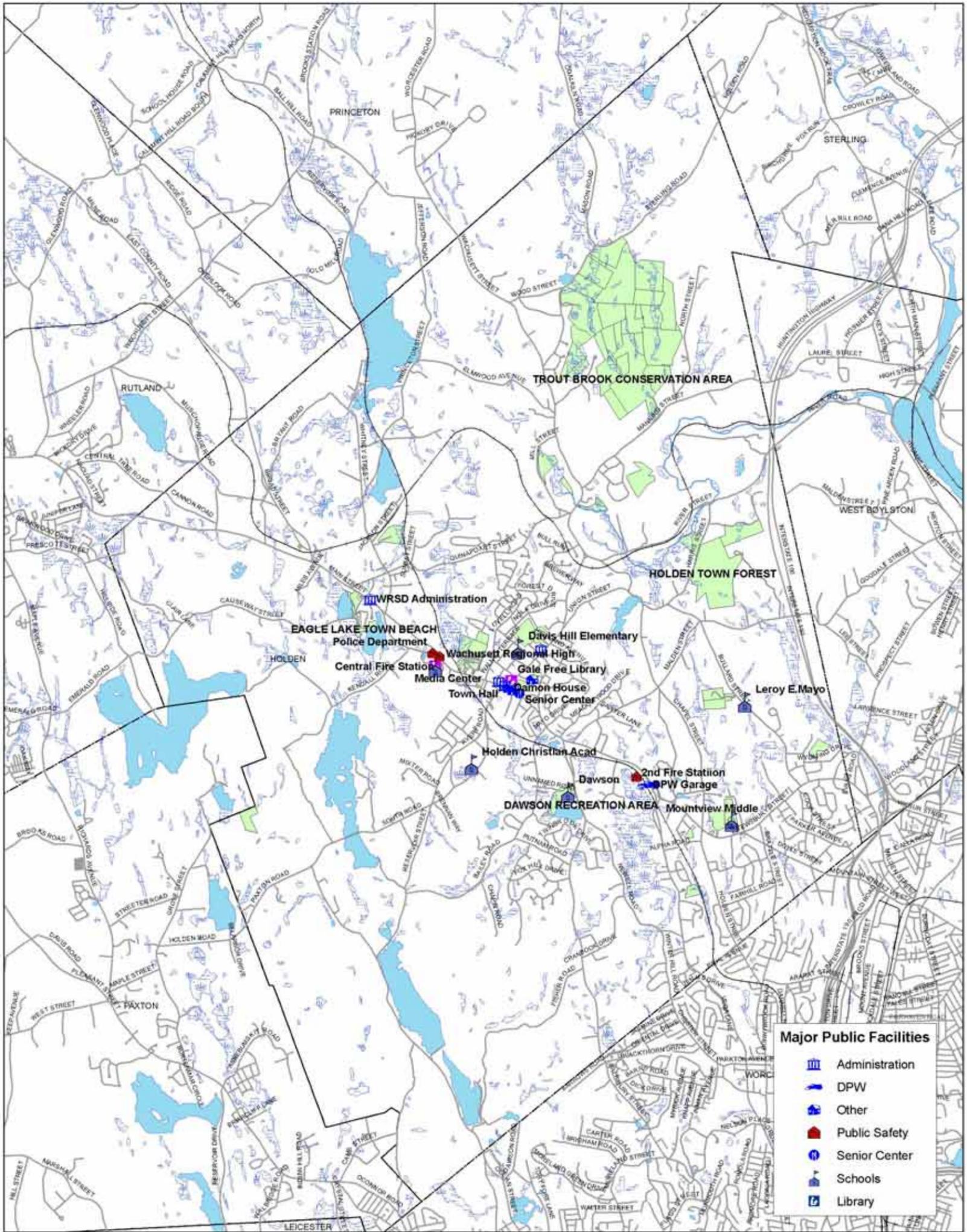
- Department of Public Works
- Holden Municipal Light Dept.
- Local Fiber Optic Network
- Water and Sewer Division

See Map 8.1 for the location of key public facilities.

8.5. Inventory and Analysis

8.5.1. Public Schools

- **Wachusett Regional School District:** The Town of Holden is one of five towns comprising the K-12 Wachusett Regional School District. The Wachusett Regional High School was established in 1950 for high school students from the towns of Holden, Paxton, Princeton, Rutland and Sterling. Kindergartens through eighth grades were regionalized in 1993 (effective September 1994). The towns received a significant economic



Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC



Holden, Massachusetts
2008 Master Plan
Map 8.1: Major Public Facilities

incentive from the state when they added the elementary and middle schools to the regional district, thus completing the regional system.

By far, Holden has the largest number of students in the district (the current percentage is 44% of the total number of students enrolled in the district). There are twelve (12) schools in the Regional District; they are located as follows:

- Holden: 3 elementary schools, 1 middle school, 1 high school
- Rutland: 2 elementary schools, 1 middle school
- Sterling: 1 elementary school, 1 middle school
- Paxton: 1 K-8 school
- Princeton: 1 K-8 school



Figure 8.1: The new high school renovation/addition is still under construction

The Wachusett Regional School District is headed by a 20-member elected School Committee, 8 of who are elected from Holden. The School Committee appoints the Superintendent of Schools who is responsible for administering all District activities and implementing the goals and policies of the Committee. The District also prepares and submits the annual school budget for approval at the annual Town Meetings in the five towns. It must be approved by four of the five communities to be adopted.

For more details on the region's public schools see the appendix.

Enrollment Projections: The following table provides the Wachusett Regional School District's projections that student enrollment will continue to remain stable with a slight increase over the next few years (3.8% between 2005 and 2010).

Table 8.2: Future Enrollment Projections (2005 – 2010)

School Year	Number of Births	Total Enrollment
2005-06	167	2,992
2006-07	184	3,020
2007-08	156	3,016
2008-09	196	3,053
2009-10	176 (est.)	3,065
2010-11	178 (est.)	3,107

Source: Wachusett Regional School District

8.5.2. Private Schools

The majority of Holden’s children attend public schools (88.8 %). The remainder (11.2%) attends area private schools. There are three located in Holden itself; these are:

- Holden Christian Academy located at 279 B Reservoir Street
- Montessori School located at 800 Main Street
- Holden Fellowship Church School located at 325 Bullard Street

Future Plans/Needs for Schools

Student enrollments are expected to remain relatively stable with a slight increase projected over the next five years. This should not affect the existing schools’ capacity to accommodate students.

Student enrollments are expected to remain relatively stable with a slight increase projected over the next five years.

Completion of the new high school is the School Department’s priority project and is anticipated to occur by the end of the 2008 school year.

The two schools that may require renovation and/or updating in the future are Dawson Elementary School (renovated in 2000) and Mountview Middle School (most recent renovation in 1997). These are the Town’s oldest school buildings and the facilities may need to be updated to accommodate an increase in the number of students resulting from the substantial new housing growth in the areas proximate to Dawson. The other school buildings were newly constructed (1999-2000) and do not have capacity or other needs in the foreseeable future.

The Wachusett Regional School District has had keeping up with technology as a high priority. For example, there are smart boards in most classrooms in all five Holden schools and one hundred percent of classrooms in these schools are connected to the Internet (compared to state average of 98%). And, at one computer per 3.7 students, the schools’ student-to-computer ratio is significantly

better than the state average of one computer per 4.9 students¹. However, as technology changes, there may be a need for updating classroom and other facilities.

The Town should explore ways in which the school buildings could be further utilized for additional Town needs in recreation, education and/or other purposes during evenings and the summer months.

8.5.3. Town Administrative Offices

Town Administrative Offices (Town Manager, Accounting, Assessors, Department of Public Works Administration/Engineering, Growth Management, Town Clerk, Treasurer/Collector, Veterans and Information Technology) are housed in the Town Hall and the Starbard Building.

TOWN HALL

The Town Hall, located on 1196 Main Street, houses the following Town administrative functions:

Town Clerk	Building Inspector
Engineering	Health Agent
DPW Administration	Planning
Water-Sewer Administration	Veterans' Office
Growth Management	

The Town Memorial Hall is available for public meetings and can accommodate approximately 80 persons.

Town Hall Building does not adequately support administrative functions. It is lacking office and storage space as well as meeting space. The building is in need of structural repairs as well.

The Town Hall accommodates fourteen employees in offices of their own and three part-time inspectors (on an as needed basis), the latter can share one desk area.

The Town Administrative Offices are not adequate to support administrative functions currently and into the future. According to the Town of Holden Facilities Study² the Town Administrative Offices' main issues needing attention include the following:

¹ Massachusetts Department of Education web site

² Town of Holden Facilities Study, 27 June 2006



Figure 8.2: Town Hall

- Lack of storage space
- Lack of meeting space
- Lack of work space and private office space
- Need for lunch room
- Need for additional staff toilets
- Inadequate mechanical/electrical systems
- Lack of fire suppression systems
- Water infiltration in the basement
- Structural systems at or beyond capacity
- Marginal accessibility compliance
- Lack of appropriate document storage: The basement storage area is damp, musty and conducive to mold growth and difficult to access and problematic for the long-term storage of public documents.
- Need for additional parking

Examples of the degree of need for additional and appropriate storage include:

- The Department of Growth Management utilizes the loft of the upper level meeting space for plan storage but it is reportedly difficult to access and not easily set up for proper storage.
- The Town Clerk's office uses space beneath the stair landing for storage; however, this is problematic because of the low headroom.
- The Department of Public Works Engineering Department has located their large-format plotter over plan file cabinets and accesses it by ladder.

Future Plans/Needs

The 1998 WRAE study³ recommended approximately 12,000 gross square feet (gsf) for a new Town Administration Building. Based on the increase in Town Administration program needs since the completion of that study, the LPA study (2006) recommends increasing that amount to 14,000 – 15,000 gsf. Town Administration functions currently utilize approximately 7,400 sf, therefore it is estimated that an additional 6,600 – 7,600 are necessary to adequately serve the needs of all Town administration departments.

The likelihood of a new Town Administration Building in the next five years is not very high. In the meantime, the LPA study recommends as priority improvements (projects that require immediate action); remove excess excavated soil from the Town Hall basement and provide mechanical dehumidification in basements and storage areas.

Future plans for increasing the space for administrative offices may include building an addition to the existing Town administration buildings. The

³ William H. Rowe, Holden Building Study, 1998

buildings are both in the historic district and would therefore require design approval.

STARBARD BUILDING

The Starbard Building, located at 1204 Main Street, houses the following Town administrative functions:

Town Manager	Accountant
Treasurer/Collector	Information Technology
Assessors	

The Starbard Building has a small meeting area available to the public that can accommodate approximately 20 people. According to the Town of Holden Facilities Study⁴, the Starbard Building shows increasing evidence of structural movement (wall cracks, sloping floors, etc.) and relies on periodic adjustment of screw jacks in the basement to maintain equilibrium.



Figure 8.3: Starbard Building.

The Starbard Building is in need of repairs. Administrative functions also need additional office and storage space.

The Information Technology Department is located on the third floor in a single room that houses the servers for the Town's computer network⁵, work area for repairing equipment, and staff office space. The IT Department performs

general maintenance and upkeep on all Town computer systems and network components, and coordinates both internal and external networking of computer systems. The Town Web site is becoming more useful as it expands its contents and offerings.

Excessive noise is reportedly a continuous annoyance due to the lack of separate spaces for computer servers, workroom and office space. Deliveries of equipment for repair/set up must be brought up the stairs because the elevator does not extend to the third floor. Electrical power is inadequate and servers are

⁴ Town of Holden Facilities Study, 27 June 2006

⁵ Serving the Town Administration, Police, Fire, DPW, COA, but not the schools.

equipped with individual battery backups. Temperature control in the space is poor.

In 2005, the Town changed over from copper wiring to a fiber optic connection provided by Charter Cable TV and linked through the Internet provider (ISP) Merrimack Educational Corporation. This new connection has been an improvement over the copper T1 line by providing greater speed and more reliable access.

The Assessor's Office staff member responsible for data collection presently located on the third floor and remote from all the functions of the Assessor's Office, does not have adequate storage space nor a window for public access to Assessor's maps, computer, printer, etc.

Future Plans/Needs

Of those departments housed in the Starbard Building, Information Technology and the Assessor's Office will require the most additional capital expenditures to accommodate existing and future needs. Information Technology will most likely require more immediate attention and capital investment due to increasing dependence on such technology in managing the Town's operations. Such needs will include:

- emergency backup power capable of maintaining Town network operational in the event of a prolonged power outage
- more easily accessible location for deliveries of PCs and other equipment
- private office, separate work and server spaces
- dedicated cooling system for servers

The LPA study recommends as Priority 1 (projects that require immediate action) to reduce structural loads due to stored materials and to provide automatic fire suppression systems in the Starbard Building.

8.5.4. Public Safety

FIRE DEPARTMENT

The Fire Department operates out of two stations, the central facility is located at 1384 Main Street and the Chaffins sub-station is located out of the DPW Garage at 87 Adams Road. Additionally, medical response is supplemented by a private ambulance contractor located in space at the former Holden Hospital site on Main and Boyden Streets. Although the Town voters recently approved of a combined facility in March 2008, we have left the data supporting the need for these facilities in this report, since much effort was placed on this high priority project during our deliberations and public input sessions.

Facility

The Central Fire Station, originally built in 1957, is inadequate in a number of ways including:

- The garage cannot accommodate all the department's vehicles and the tower unit (tall ladder) barely fits (within three inches of a ceiling beam) through the 10-foot doors; most modern fire facilities have 14 foot doors.
- There is not enough space for equipment
- There is no bunk space for fire fighters (when on storm duty, they must sleep on cots in the garage).
- There is no training room; training is conducted on folding chairs in the garage.
- A lack of office space
- A lack of storage space
- Only 6 lockers (in the garage) for 9 full-time and 45 on-call fire fighters
- Only one (uni-sex) bathroom in the entire facility
- The dispatch center is too small
- The kitchen/eating areas is too small
- There is no appropriate area to decontaminate equipment (it is now washed in the kitchen and bathroom sinks).
- The roof leaks and the basement floods due to a crack in an exterior wall.



Figure 8.4: Central Fire Station. The tower unit (tall ladder truck) barely fits through the Station doors. Lack of locker space. Firefighters do not have adequate locker space, share one unisex bathroom, and have to sleep on cots between the engines.

For more detail on staff, annual incidents, and other public safety functions see appendix.

Future Plans/Needs

In order for the Holden Fire Department to meet the industry standard of being able to respond within 6 minutes, 90% of the time, it will need improved and perhaps additional facilities and staff.

A review of the flame study of emergency response times conducted by KaestleBoos should help to determine the optimum locations for future fire station facilities and to determine whether the Town will eventually need to expand to at least three stations. Considerations include where six minute radiuses fall in relation to existing stations, population densities and areas projected for future growth.

A study will be needed to determine if an additional sub-station will be necessary to cover the northeast quadrant and the southeast quadrant. The Chief is considering exploring automatic mutual aid agreements with adjacent

In order for the Holden Fire Department to meet the industry standard of being able to respond within 6 minutes, 90% of the time, it will need improved and perhaps additional facilities and staff.

towns. Such agreements with Paxton and Rutland would provide potential to cover the western part of Town (there are existing fire stations in these towns within six minute radiuses of Holden homes).

The sub-station located at the Adams Road DPW Garage currently serves the south side of the Town. If the DPW garage were to be relocated, the Fire Sub-station would be left without staff (currently the Highway Department staffs it during the day). The sub-station needs, including the need for staffing, are critical components in any analysis of a new DPW facility.

American Medical Response (AMR)

The Town has contracted out medical response services to a private company and originally gave them space for ambulances in the police station. However, there was not enough space at the police station and in 1999 the ambulance was moved to the site of the former Holden Hospital located on Main and Boyden Streets. While this location is not costing the Town any money and it has space for the ambulance, it is not adequate because of the set-up that results in crewmembers having to run down an outdoor fire escape and 100 feet across the parking lot before entering the garage where the ambulance is stored. This can take up to three minutes; in a medical emergency this is too long. The space in which emergency medical staff must wait for calls is not adequate. It is in serious disrepair (roofs leaking, etc.) and does not have the appropriate support. For more details see appendix.

Future Plans/Needs

The Town's contract with American Medical Response will be up June 30, 2009. The Fire Department is working on developing a plan to take over all medical response for the Town. The Town currently pays \$900,000 annually for this

service; the Fire Department is reviewing whether it can centralize their services and provide this service at a lower cost. There needs to be appropriate

...the Fire Department is reviewing whether it can centralize their services and provide this service at a lower cost. There needs to be appropriate space to accommodate 2-3 ambulances and staff for twenty-four hour coverage (including bunk rooms, locker rooms, etc.).

space to accommodate 2-3 ambulances and staff for twenty-four hour coverage (including bunk rooms, locker rooms, etc.). The Public Safety Building Committee is currently looking at potential sites. Even more critical will be need to relocate from the current location by end of 2008, as the Town has been informed that the current lease at the former Holden Hospital site will not be renewed.

POLICE DEPARTMENT

The Police Department, located at 1420 Main Street, has 25 full-time and 21 part-time employees. The current building was built in 1978. While the exterior of the building has been well maintained, it is too small and not compatible with the needs of modern policing.

Some of the existing building's deficiencies are listed below:

- The building does not provide security or privacy for the victims of crimes who are sometimes interviewed in police cars in the parking lot for the sake of privacy. Perpetrators, some of them violent, must be brought through the same entrance as the public.
- There is not enough garage space. There are only 2 garage bays for 12 cars, only 2 cars can be sheltered at a time. During the winter months, the remaining cars are kept running in the parking lot to keep them free of ice, wasting much gas and increasing engine wear and tear..
- There is no a training room: staff or department meetings must be scheduled at the library and/or senior center; occasionally training takes place on folding chairs in the unheated garage. Staff meetings, dog and parking ticket hearings are held in the Chief's office (which is inadequate for such functions at 150 square feet)
- There is no common room for officers to eat their meals while on duty. There is also no kitchen so on holidays when all stores are closed, officers cannot prepare food. They make coffee by getting water from an outdoor spigot installed indoors and pour out the old coffee into a drain in the floor.
- There is no capability for more than one dispatcher on the console It is 1970s technology and does not allow for back up capability (e.g. in the case of a storm)
- Not compatible with 2006 technology, not enough outlets, hook ups for computers

- No air conditioning
- The holding cells are located along a central corridor, making for a potentially dangerous situation when there are prisoners in the cells.
- At shift changes 11 officers must share 200 square feet in which to eat, complete paperwork, and prepare to go on duty.
- Janitor supplies are stored on open shelving in the corridor because of a lack of alternative space.



Figure 8.5: Existing Police Station

The Police Station, while well maintained, does not support the functioning of the police officers. The garage has been converted to office space. The front entrance is used for the public, victim, and perpetrators. There is a serious lack of appropriate space to support police department functioning.

For more details and statistics on the Police Department see

the appendix.

Approved New Facility:

A proposed combined Public Safety Building project was approved at two annual Town Meetings in the past three years, but both times voters failed to approve the borrowing necessary to fund the facility. Repairs to existing buildings had been held in abeyance during these deliberations, but now the police department needs to pursue some of their short-term needs.

The building as designed to meet current and future needs would provide:

- Meeting room
- Interview rooms
- Kitchenette and eating area
- 3 garage bays, 2 cars deep
- A facility which supports the use of contemporary technology (computer hookups)
- 3 dispatch consoles to operate effectively and provide back up capability

8.5.5. Other Municipal Facilities and Services

GALE FREE LIBRARY

Holden's Public Library, the Gale Free Library, is located on 23 Highland Street. The building was originally built in 1888 and renovated and expanded in 1989. Design changes must be approved by the Historic Districts Commission as the

building is part of the local historic district. Mechanical and electrical systems were updated as part of the renovation and the building has since been well maintained. The building is in good condition with the exception of roof leaks in the areas of the clock tower and chimney and a damaged stonewall adjacent to the parking lot.

For more details on the Gale Free Library hours, facility, staff, collections, circulation, electronic resources, and programs see the appendix.

The Friends of the GFL raise money for the library's collection, produce a library newsletter and fund some of the library's programs.

Future Plans/Needs:

Short-term

The Director of the Library feels the most pressing need in the short-term is the need for additional staff so that the hours may be extended.

The exterior envelope repairs (especially roof) were identified by LPA as Priority 1 (projects that require immediate action). The roof repair has been completed.

Long-term

In the long run the library will need:

- To expand on site. Currently there are approximately eight computer stations and study areas for which there are lines of people waiting to use them. The need for these is expected to increase in the future. The Library Director estimates the need for 5 additional technology/computer workstations. Request made by the Director of the Library during an interview conducted for the Town of Holden Facilities Study (June 2006).
- To add an additional program room (currently the Senior Center is used when more space is needed). The Library Director sees future need for an additional small group studies room as well as an additional large meeting room (capacity 50 – 100 people).
- To increase the number of parking spaces. Expansion of parking on the site seems difficult as the lot is flanked by private property (a church on one side and private housing on the other). The Library Director estimates a need for 32 additional spaces. Request made by the Director of the Library during an interview conducted for the Town of Holden Facilities Study (June 2006).
- To upgrade technology

In the long run the library will need to expand to include additional computer workstations, program, and meeting spaces.

SENIOR CENTER

A new senior center was completed in 2000 on the site of the demolished Bubar Building (a former Holden School and the former Senior Center) at 1130 Main Street. The new facility is approximately 9,500 square feet in area on one level and is located adjacent to the Town's bandstand and the baseball field (off of Bascom Parkway). It is a very aesthetically pleasing building, attractively sited and with pleasing and flexible spaces. Seniors use the building during the day for a variety of activities and in the evening for meetings by the community at large. Members of the community use it almost every night of the week; these include Town committees, Girl Scouts, Garden Club, Wachusett Greenways and other Holden-based, non-profit groups. The building is also rented out to private parties for such events such as baby showers, sweet sixteen parties and wedding receptions.

For more detail on Senior Center use, staff, services, and facility see the appendix.

Future Plans/Needs:

While the facility is more than adequate to fill the current needs of the population it serves, in the future there may be need for additional storage, another large multi-purpose room and additional parking. Also, "the baby boomers are coming," which means that the Center will have to retool itself in terms of the image, services and activities it offers so that it becomes more attractive to this new kind of senior. According to recent studies of what would attract the coming generation of elders, one of the first steps is to rename such facilities from "Senior Center" to something else such as "Life Center." Also, nighttime programming may be appropriate for "younger, more active seniors." This may result in an increase of usage of the building by seniors during hours currently used by the community at large.

Further evaluation may be needed to determine if the Senior Center would be capable of handling expanded roles, or if additional facilities may be needed.

RECREATION DEPARTMENT (Also see Open Space and Recreation Section)

The Recreation Department's administrative offices were relocated from the Bubar Building to 175 Highland Street (Creamer Property) in 2004. This Town-owned house is completely occupied by the recreation department.

For details on Recreation Department facilities, staff, and programs see the appendix.



Figure 8.6: Playing field behind Holden Light Department

Future Plans/Needs:

According to the Town of Holden Facilities Study, the Department of Recreation administrative offices at 175 Highland Street are in need of ADA compliance modifications.

The Director of the Recreation Department sees a need for a centralized recreation/program space with a full size gym, office space, storage, parking, etc. so that all programs and activities can be located in one space and for a variety of programs for toddlers, “Mommy and Me” classes and other such activities that cannot be held at the schools due to the scheduling conflict.

The Dawson Pool site would be desirable and appropriate. The Town currently has an arrangement with the Massachusetts Department of Conservation and Recreation on Salisbury Street and uses their land for fields. Perhaps a land swap or other arrangement can be made in order to acquire the necessary land.

Other areas needing to be addressed include:

- The basketball and beach volleyball facilities at Eagle Lake will need upgrading.
- Eagle Lake and Trout Brook Reservation do not experience high usage.

Perhaps an awareness campaign would help inform residents of the opportunities available to them.

A recent vote at the March 10, 2008 Town Meeting authorized an upgrade to the tennis and basketball courts operated by the Recreation Department located at

Mt. View School. Both courts had fallen in serious disrepair and were essentially non-functional. It is anticipated those upgrades will be completed by early summer, 2008.

PUBLIC MEETING SPACES

The following spaces are available to Holden residents for public meetings:

Table 8.3: Public Meeting Spaces

Location	Approximate Capacity
Starbard Building (small meeting area)	20 people
Town Hall Memorial Hall	Approximately 80 people
Library (small conference room)	Approximately 15 – 20 people
Senior Center	Large cafeteria : 200 people Small craft & board room: 20 people
Holden Light Building	Approximately 50 people
WRHS : the largest space in Town	Cafeteria: approx. 400 people Auditorium: 847 +10 wheelchair spaces
Mt. View Middle School	Cafeteria: approx. 250 people

There is reportedly enough public meeting space both in terms of type and amount.

OTHER TOWN-OWNED BUILDINGS

Hendricks House located at 1157 Main Street is an historical building that is currently utilized by the Historical Society as office and event space.

Damon House, located at 1174 Main Street is in the historic district. It is utilized as office space for the Chamber of Commerce and is also leased to a law office. According to the Town Maintenance Plan, the building is in need of some major repair including roofing, gutters and downspouts. The entryways (ramps, stairs, railings) are not up to code. Additionally the entire house needs to be painted.

A study should be conducted to determine how the building can be used to address Town needs. It is centrally located and could potentially fulfill a number of Town space needs.

8.5.6. Utilities and Infrastructure

DPW FACILITIES

In addition to the Director and the Water and Sewer Superintendents, the Department of Public Works has 2 full-time administrators, 1 full-time staff member in the Engineering Division, 12 full-time staff in the Highway Division/Equipment Repair, 8 full-time and 1 part-time employee in the Building and Grounds Division. Administrative functions are located in the Town Hall

building while Highway and Building and Grounds are in a separate DPW Garage on Adams Street. The Sewer and Water office is in Town Hall and there is also a Water office on Spring Street.

For details on DPW facilities, space utilization, and needs see the appendix.

Future Plans/Needs:

A separate study is being conducted to evaluate the existing building and to address potential relocation. The Department of Public Works would like to have a consolidated facility with administration, storage and maintenance functions of the Highway Division and Buildings and Grounds all in the same location. This would facilitate project coordination and maintenance. Issues include finding an appropriately sized site that would be compatible for DPW uses and acceptable to surrounding neighbors.

Options include:

- Expanding on existing site: The existing site is probably too small to accommodate the expansion needs. There are also environmental issues due to its proximity to Chaffin Pond and other constraints such as the train tracks that run through the site.
- Relocating to another location: A possible site may be the former location of the Holden Sand and Gravel (approximately 3-4 usable acres). The former use makes it relatively easy to locate there, but there may be some issues to address related to the Watershed Protection Act.
- Leaving the Fire Department functions in the existing DPW Garage site and renovating and/or leasing out the rest of the building. According to the Fire Chief this location is good in terms of response times for serving the south side of the Town. This would leave the sub-station with no staff (currently the Highway Department staffs it during the day). However, as Holden's population increases, it is possible that in the future it will consider moving to a full-time fire department.
- The Adams Road site (or location nearby) is critical to the Fire Department providing service to this part of Town regardless of the ultimate decision regarding the DPW location. A study needs to be undertaken to identify the Fire Department needs if there is to be a sub-station at this location.

Next steps include forming a Committee to study the needs and functions of the DPW and to identify additional possible sites.

HOLDEN MUNICIPAL LIGHT DEPARTMENT

The Holden Municipal Light Department was established by Town Meeting in 1911. The Department provides electric power and services to over 7,000

customers within the Town of Holden. The Board of Selectmen acts as Light Commissioners, assisted by the Municipal Electric Power Advisory Board.

Despite recent increases in the cost of energy, public power continues to be a good deal for Holden customers at a cost that is significantly below privately owned utility companies in the state. HMLD (Holden Municipal Light Department) is a member of the Massachusetts Municipal Wholesale Electric Corporation (MMWEC), a public agency that manages and brokers its members' bulk power supply and acts as an advocate among regional and federal power authorities. Through this membership, the Department has been able to develop purchasing plans that are to the Holden customers' advantage. The Department has worked with the Town Manager to develop strategies to ensure that the price increases in energy costs are not passed down to the consumers in Holden, but instead mitigated in a number of ways.

For details on additional Light Department services, staff, and facilities see the appendix.

Future Plans/Needs:

The Holden Light Department plans to continue monitoring opportunities to purchase new reasonably priced power contracts and alternative energy generation sources to decrease its dependence on fossil fuel and natural gas.

The Department continues on a program of upgrading the distribution system in order to improve reliability.

A System Improvement Study completed in 2004 resulted in developing plans for a new power substation to be located off of Bullard Street. A site was identified, plans drawn up, and money appropriated by Town Meeting. Construction is now completed and the project has resulted in a supply and distribution system that will serve the HMLD and its customers for the next twenty years.

Additionally the Light Department will continue working to lower demand response at peak times during the summer months. Through a combination of education and incentives the Department will work with customers to keep costs down.

Through its membership in the MMWEC, the Light Department is a co-owner of several power plants. It is currently in the process of becoming co-owner of an additional new power plant being constructed at the MMWEC campus in Ludlow.

LOCAL FIBER OPTIC NETWORK

In 2002, the Holden Municipal Light Department and the Information Technology (IT) Department completed installation and connections for a local “municipal loop” – a fiber optic line between the Police Department, Fire Department, Starbard Building, and Town Hall. Late in 2005, the Light Department installed extension of this fiber to include the Library, the Senior Center, Adams Road DPW Garage, Fire Station #2 and the Holden Community Television Studio. The inter-town system for e-mail, Internet, and data sharing is now complete (including an overhead connection to the Light Department). This upgrade efficiently links all Town services and facilities.

Future Plans/Needs:

A plan regarding how to best manage and use this network and connections would help to maximize its use.

There is interest in expanding the role of the HMLD in providing telecommunication services within the Town.

The Town has left a conduit in Main Street for the installation of additional fiber in the future. There are no immediate plans, however, one option for the future is to consider wireless connections to Holden residences.

GAS

NSTAR-service is available in limited areas.

TELEPHONE

Verizon is the primary provider and carrier.

CABLE TV

The local HCTV (Holden Community) publicly operated cable television station is located at 800 Main Street. In addition to covering Selectman Meetings, Town Meetings, candidate debates and other such municipal events, the Cable TV station is very active in producing a number of other shows covering a variety of topics of interest to the community.

WATER AND SEWER DIVISION

Water System Existing Conditions

Water Supply: Sources of water supply consist of a mix of groundwater (owned and operated by the Town) and interconnections with the City of Worcester water system. This results in a blend of groundwater (Town’s sources) and surface water (Worcester sources). It should be noted that a significant portion of the surface water that is treated by Worcester and ultimately is received by the Town through the interconnections originates from reservoirs and their associated watershed areas located within the Town boundaries. The location of

these surface water reservoirs and associated watershed areas is discussed further in the Natural Resources section of this Master Plan.

The Town's groundwater sources consist of the following wells:

- Quinapoxet River Wells (2) – rated capacity of 514 gallons per minute (gpm)
- Mill Street Tubular Well-field – rated capacity of 208 gpm
- Mason Road Tubular Well-field – rated capacity of 111 gpm
- Spring Street Replacement Well – rated capacity of 140 gpm

As noted, the total rated capacity of the Town's groundwater sources is 1.40 million gallon per day (MGD), assuming all groundwater supplies are fully operational and being utilized 24 hours per day. This rated capacity does not account for any emergency conditions (i.e. mechanical failure at a specific source) nor for reduced pumping duration (i.e. only 16 to 20 hours per day versus 24 hours per day) as recommended to ensure a "sustainable" supply. Factoring in these components, the "sustainable" capacity of the Town's groundwater supplies has been estimated to be approximately 1 MGD.

The Town's interconnections with the City of Worcester water system consist of the following specific locations:

- Brattle Street - rated capacity of 1.5 MGD
(Inter-municipal agreement limits transfer to 1.0 MGD average)
- Salisbury Street - rated capacity of 2.1 MGD
(Inter-municipal agreement limits transfer to 2.0 MGD average)
(Inter-municipal agreement limits transfer to 3.0 MGD maximum)

As noted, the total rated capacity of interconnections is 3.0 MGD average and 4.5 MGD maximum, based upon the limits established in the existing Inter-municipal Agreement between the Town and the City. However, the existing equipment at the Salisbury Street Interconnection Booster Station limits the capacity of this interconnection to 2.1 MGD, limiting the total interconnection capacity to 3.1 MGD maximum.

The Town's existing water demands (based upon 2004 data) are as follows:

- Average Day Demands – 1.41 MGD
- Maximum Day Demands – 2.44 MGD

For a water system to be considered to have adequate water supplies, its supply capacity must be capable of meeting its maximum day demands. Based upon the existing sources and Inter-municipal Agreement, the Town's water system is considered adequate relative to water supply. Additionally, these existing sources and Inter-municipal Agreement have additional capacity to meet future demands, as the Town develops further. This "reserve" capacity is

approximately 68% of the existing water demands, theoretically allowing an expansion of customers by 68% over the existing customer base.

Previous studies have estimated future water demands to be 3.90 MGD in the year 2030, assuming 90 percent of the Town population is served by the water system and a projected Town population of 21,446 in the year 2030, compared to a current population of approximately 17,000. Based upon the existing sources and Inter-municipal Agreement, the Town's water system has sufficient capacity to serve these projected demands in the year 2030.

For additional details and a map of the Town's water system see the appendix.

Water System Future Plans/Needs:

In order to address existing deficiencies with the water system, the following recommended improvements have been identified:

- Geographic Information System (GIS) Implementation
- Annual Maintenance Program
- Storage and Pumping Station Capital Improvements
- Piping System Capital Improvements
- Explore water resources within the Town to increase Holden's capacity and reduce dependency on the City of Worcester resources.

Implementation of GIS will provide integrated and updated mapping of the water system infrastructure and will facilitate maintenance, operation, and planning for the water system. The Annual Maintenance Program is essential for protecting the Town's investment in the water system.

The Capital Improvements associated with Storage/Pumping Stations and Piping Systems were previously noted, relative to existing deficiencies. These are essential to maintaining and improving the level of service presently experienced by the Town.

As further development occurs within Town, it is imperative that each proposed development be evaluated in terms of its potential impact on the existing water

As further development occurs within Town, it is imperative that each proposed development be evaluated in terms of its potential impact on the existing water system.

system. It has been estimated that the Town's supply capacity and storage capacity should be sufficient to meet project demands through the year 2030, however, the following specific issues should be evaluated as future development is planned.

- Confirm population projections and demand projections over time, to verify analysis and supply/storage adequacy.

- Evaluate the specific development proposal in terms of its elevation, relative to the need for supplemental booster pumping and/or creation of additional “super high service zones”.
- Evaluate the specific development proposal in terms of its location within the existing distribution system/piping network, to assess the ability of the existing infrastructure to provide the necessary flows and pressures to the specific development, and identify any required improvements to achieve this ability.

Sewer System Existing Conditions

The Town’s sewer system can be separated into the following distinct components:

- Collection System
- Rutland/Holden/West Boylston Trunk and Relief Sewers
- City of Worcester Trunk Lines
- Upper Blackstone Water Pollution Abatement District Treatment Plant (WWTP)

Collection System: The Town’s sewer collection system consists of approximately 52 miles of pipe, ranging in age from 1930’s to recent. To accommodate the varying elevation changes throughout Town, there are 25 publicly owned and operated sewer pump stations within the collection system. Additionally, there is one privately owned and operated sewer pump station within the collection system, with another one pending approval by the Massachusetts Department of Environmental Protection (DEP). Overall, the Town's existing policy is that if the proposed sewer pump station would only serve one development with a minimal area, then the Town will not take ownership of the sewer pump station. If the proposed sewer pump station would serve a larger area and not just one isolated development, then the Town would consider taking ownership of the sewer pump station.

Relative to the operation and maintenance of private sewer pump stations, the Town presently requires financial security through the respective homeowner association for any repairs with weekly inspection reports. This requirement is not part of a formal policy. Regarding the enactment of a formal policy relative to private sewer pump stations, DEP has recommended that the Town consider the following provisions:

- Minimum design standards based upon similar requirements used for all publicly owned and operated sewer pump stations, inclusive of backup power and remote telemetry. Minimum design standards should be based upon “TR-16 Guides for the Design of Wastewater Treatment Works” as published by New England Interstate Water Pollution Control Commission and “MOP-9 Design And Construction Of Sanitary And Storm Sewers” as published by the Water Environment Federation.

- Financial security account for emergency repairs
- Capital replacement account based on 20-year life of equipment

A significant portion of the existing sewer collection system was installed within the past ten years, as part of a watershed protection plan implemented by the Massachusetts Water Resources Authority (MWRA) and Metropolitan District Commission (MDC). As noted in the Natural Resources section of this Master Plan, extensive portions of the Town are located within the watershed protection areas for the Wachusett Reservoir and its influent tributaries. In order to protect the water quality within Wachusett Reservoir (part of MWRA's water source for the Boston metropolitan area), public sewers were installed within selected areas in Town, eliminating onsite septic systems in these watershed areas. Any risk of contaminating Wachusett Reservoir was minimized.

As a result of this extensive sewer installation program, the Town's sewer collection system essentially doubled in size, relative to length of sewer pipes and number of sewer pump stations (previously only had 10 sewer pump stations). Additionally, the number of sewer connections has increased, although a significant number of potential connections remain to be made within the expansion area. As of the end of 2005, approximately 63% (1,597) of the potential sewer connections had been made in the expansion area. The potential flows associated with the remaining 900 plus connections must be accounted for within the existing sewer system capacity.

Rutland/Holden Trunk and Relief Sewers (RHTRS): All wastewater flows from the Town are discharged into the Rutland/Holden Trunk and Relief Sewers, which extend through Town from Rutland to Worcester. These two interceptor sewer lines are owned, operated and maintained by the Metropolitan District Commission (MDC). A five-phase sewer project began in 1998 with Phase 5 ending in 2004 (see map for project phases). The Rutland/Holden Trunk Sewer is approximately 9.5 miles in length while the Rutland/Holden Relief Sewer is approximately 8.3 miles in length and is located parallel to the trunk sewer. The Town of West Boylston collection system is separate from Holden's, but all their wastewater, once collected, is pumped into a common point in Holden joining the Rutland/Holden trunk system as it enters the Worcester trunk lines.

The capacity of the trunk and relief sewers is allocated by Agreement between the City of Worcester and the State (DCR formerly MDC). The existing capacity of the trunk and relief sewers has been established at 2.85 MGD annual average daily flow with an 8.95 MGD peak flow. The Sewer Use Agreement allocated this capacity amongst the various communities as follows:

Table 8.4: Sewer Capacity Allocation

Community	MWRA Allocation (annual average daily flow, MGD)		
	Initial (1999)	Year 2020	Year 2050
Holden	1.45	1.53	1.61
Rutland	0.45	0.55	0.63
West Boylston	0.48	0.59	0.61
Total	2.38	2.67	2.85

Based upon data from 2005, the annual average daily flow was 1.40 MGD, which is just below the current capacity allocation limit noted above (1.45 MGD as of 1999). A significant portion of these flows appears to be related to wet weather events, which would suggest infiltration/inflow (I/I) flows entering the sewer system. This I/I issue and its impact on the Town's existing sewer capacity will be discussed in more detail later in this section.

City of Worcester Trunk Line

All of the above wastewater travels approximately eight miles through the City of Worcester system before reaching the wastewater treatment plant located in Millbury. Our current allocation cannot be increased to that allowed in future years without the completion of major trunk line work at Newton Square and Cambridge Street in Worcester. These were critical parts of the City's understandings and agreements to allow the initial allocations to flow in their trunk lines. Those projects have been seriously under-funded by the State and engineering is incomplete. Based on what Holden currently has up for consideration as new projects it is likely we could be facing a sewer moratorium within the next few years. The Town of Rutland, in July of 2007, was notified by the State that it had reached its allocation limit and told not to allow any further hookups without demonstrating they can do such within their current allocation.

Upper Blackstone Water Pollution Abatement District Treatment Plant (WWTP): The Rutland/Holden Trunk Sewer is approximately 9.5 miles in length (authorized by Chapter 375 of the Acts of 1927 and Chapter 262 of the Acts of 1932) while the Rutland/Holden Relief Sewer is approximately 8.3 miles in length, located parallel to the trunk sewer.

The wastewater that is discharged into the Rutland/Holden Trunk and Relief Sewers is ultimately treated at the Upper Blackstone Water Pollution Abatement District Treatment Plant (WWTP), after passing through the City of Worcester sewer system. This facility continues to undergo extensive improvements in order to comply with recent water quality regulations. As a member of the Upper Blackstone Water Pollution Abatement District, the Town is responsible for a proportionate share of the costs associated with the operation, maintenance and improvement of this facility.

See the appendix for a map of the existing sewer system.

Sewer System Future Plans/Needs:

As noted above, the primary issue for the Town's existing sewer system is the current wastewater flows relative to the physical and contractual capacity constraints of the system, specifically with respect to the following constraints:

- Hydraulic restriction in Rutland/Holden Interceptor
- Capacity reserved for connections along MDC funded sewers
- Agreement limits Holden discharges to 1.45 MGD (current)
- Hydraulic restrictions in City of Worcester's Interceptor

Based upon the current (2005) measured wastewater flows and the contractual capacity constraints, the Town currently has little additional sewer capacity in the Rutland/Holden Trunk and Relief Sewers at this time. Additionally, there

the Town currently has little additional sewer capacity in the Rutland/Holden Trunk and Relief Sewers at this time.

are approximately 900 potential sewer connections remaining within the recent constructed sewer expansion area, for which capacity must be reserved within the Rutland/Holden Trunk and Relief Sewers.

A review of the historical wastewater flows indicates that a significant portion of the existing wastewater flows is associated with infiltration/inflow problems. Over the past six years, the average flow for the six lowest flow months has been 1.14 MGD, compared to the average flow for the six highest flow months that has been 1.69 MGD. Assuming that the average flow for the six lowest flow months is representative of the actual wastewater flows with minimal infiltration/inflow, then the additional 0.55 MGD represents potential capacity that could be recovered by identifying and minimizing infiltration/inflow problems.

In the past seven years, the Town has conducted a comprehensive infiltration/inflow study of the areas within the sewer collection system that would most likely be experiencing these problems. These target study areas focused on the older sections of the sewer collection system. This targeted study was able to identify and remove approximately 160,000 gallons per day of peak infiltration from the collection system. The removal of this peak infiltration created additional capacity of approximately 80,000 gallons per day (0.08 MGD). Further study of potential infiltration/inflow is needed.

Additional constraints on the overall sewer capacity relate to the physical capacity of the Rutland/Holden Trunk and Relief Sewers and of the City of Worcester sewer interceptor that receives the wastewater flows and ultimately

discharges into the Upper Blackstone Water Pollution Abatement District Treatment Plant (WWTP). Expansion of the capacity within this existing sewer infrastructure (owned, operated and maintained by others) may require significant (and costly) capital improvements.

The most challenging impediment to increasing our sewer capacity involves the complex issues associated with sewer flow capacity from Holden through the City of Worcester. Sewage must flow from the Holden/Worcester line on the north side of the City through the entire city network of lines before exiting to the Upper Blackstone Wastewater Treatment plant on the south side of the City. Capacity and other engineering challenges may make this the most challenging component of significantly increasing our capacity.

Recognizing that the Town is essentially at its current sewer capacity limit, further study and evaluation has been recommended in the following areas:

- Detailed accounting of existing and committed/reserved flows, including all approved developments and potential connections within the sewer expansion areas (Wachusett Reservoir watershed areas).
- Evaluation of capacity surplus/deficit.
- Ongoing infiltration/inflow study, covering the Town's collection system and the Rutland/Holden Trunk and Relief Sewers, which requires coordination with MWRA and MDC.
- Implementation of proposed improvements by others that are funded.
- Discussions with City of Worcester regarding potential for additional capacity within the City's sewer system to accommodate additional flows from the Town.

Stormwater Management Existing Conditions

The Town's storm water collection system has evolved over time, as the Town developed and streets have been constructed. This system encompasses many roads in Town, ranging from open culverts/swales to catch basins and associated piping. As road improvements have been made over the years, the Town has evaluated and addressed drainage improvements in those project areas.

The Town's existing storm water system is covered under a General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, as issued by the US Environmental Protection Agency on May 1, 2003. This permit is in effect for five years and covers the following aspects related to storm water:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention / Good Housekeeping

The intent of these regulations is to eliminate the potential discharge of pollutants to local rivers and streams, through implementation of a local storm water management plan that covers the six aspects noted above. Given its location within the watershed of the Wachusett Reservoir, the Town is certainly aware of the importance of protecting the natural resources and implementing an appropriate storm water management plan.

The Town's efforts towards implementation of a storm water management plan have included the following ongoing tasks:

- Locating and mapping all storm water outfalls
- Mapping all storm water system components
- Integration of storm water data into Town's geographic information system (GIS)
- Development and enactment of bylaws for construction site activities
- Street sweeping and catch basin cleanout

Prior to 2000, all aspects of storm water management on private property were considered the responsibility of the homeowner of the lot where the detention pond or treatment device is located. Starting in 2000, the Town required the establishment of homeownership associations to financially fund the maintenance of all storm water control structures and annual monitoring/reporting. This requirement should be included in the proposed bylaws.

It should be noted that draft bylaws pertaining to storm water management as it relates to site development/construction are presently being reviewed within Town and are expected to be enacted in the near future. These draft bylaws are a cornerstone of the Town's overall storm water management plan.

Stormwater Management Future Plans/Needs

Delineation and mapping of the existing storm water collection system, with ultimate integration with the Town's geographic information system (GIS), will be an ongoing effort. The resulting GIS mapping and database will facilitate maintenance, operation, and planning for the storm water system.

The draft bylaws pertaining to storm water management should be enacted as soon as possible, in order to address a critical component of the Town's overall

The draft bylaws pertaining to storm water management should be enacted as soon as possible, in order to address a critical component of the Town's overall storm water management plan.

stormwater management plan. Future development in Town can be evaluated using this bylaw, in terms of potential impacts of storm water discharges on rivers and streams.

8.6. Key Issues for Priority Projects

The following is a preliminary list of key issues for the projects identified as being first priority for the Town to undertake.

8.6.1. Fire Department

- Study of where six minute radius falls in relation to existing facilities, population densities and projected growth areas will be needed in order to determine how to meet the industry standard of responding within 6 minutes 90% of the time.
- May need sub-station to cover northeast and southeast quadrants (currently Chaffin covers south)
- Explore automatic mutual aid agreements with adjacent towns (e.g. Paxton and Rutland) to cover western part of Town.

8.6.2. Emergency Medical Response

- Contract is up in June 2009
- Fire Department developing a plan to provide service more efficiently and more cost-effectively
- Existing facility - lease is up at end of 2008

8.6.3. DPW Garage

- Current building inadequate in terms of amount and type of space.
- DPW would like to consolidate functions in one building
- Fire sub-station located here – could de-couple (would need to staff, is currently staffed by Highway Department staff day time).

8.6.4. Town Administrative Offices

- Need for office and storage space
- Possible on-site expansion
- Need for repairs and system improvements

8.6.5. Sewer System

The Town is essentially at its sewer capacity limit

- Develop detailed accounting of existing and committed/reserved flows, including approved developments and potential connections within sewer expansion area
- Evaluate capacity surplus/deficit
- Discuss with City of Worcester regarding potential for additional capacity
- Implement proposed improvements
- Continue on-going infiltration./inflow study

8.7. Longer-term Needs

Additional, but less pressing are needs related to expansion due to an anticipated increase in the Town's population. Planning for the future, the Town needs to take into account the following:

8.7.1. Senior Center

The increasing senior population as well as the new "kind" of senior emerging as the baby boomers "come of age" will require new kinds of services. An additional study is needed to determine whether the facility can also satisfy some of the growing needs of other population groups (e.g. teenagers).

8.7.2. Recreation Department

The increase in the Town's overall population may require that more recreational facilities are made available. This may be an opportunity to centralize and consolidate the Recreation Department at the Dawson location.

8.7.3. Youth Center/Activities

Resident input from a variety of visioning exercises and interviews with youth indicate that young people feel there is "nowhere to go."

8.7.4. Schools

At some point in the future it is likely that the Mountview Middle School will require renovations; it is the oldest of the town's school buildings and may need to update its facilities as well as accommodate a potential increase in the student school population. The School District should complete a Master Plan to help determine future facility needs.

8.7.5. Water Supply System

The water supply system is able to support the projected population growth to the year 2030. However, over time this may change.

- Confirm and update population projections and demand projections over time to confirm system adequacy
- Evaluate specific development proposals in terms of need for supplemental service (booster pumping) and location within existing distribution system and ability to provide service.

9. LAND USE IN HOLDEN

The Land Use element of the Town's Master Plan serves as a guide, if not a policy, for managing Holden's ongoing growth and development. Synthesizing and incorporating portions of the other element reports, The Land Use report includes an analysis of the Town's land use patterns, takes into consideration projections of the Town's population growth, factors in the physical and infrastructure restraints challenging Holden, and makes recommendations for the thoughtful management of the Town's growth.

Not all will agree with the recommendations of the Land Use report. Implementation of the recommendations entails the adoption of zoning by-law revisions, modification of the subdivision control regulations and the establishment of design review standards. But taking into consideration the desires offered at the Holden Tomorrow visioning session and roundtable discussions and incorporating suggestions by the Planning Board and others, the Land Use Section attempts to provide a path for the sensible development of the Town. Time will tell whether the Town follows that path.

9.1. *Issues and Tradeoffs Involved in Land Use*

The major land use issues for Holden revolve around the Town's desire, noted in the visioning session and the roundtable discussion, to preserve its "New England Charm". Two major tools that the Town can use to influence land use are public investment and regulation. Public investments, including land acquisition to prevent its development can affect the location and rate of development. Regulatory action, like the adoption of zoning bylaws, design review standards and subdivision regulations, can affect the location density and quality of development.

Some tradeoffs involved with preservation of the Town's character include the costs associated with land acquisition; the impacts on tax rates; and the possible limitation of commercial development. Other tradeoffs include impacts on the quality and character of the Town: Encouraging lower density development increases land consumption and can decrease social interaction. Low-density development that lacks sidewalks and trails has been shown to increase dependence on cars and to correlate with certain health issues like obesity. On the other hand, market forces seem to show a high demand for lower density developments.

9.2. Major Land Use Recommendations

- Diversity of development along the Main Street corridor.
- Create mixed-use nodes at historic village sections – Jefferson, Holden Center, Dawson, and Chaffinville.
- Encourage and provide incentives for sustainable development (“green buildings”)
- Encourage infill between and around villages with a diversity of housing with one to three bedrooms and home offices.
- Establish design guidelines to help assure quality of commercial and mixed-use development, infill, and adaptive reuse of historic buildings.
- Use cluster design principles to preserve some open space in area outside the Main Street corridor, recognizing that the cluster provisions in the Zoning Bylaw need revision.
- Offer a small density bonus of up to 17% to encourage use of the cluster provision.
- Encourage use of “Open Space Residential Development” in open space opportunity areas to help preserve rural character and protect views (see Open Space Recommendations).
- Protect agricultural areas to maintain Town’s rural character (see Open Space Recommendations).
- Offer and apply incentives for maintaining the land in its present open space use.
- Work out a plan for long-term maintenance of the retention ponds and stormwater pumping stations that are required in Holden’s zoning bylaws, to protect the drinking water reservoirs of Worcester and the Boston Metropolitan Area.
- Consider inclusion of “green building” principles and low impact development principles in Holden’s zoning bylaws, both as requirements where appropriate and as criteria for site plan review and special permits.
- Explore establishment of a recreational/institutional zoning district category that requires Town review of any proposals for reuse of recreational/open lands (e.g., golf courses) if they are sold.

9.3. Holden Land Use in History

Holden’s Historic and Cultural Resources (Section 4), summarizes the history of Holden. Land use highlights include:

- The original layout of the Town in the 1720s with Main Street and Highland Street as the major roads.
- Early development of farming and saw and gristmills to support the growing markets in Worcester and beyond,
- Development of textile mills and small mill villages on several of the Town’s waterways in the early 1800s,

- Arrival of the railroad in 1871 with stops at several of the mill villages including Chaffinville, Dawson, North Woods, the Center, Jefferson, and Quinapoxet,
- Acquisition of watershed lands in Holden by City of Worcester and Metropolitan District Commission beginning in the 1890s,
- Development of summer hotels and retreats in the late 1800s and early 1900s,
- Decline of agriculture and manufacturing in the 1900s and the slow evolution of the Town into a suburban community, and
- Building of highways, like Interstate 190, and the end of railroad service, which contributed to a dependence on private automobiles and the suburbanization of the Town,
- Sewers provided in many areas of Town in the early 2000s spurred expansion of residential development in forested areas along Wachusett Street, Winter Hill Road, and elsewhere.

These historic events have left a legacy for what is now a bedroom community. The legacy includes vast tracts of permanently protected watershed lands, historic buildings, some remnants of the old mill villages, and many new suburban neighborhoods.

9.4. Current Land Use and Zoning

Holden’s development over the last two hundred years has resulted in a diverse land use character. Much of Holden is still predominately undeveloped, with extensive forest areas (67.6% of Town’s land area) and some active agriculture. Table 9-1 shows that 77.9% of the Town is in “open use”. Residential uses account for 17.9% of land use. Commercial and industrial uses account for only about 1.2% of the Town’s area. Agriculture, pasture and orchards account for about 4.2% of the Town’s land use.

Still, in the last twenty years Holden has “lost” 972.7 acres of forest, 114.9 acres of pasture, and 76.6 acres of cropland, while 1,016.3 acres have been converted to residential land and 34.4 acres to commercial and industrial land. Water

in the last twenty years Holden has “lost” 972.7 acres of forest, 114.9 acres of pasture, and 76.6 acres of cropland, while 1,016.3 acres have been converted to residential land and 34.4 acres to commercial and industrial land.

accounts for about 3.5% of Holden’s surface area, with protected watershed lands surrounding the City of Worcester reservoirs and Department of Conservation and Recreation (DCR) watershed lands. Population growth has been steady with an increase of just over 5,500 people in the 40 years between 1960 and 2000.

Year	1960	1970	1980	1990	2000
Total Population	10,117	12,564	13,336	14,628	15,621

9.4.1. Residential Land Use and Zoning

Map 9-1 shows the distribution of land uses. The majority of residential land uses are concentrated in the southeast corner and the center of Town with commercial and industrial uses strung out in a “commercial corridor” along Main Street and Shrewsbury Street/South Main Street area. Almost 42% of residential development is on lots over ½ acre in size. These lower density areas are in several areas surrounding the center and along roads through predominately forested areas. The majority of residences are on lots between ¼ and ½ acre—53.2%. Generally, these higher density areas are near the center and in the southeast corner of Town.

Holden’s residential zoning has 5 types of districts:

- **Residential – Multi-family** (R-M, 67 acres or .3% of the Town’s total area) is a district that requires 10,000 square feet plus 5,000 additional square feet for each dwelling unit more than two.
- **Residential – Suburban 3** (R-10, 475 acres or 2.0% of the total area) is a residential district that requires 10,000 square feet for a single family dwelling and, by special permit, allows for two-, three-, and four-family dwellings provided there is a minimum of 15,000, 20,000 and 25,000 square feet of land respectively.
- **Residential – Suburban 2** (R-2, 2,394 acres or 10.3%) requires at least 30,000 sq. ft. per lot.
- **Residential – Suburban 1** (R-1, 4,506 acres or 19.4 % of the total area) requires at least 40,000 sq. ft. per lot.
- **Residential – Rural** (R-40, 14,963 acres or 64.4% of the total area) also requires at least 40,000 square feet per lot.

Where public sewer is unavailable in the R-2 and R-1 districts, all new residential construction (excluding alterations and extensions to existing single-family structures) requires a minimum lot area of 40,000 square feet.

Zoning boundaries are shown on Map 9-2. The Multi-family districts are located near the intersection of Main Street and Bailey Road and along Manning Street. The **Residential Suburban 3** district is also located along Main Street as are most of the business, commercial, and industrial districts. See Section 2, Housing for more information on residential uses.

Sixty-four percent of Holden’s land area is zoned **Residential Rural**. But much of the land in this district is permanently protected watershed land owned by the City of Worcester or the Massachusetts Department of Conservation and Recreation.

Table 9.1: Land Use in Holden 1985 – 2005

Land Use	1985 Acres	%	1999 Acres	2005 Acres	%	20 year change
Open Uses						
Cropland	597.9	2.6%	578.4	521.4	2.2%	(76.6)
Pasture	550.4	2.4%	521.1	435.5	1.9%	(114.9)
Nursery/Orchard	14.2	0.1%	21.4	21.4	0.1%	7.2
Forest	16,681.8	71.8%	16,181.2	15,709.1	67.6%	(972.7)
Unforested Wetlands	227.2	1.0%	240.5	240.4	1.0%	13.2
Open Land, Abandoned Fields	213.9	0.9%	280.8	370.9	1.6%	156.9
Water	814.4	3.5%	814.8	814.6	3.5%	0.2
Total Open Uses	19,099.9	82.1%	18,638.2	18,113.3	77.9%	(986.6)
Gravel Pit, etc.	166.31	0.7%	145.71	145.44	0.6%	(20.9)
Participation Recreation	161.77	0.7%	170.39	172.46	0.7%	10.7
Water-based Recreation	2.52	0.0%	2.52	2.52	0.0%	(0.0)
Multi-family Residential	15.38	0.1%	31.18	61.57	0.3%	46.2
Residential < 1/4 acre	148.51	0.6%	148.57	152.43	0.7%	3.9
Residential 1/4 to 1/2 acre	1,926.37	8.3%	2,120.91	2,200.36	9.5%	274.0
Residential > 1/2 acre	1,030.60	4.4%	1,291.20	1,722.82	7.4%	692.2
Commercial	134.58	0.6%	145.68	163.81	0.7%	29.2
Industrial	105.14	0.5%	110.41	110.30	0.5%	5.2
Urban Open/Institutional	252.26	1.1%	284.22	244.15	1.1%	(8.1)
Transportation	138.52	0.6%	134.58	134.53	0.6%	(4.0)
Waste Disposal/Landfill	67.96	0.3%	26.32	26.31	0.1%	(41.7)
Total	23,249.9		23,249.8	23,249.9		

Source: MassGIS and updates based on 2005 orthophotos

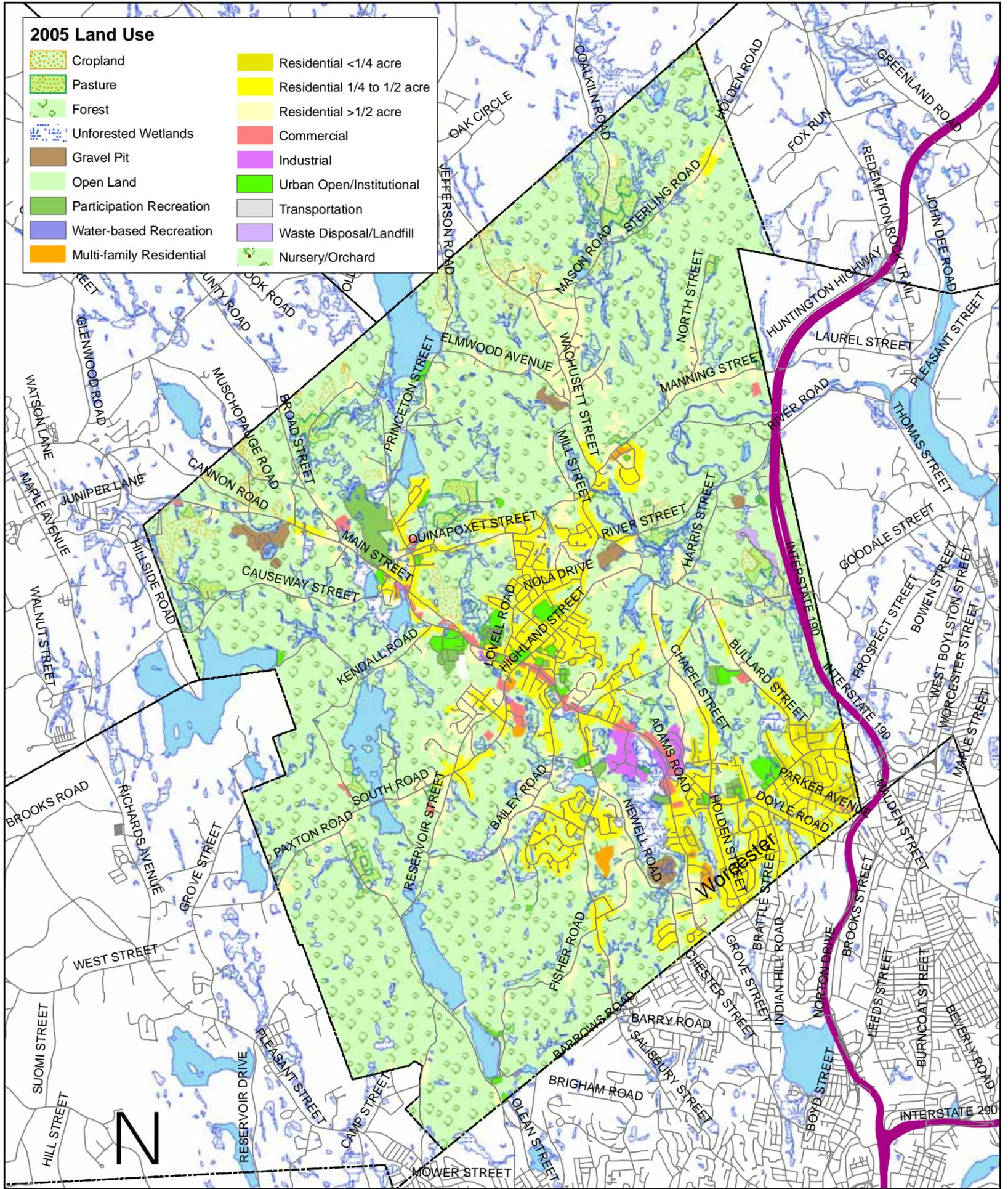
It is considered desirable for some land to be developed under cluster design principles to preserve open space while increasing densities on a portion of the sites. Clustering was permitted under prior zoning provisions but has not been

It is considered desirable for some land to be developed under cluster design principles to preserve open space while increasing densities on a portion of the sites.

effective, especially since area requirements were increased after the build-out analysis. Cluster zoning and “Open Space Residential Development” can be effective tools for encouraging development that preserves open space. Some towns have offered a density bonus of up to 17% to encourage this type of development. See Section 2, Housing, for additional discussion of cluster residential development.

9.4.2. Business and Industrial Land Use and Zoning

There are two types of business zones in Holden, **Commercial (C)** that provides for a broad variety of businesses, and **Business Office-Professional (BO-P)**

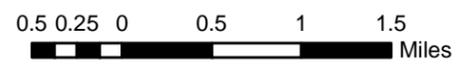


Community Preservation Associates
with Martha I von Landscape Architecture, LLC

Holden, Massachusetts

2008 Master Plan

Map 9.1: 2005 Land Use



that allows a more limited range of uses. (Section 6, “Economic Development” contains additional information on commercial, industrial, and business uses in Town).

The **Commercial** districts (C, 216 acres or 0.9% of the Town’s total area) have a 10,000 square foot minimum lot size and are located along Main Street. There are also two small **Business Office-Professional** districts (BO-P, 15.5 acres or 0.1% of the total area) along Main Street.

There are two areas zoned **Industrial** (I, 164 acres or 0.7% of the total area) one located south of Main Street and another off Quinapoxet Street. Land zoned for quarrying (I-Q, 420 acres or 1.8% of the total area) is located off of Causeway Street, Wachusett Street, North Main Street, River Street, and Newell Road and shown on the zoning map (Map 9.2). The I-Q area on Newell Road is no longer operating as a quarry and is currently the site of an over fifty-five, retirement community. Another quarry area on Wachusett Street was converted into a single-family residential subdivision under the Town’s Affordable Housing by-law.

The current zoning by-law has two innovative provisions that are intended to encourage classic village types of mixed uses. A “Mixed Use Development,” with residential, commercial, and business office/ professional uses can be allowed by

The current zoning by-law has two innovative provisions that are intended to encourage classic village types of mixed uses.

Special Permit. The Mixed Use Development by-law encourages expanded use of the Main Street corridor. The zoning by-law also allows the development of a “village” pursuant to the provisions of a Special Permit. “Village” developments are required to contain at least three permitted land uses, one of which must be residential. Freely accessible open space is also required in a “village” and provision must be made for recreational and social opportunities. The Town’s lone “Village District” consists of 19 acres at the site for the former Jefferson Mill.

Only 0.7% of Holden’s area is occupied by businesses. Only 1.0% is zoned for commercial and business uses indicating that there is very little if any land available for new businesses or expansion of existing businesses. The vacant land analysis (Section 9.7) shows that there are 47 acres of undeveloped land in the Commercial district and 1 acre in the Business Office Professional district.



Figure 9.1: Strip development Along Main Street

The existing uses include retail, office and service businesses. Most businesses are located along Main Street. According to MassGIS airphoto interpretation there are several other small commercial enterprises in other parts of Town.

The 420 acres zoned for quarries will be subject to new uses in the future as several of the quarries are reaching the end of their usefulness. The Holden Sand and Gravel quarry has been suggested as a redevelopment site for residences with some mixed uses (See Section 2, Housing).

9.4.3. Overlay Districts

Holden has three special overlay districts, one for aquifer protection, one for flood plain protection and one for telecommunications. The aquifer protection district encompasses the Town's important ground water aquifers. The floodplain protection district encompasses floodplains and flood hazard areas. The telecommunications overlay district defines an area where wireless communication structures are allowed by special permit.

9.5. Holden's "Sections"

Holden contains several sections, based on historic development patterns. Although sectional boundaries are not defined, these historic areas correspond to early villages and concentrations of settlement sometimes around old train stations or early mills.

Holden Center – this neighborhood is the historic center of Town, at the intersection of Main and Highland Streets. The Holden Center section includes Grove Cemetery, the Gale Library, Davis Hill School, and Town Hall and commercial uses along Main Street and Reservoir Street. Residences in the area are generally older and on small lots. Some former houses are now used for offices and other commercial uses.

Jefferson – this section is in the northwest area of Town and is centered near the intersection of Princeton and Quinapoxet Streets. It includes the old Jefferson School, now used as administrative offices for the Wachusett Regional Schools, and some commercial uses in and around the historic mill buildings. Residences in this section tend to be older and on small lots near the center of Jefferson, but there are newer, lower density housing units and a small multi-family development at Eagle Lake in the “Village” zoning district. The Holden Hills Golf Club is also located in Jefferson. In 2007 a portion of the golf course was approved for multifamily residences and another portion was protected by a conservation restriction.

Dawson – this section of Town has evolved around Salisbury Street and north of Main Street. A small pond and associated wetlands protected by the DCR are to the south of Main Street and the Dawson School and Recreation Area are south along Salisbury Street. Newer homes on larger lots are located further out both Malden Street and Salisbury Street. The Town Pool is in the Dawson area.

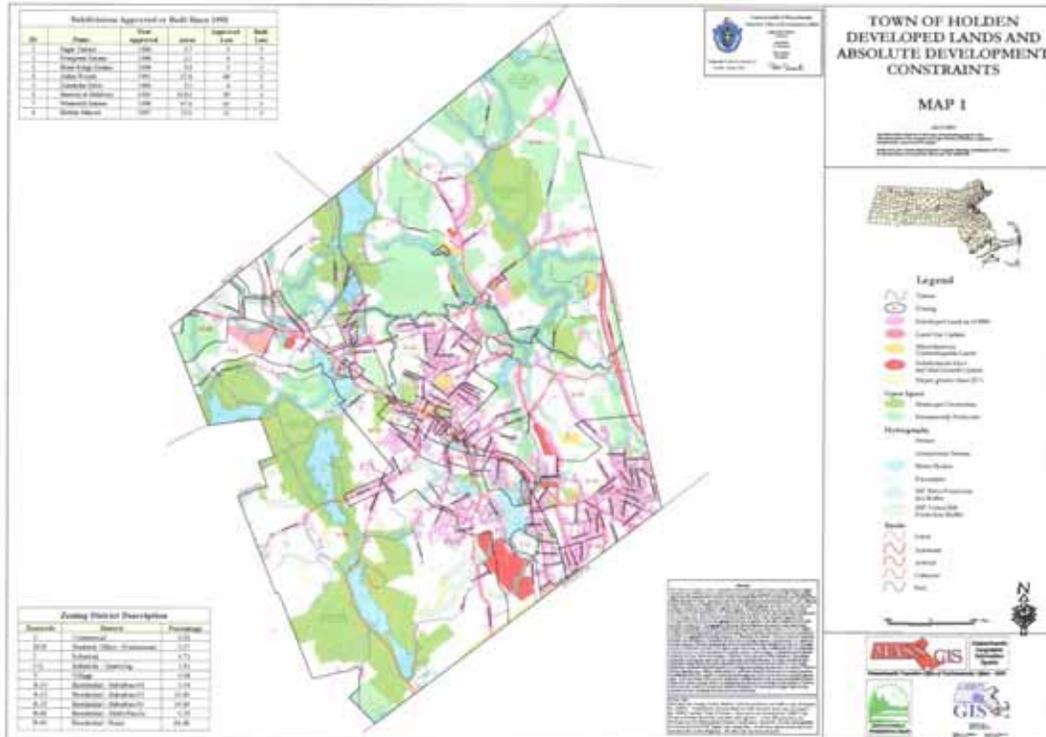
Chaffinville – this section fills out the southeast corner of Town and surrounds Chaffin Pond. Commercial and industrial uses are located at the north end of the pond and along part of Main Street. Generally older residences on smaller lots typify the neighborhood but there are some areas of multi-family housing and new homes on both small lots and larger lots.

Other sections of Town include “The Maze”, between Quinapoxet Street and Lovell Road, and the “Western States” area by Bullard and Shrewsbury Street and the West Boylston Town line. Two largely undeveloped areas are named on old maps—Ruralville and Canada Mills. Canada Mills is located between Interstate Rt. 290 and Unionville along Harris Street. The former landfill and a gravel pit are located in this area. Ruralville was originally a small village at the outflow of the Quinapoxet Reservoir along Princeton Street. Scattered residences and farms typify this area. An area of mostly newer residences is located to the east of Wachusett Street but for the most part the northeast section of Town is dominated by protected watershed land—both forest and farmland.

9.6. *Build-Out Analysis of Holden’s Land*

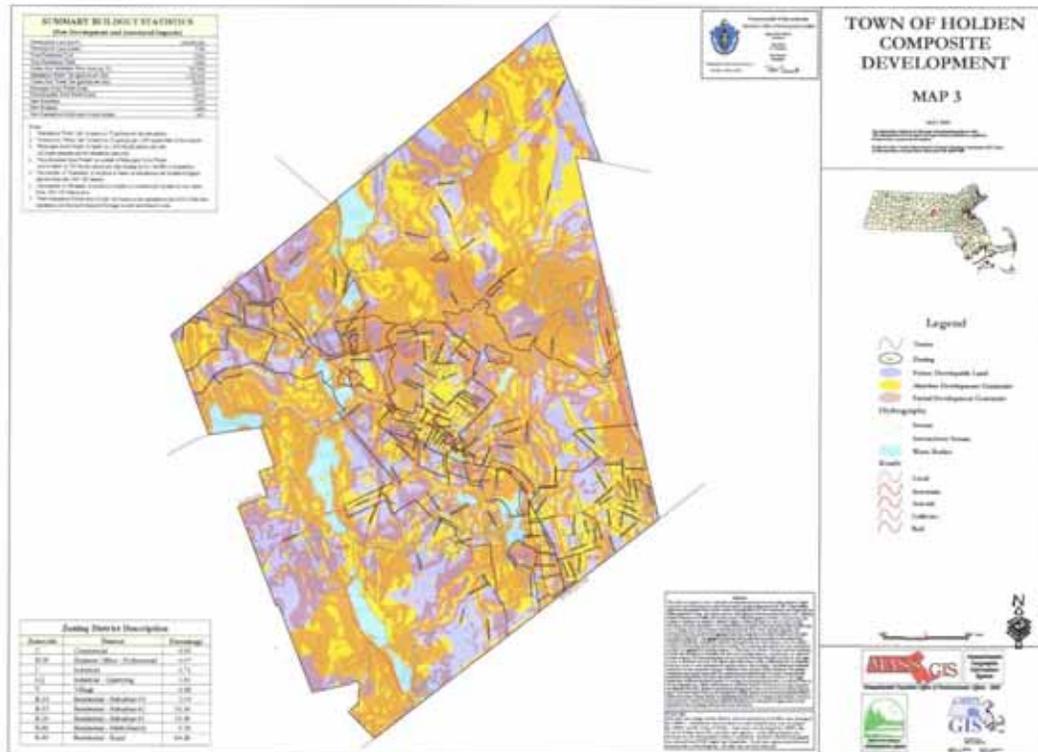
An analysis of the extent to which Holden can grow, given its zoning in 2000, the then current state of development, land ownership patterns, and natural constraints to development such as wetlands was done by the Central Massachusetts Regional Planning Commission in 2000.

The analysis identified land available for development, and then estimated future development until no more land was available or “build-out” was



Source: CMRPC, 2000

Map 9.3: Developed Land & Absolute Development Constraints



Source: CMRPC, 2000

Map 9.4: Composite Development

complete, then the impact of the build-out was estimated. These build-out projections do not take into consideration the Town's contractual and physical sewer capacity constraints. See Section 8, "Public Facilities and Services", for an in-depth discussion of the water and sewer issues impacting development in Town.

The 2000 analysis revealed that Holden could grow by an additional 17,696 residents in 6,383 housing units. Other summary data from the build-out are as follows.

Table: 9.3: Build-out Projections

	Population	Students	Water Use Gal./Day
1990	14,628	2,416	
2000	15,621	2,847	1,393,361
Build-out	33,317	7,330	2,742,885

Source: CMRPC, 2000

The projected impacts from the build-out, when all the developable land would be used up, are shown below.

Table 9.4: Build-out Impacts

Additional Residents	17,696
Additional Water Demand	1,349,524 gal./day
Additional School Children	4,483
Additional Residential Units	6,383
Additional Commercial/ Industrial Floor Area	297,660 sq ft.
Additional Solid Waste	
Recyclable	4,215 tons/yr.
Non-Recyclable	6,456 tons/yr.
Additional Roadway Needed	64 miles

Source: CMRPC, 2000

Partially in response to the implications of the build-out projections and its impacts, the Town increased the lot area requirements for residences from 20,000 square feet to 40,000 square feet the R -20 zoning district and from 15,000 square feet to 30,000 square feet in the R-15 zoning district. In addition the "Mixed Use Development" provisions of the zoning by-law, to encourage denser village-types of development, were adopted.

A Phased Growth Zoning Bylaw, limiting the number of new dwelling units to 200 every two years had already been passed in the 1980s.

While these changes have had the effect of reducing the potential build-out population they have also increased the rate of land consumption for residential

While these changes have had the effect of reducing the potential build-out population they have also increased the rate of land consumption for residential development.

development. For example, from 1985 to 1999 an average of about 39 acres of forest and agricultural land was developed each year; from 1999 to 2005 an average of 102 acres of forest and agricultural land was developed each year.

9.7. Vacant Land

Table 9.7 shows vacant land in Holden by zoning district.

Table 9.7: Vacant Land

Zoning District	Unprotected Forestland (acres)	Unprotected Agricultural Land (acres)	Other Unprotected Land (acres)	Total Vacant Land (acres)
R-40	2,249	383	140	2,772
R-20	1,632	131	67	1,830
R-15	495	7	40	542
R-10	120	0	20	140
R-M	32	0	0	32
C	47	0	1.4	48
BO-P	1.3	0	0	1
I & I-Q	245	13	124	382
V	0	0	0	0
Total	4,821	534	392	5,747

Notes: Some areas included in totals will not be “developable” because of a lack of access or other limitations. Totals exclude areas less than one acre. “Other Unprotected Land” includes abandoned fields and quarries.

9.8. Subdivision Control Regulations

The Town’s subdivision control regulations have a major impact on how land in Holden is developed. Standards for pavement width, right-of-way requirements, and regulations governing grading and drainage, with little regard for existing topography and vegetation, often result in large areas of clearing and fill, with material impact on the appearance of new developments. Existing stormwater regulations often require detention ponds that are long-term maintenance problems and are aesthetically unpleasing.

9.9. Current Land Use Trends

Land use in Holden has changed dramatically in the last thirty years. As noted above, open uses—cropland, pasture, and forest—have decreased while acreage

used for residences have increased. Since requiring larger residential lots the average rate of conversion of forest and agricultural lands to housing has been more than 2 ½ times faster than before.

Since requiring larger residential lots the average rate of conversion of forest and agricultural lands to housing has been more than 2 ½ times faster than before.

At the same time market conditions, demographic forces and sewer capacity issues are having impacts on the nature of land use and the character of Holden. Larger homes on large lots have been popular for families. In the past several years, age-restricted housing developments have been created at a rate that has outstripped the local market and several developers have reported difficulty selling these homes. Buyers for these homes are “empty nesters” often looking for smaller homes on smaller lots with nearby opportunities for walking and shopping. As the “baby boomers” retire homes that meet these criteria will be more in demand. Technology changes have made it more possible for people to have home occupations.

In its March 2004 “E.O. 418 Community Development Plan, Town of Holden, Economic Development Component & Housing Needs Assessment” RKG Associates, Incorporated noted:

While residential land use issues are outside the scope of this economic development element, it is clear...that Holden does not possess a sufficient land base, market opportunities or public consensus to improve its fiscal condition through “economic development” measures alone. Because the large majority of Holden’s remaining developable land base is residentially zoned, there is a clear need of land for the future growth of the community. As part of that process, the Town should consider residential land use alternatives and growth management strategies that are fiscally less burdensome than recent trends.

Public sewers have also had a major impact on land use in Holden. Sewers made it easier to develop many areas that were unsuitable or too costly for septic systems because of soil limitations. As sewer capacities are exhausted it will become more difficult to develop properties on these soils. (See Section 8, “Public Facilities and Services,” for a more complete discussion of the sewer system.)

As land becomes more valuable it increases the likelihood for redevelopment. Large privately owned parcels will be increasingly subject to these development pressures.

Holden's desirability as a good place to live has long been based on its proximity to employment, its good schools, and its semi-rural character. Current trends are impacting that character and could reduce its appeal. Residential land consumption and businesses strung out along Main Street rather than in concentrated "villages" that promote walking between shops are symptoms of suburban sprawl.

The Central Massachusetts Regional Planning Commission has advocated more compact development with a concentration of both residential and commercial uses in village centers.¹ Such a strategy is frequently referred to as "Smart Growth." The principles of smart growth are:

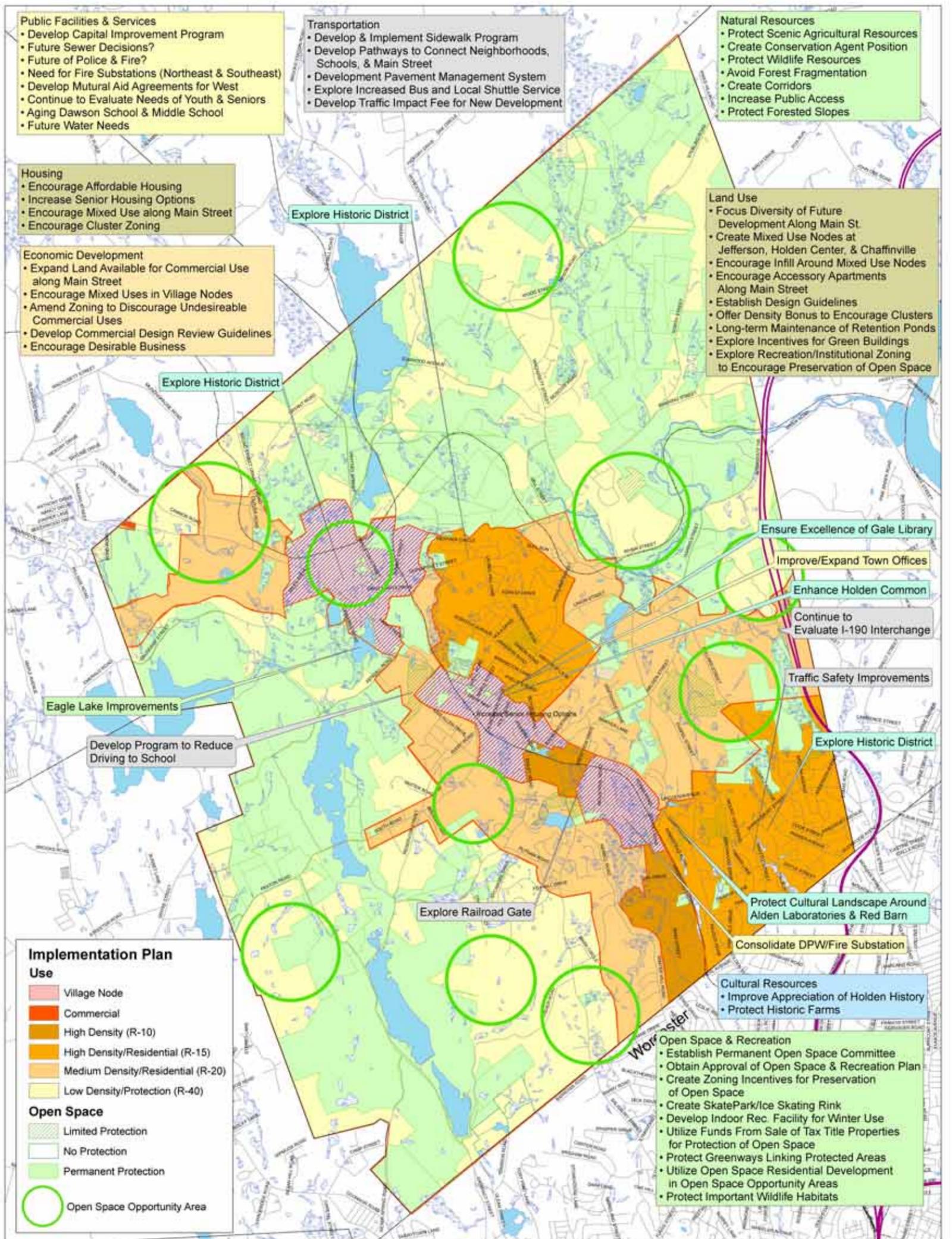
- To guide land use planning to preserve a community's unique character, quality of life, and natural and built resources
- To develop and redevelop in areas where adequate infrastructure is already available or can be upgraded without damaging natural resources, causing undue burdens on residents, or straining local budgets,
- To promote development and planning that encourages environmental equity,
- To preserve open spaces and natural resources, including wildlife habitat and working farms and forests, as part of a long-term economic strategy,
- To use new economic development techniques that consider the physical and ecological limitations of our natural resources, such as the ability to provide water, assimilate pollutants, and support biodiversity, and
- To adopt zoning and provide incentives that encourage developers to choose less consumptive land-use patterns.

9.10. Future Land Use Plan

Some of the most important factors for future land use in Holden are highlighted below and on Map 9.5. Recommendations for consideration include:

- Establish design guidelines to help assure quality of commercial and mixed-use development, infill, and adaptive reuse of historic buildings.
- Focus a diversity of future development along Main Street corridor.
- Create and encourage mixed-use nodes at Jefferson, Holden Center, and Chaffinville. The Future Land Use Plan (Map 9.5) shows the three nodes or villages along Main Street separated by denser housing and/or open space.
- Encourage infill around the villages with a diversity of housing types with one to three bedrooms and home offices.
- Use cluster design principles to preserve some open space in areas outside the Main Street Corridor, recognizing that the cluster provisions in the

¹ Central Massachusetts Regional Planning Commission, 2020 Growth Strategy for Central Massachusetts, 2002.



Holden, Massachusetts 2008 Master Plan

Community Preservation Associates
with Martha Lyon Landscape Architecture, LLC
and Earth Tech, Engineers & Planners
Source: MassGIS & 2005 Orthophotos
May 2007

Map 9.5: Future Land Use Plan

Zoning Bylaw need revision. (Consultants suggest offering a “small density bonus” of up to 17% to encourage use of the revised cluster provision.)²

- Encourage use of Open Space Residential Development in open space opportunity areas to help preserve rural character and protect views. Open space opportunity areas indicated as green circles on the Future Land Use Plan (see also the Open Space Recommendations in Section 5).
- Protect agricultural areas to help maintain the Town’s rural character. Offer and apply incentives for maintaining land in open space uses (see also the Open Space Recommendations in Section 5).
- Work out a plan for long-term maintenance of the retention ponds and stormwater pumping stations that are required in Holden’s zoning bylaws, to protect the drinking water reservoirs of Worcester and the Boston Metropolitan Area.
- Review Subdivision Control Regulations and develop design criteria and a design review procedure to see if there are alternative provisions that would be more sensitive to natural topography and drainage.
- Consider inclusion of “green building” principles and low impact development principles in Holden’s zoning bylaws, both as requirements where appropriate and as criteria for site plan review and special permits.
- Explore establishment of a recreational/institutional zoning district category that requires Town review of any proposals for reuse of recreational/open lands if they are sold.

The Future Land Use Plan map (Map 9.5) also shows implementation steps for other Sections of the Master Plan.

² Note: 17% is a bonus number that results in one whole additional unit when 6 units are permitted. The R-10 District in Holden requires a minimum 25,000 sq. ft. lot size and permits a four family structure. Item 7 of Chapter 7.1 VI of Holden's Zoning Bylaw allows 6 units for publicly sponsored multi-family units for the elderly, or for any elderly housing sponsored by a non-profit organization under a recognized government assisted program. The calculation is 1 unit permitted for each 10,000 sq. ft. and 3,000 sq. ft. needed for each additional unit. This standard recognizes that 6 housing units can be built on 25,000 sq. ft. now in Holden. Applying a 17% density bonus for including 1 or more affordable units would yield 7 housing units on 25,000 sq. ft. This calculation is intended to relate the density bonus as much as possible to standards in the existing zoning bylaw. It is intended to encourage cluster housing development that would probably occur on tracts of land larger than 25,000 sq. ft.

10. IMPLEMENTATION OF THE MASTER PLAN

Holden's master plan provides a detailed road map toward an ideal destination envisioned for the future of the town. "Holden Tomorrow", the name for this comprehensive planning process, encompasses the dreams, wishes and desires of its residents, hundreds of whom have participated in roundtables, charettes, surveys and suggestion boxes over the last year. Holden Tomorrow gathered an immense amount of data from dozens of sources in order to present a picture of Holden today as well as the trends that will impact its future.

The recommendations of Holden Tomorrow are grounded in this data and the opinions and inputs of its citizens. Not surprisingly, the citizens of the town have expressed a great deal of affection for the community that they live in. The "small-town feel" of this quintessential New England town is evidenced in its colonial historic structures, its large number of tracts of open space, its often-bucolic vistas, and safe, family friendly environments. The only significant concerns about the town relate to its continued affordability, increased traffic, and lack of things to do and places to shop, particularly for young people.

So, if our citizens like "things the way they are", one may posit that the best planning is "to do nothing." Perhaps counter intuitively, Holden Tomorrow has found that a "do nothing" strategy would instead lead Holden toward a future controlled by forces that do not have the interests of the citizens at heart. The unrestrained forces of economic growth and land development over the next 20 years threaten to permanently alter the character of the town and transform the town into one in which the economic stresses are more acute, traffic and congestion more rampant, open spaces are gobbled up by unbridled development, public facilities deteriorate, and new families, teachers and public safety and other town employees are priced out of the market. Even today, we can see these trends in play, with current proposals for large-scale "cookie-cutter" housing developments and "big box" retail establishments. Citizens may be surprised at how few planning tools, bylaws and regulations are available in the quivers of our town officials and planning boards to any way guide or regulate these proposals.

Holden taxpayers have a tradition of scrutiny and skepticism about any kind of new spending proposals. Fortunately, most of the recommendations from Holden Tomorrow involve no cost! However, they will involve a great deal of work, dedication and perseverance by our town officials and volunteer boards. To implement the Holden Tomorrow proposals the powers of logic and persuasion will be utilized to convince the electorate that more regulations and bylaw changes are in the public interest.

That is not to say that some of these recommendations do not carry a high price tag, particularly those that involve renovation or construction of new public facilities. Even in these instances, experience teaches us that there is also a higher price for inaction – the price tag becomes even larger as needed projects are delayed or postponed.

Many of these recommendations also present potential conflicts and necessary “trade-offs.” How do we encourage positive economic development without impacting traffic? How can we build more affordable housing without losing precious open space? How do we preserve our historic and cultural assets at a time of limited funding? How do we encourage “smart growth” unless we have the public utilities to accommodate it?

Holden Tomorrow recognizes these apparent conflicts and the difficulties that will occur in fully realizing its recommendations. In the end, compromises will and must occur and not every recommendation will have an easy path to fulfillment.

We are confident that this document represents what the people have told us what they want. Now, the more difficult challenge will be working together as a community to make progress on this ambitious agenda.

Recommendations for the implementation of the master plan can be found in the following.

The purpose of an implementation program is to consider all the key recommendations in the plan and organize them into a plan of action that prioritizes and sequences them, identifies those parties best suited to carry them out, and identifies some of the possible funding mechanisms. The key to a workable plan is to understand the interdependencies of the many elements, and the financial realities of municipal government.

In the end, the success of any Master Plan depends on how the community receives the Plan, how it chooses to balance the many interests and goals of its residents, and how willing it is to commit the energy and resources necessary to make the Plan the town’s future reality. The following organizes implementation actions by subject and shows a table with information on each recommended action, actions needed to realize the action, and the responsibilities for carrying out those actions. There is also a chart in the Master Plan Summary (Section 1.2) that highlights the fifteen most important actions.

10.1. Priority Implementation Action Items

The Master Plan Steering Committee has prioritized the top fifteen action items from the numerous implementation recommendations contained in the Master Plan. The action items were identified by a majority vote of Steering Committee members who considered input from citizens, staff, data analysis, and element leaders.

The following high priority items are actions to be completed in years one through five (Phase 1). With the exception of Action Item 1-1 the recommendations are not prioritized. Implementation of the Master Plan is scheduled to begin in 2008, it is suggested that the high priority items serve as the first steps. The recommendations are not intended to delay proceeding with tasks identified in the full implementation table. It is imperative that a Master Plan Implementation Committee be appointed to facilitate implementation, ensure items are completed, and update information.

While one of the primary concerns of the citizens expressed at the public meetings was traffic congestion on Main Street, the Master Plan process did not identify any large-scale viable solutions to this concern. Several smaller-scale remediation recommendations have been made in this report. Shared driveways, shared parking, and landscaped traffic islands requiring right-turns only at adjacent driveways, may improve flow but they are not likely to significantly reduce traffic congestion. The one possible “local” solution was thought to be a new interchange with I-190 at Malden Street. However, when the Central Mass Regional Planning Commission built this interchange into their forecasting model for the region, the improvement to traffic on Main Street was minimal and the interchange created new concerns in other areas. Long-term solutions to alleviate traffic congestion due to regional development are better dealt with at a regional level. For more details, please refer to the Transportation Element Report.

Phase 1		Years 1 – 5	
Task	Action	Responsible Party	Element
1.1 Form a Master Plan Implementation Committee	To continually update information contained in the Master Plan and to track progress of implementation recommendations.	Town Manager	Implementation
1.2 Create a standing housing committee by either expanding the charge of the existing Affordable Housing Partnerships Committee, or forming a new committee. The standing committee would be responsible for dealing with the full range of housing issues facing the Town.	Continue with the Town’s commitment to produce 44 affordable housing units per year to meet the statutory 10% minimum Encourage “friendly” and well-located affordable housing projects. Explore the utilization of town-owned land for low income and/or affordable housing developments. Increase senior housing options. Currently the Town has an oversupply of Retirement Communities (55 and older) there is an identified need for assisted living facilities and nursing homes.	(Affordable) Housing Committee Town Manager	Housing
1.3 Create and fund a Conservation Commission Agent position.	Many recommendations included in the Natural Resource and Open Space categories can be completed by a Conservation Commission Agent. This position would also aid the Open Space Committee and help protect natural resource areas from environmental degradation.	Town Manager Selectmen Finance	Natural Resources Open Space and Recreation
1.4 Create a standing Open Space Committee to deal with a broad range of open space issues including implementing the open space recommendations included in the Master Plan, and completing the state mandated Open Space and Recreation Plan.	Identify and permanently protect important unprotected natural resource areas, including wildlife corridors. Pursue adoption of conservation related bylaws and policies such as the creation of zoning incentives for preserving open space.	Town Manager Open Space Committee Planning Board	Open Space and Recreation Natural Resources

Phase 1			
Years 1 – 5			
Task	Action	Responsible Party	Element
1.5 Protect important and scenic agricultural resources and views.	Pass a right to farm bylaw to leverage state funds.	Open Space Committee	Natural Resources
1.6 Preserve and maintain existing Town owned historic resources.	Evaluate, prioritize and fund maintenance and repair of structures. Adopt Community Preservation Act (CPA) as a source of funding.	Historic Commission Historic District Commission	Historic and Cultural Resources
1.7 Develop a plan to preserve privately owned historic assets and encourage knowledge of Holden’s history.	Create a preservation plan and update inventory of historic assets identifying additional National Register listings.	Historic Commission/ Historic District Commission	Historic and Cultural Resources
1.8 Allow service oriented commercial uses in the industrial zone on Industrial Drive. Prevent “big box” retail uses in Industrial Drive and throughout Town	Prepare zoning bylaw amendments to ensure desirable uses, scale, placement, and design.	Economic Development Committee Planning Board	Economic Development
1.9 Establish a Capital Planning Committee by either expanding the IIF Board of Trustees responsibilities to include such responsibilities, or forming a new committee.	Establish a prioritization and funding plan for municipal facilities. Prepare a capital budget plan and program. Create systematic funding infusions into appropriate saving mechanisms.	Town Manager Board of Selectmen Infrastructure and Investment Board Finance Committee	Public Facilities and Services
1.10 Continue to monitor and evaluate committed reserved wastewater flow, evaluating capacity deficits and surpluses.	Discuss with others, including the City of Worcester regarding the potential for additional capacity. Continue on-going Infiltration and Inflow study and implementation. Develop a plan to manage growth by restricting allowed sewer connections.	Water and Sewer Advisory Board	Public Facilities and Services

Phase 1			
Years 1 – 5			
Task	Action	Responsible Party	Element
1.11 Establish design guidelines	To assure quality of commercial and mixed-use development, infill and adaptive reuse of historic buildings, enforcing the New England style feel residents wish to maintain.	Planning Board Historic Commission	Land Use Economic Development
1.12 Recreation Department to investigate the possibility of additional recreational facilities and services.	Create skate boarding park and ice-skating rink. Develop an Indoor Recreation Facility for Winter Use. Seek permanent protection of CRA Field.	Recreation Department Recreation Committee	Open Space and Recreation
1.13 Implement a sidewalk program to install new and maintain existing sidewalks at critical locations such as elementary schools.	Prioritize critical areas. Schedule and fund improvements.	Transportation and Circulation Committee	Transportation
1.14 Connect existing neighborhood to each other and to commercial area and schools with a system of pathways	Evaluate and prioritize possible connections. Design a pathway system.	Transportation and Circulation Committee	Transportation
1.15 Replace the DPW Garage and Fire Department sub-station	Establish a study committee to develop a proposal for a new DPW Garage/Fire sub-station. Place in Capital Budget for FY 2010	Infrastructure and Investment Fund Finance Committee	Public Facilities and Services



10.2. Housing

The essential issue is how to create more affordable housing, enabling people who grew up in Holden to continue to live in Holden, town employees to live in town, and provide housing opportunities for empty nesters and retirees living on relatively limited incomes. Age-restricted housing, which is in plentiful supply, meets the needs of higher income households who can afford market rate

The essential issue is how to create more affordable housing, enabling people who grew up in Holden to continue to live in Holden, town employees to live in town, and provide housing opportunities for empty nesters and retirees living on relatively limited incomes.

housing, but there is a concern that there will be an oversupply of age-restricted housing, leading to requests by developers to lower or eliminate the age limit for their units. This could lead to more school children than currently anticipated and higher taxes. A related housing issue is how to deal with “comprehensive permit” Chapter 40B housing projects. Holden has a state approved housing production plan that calls for 44 units of affordable housing to be produced each year to provide immunity from unwanted 40B projects, but there is some question about whether this target can be met. Currently the overall housing market is down from its prior levels. The overall market is what drives 40B projects because the market rate housing produced partially subsidizes the affordable units. Chapter 40B developments are also partially subsidized by low interest, state-sponsored financing for developers.

Housing program implementation measures that have been proposed for Holden include:

- passage of “inclusionary” housing in zoning bylaws,
- encouragement of developers to produce affordable rental units,
- possible development of more housing authority units.

These measures would create affordable housing that would be counted toward Holden’s 10% target for total affordable units, and/or its objective of producing 44 units of affordable units per year. In brief, it is important for Holden to incorporate innovative incentives in its zoning provisions to modernize them and create the affordable housing needed in town. The following table summarizes the proposed housing implementation program for Holden. See Section 2, Housing for additional information.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Continue with the Town’s commitment to produce 44 affordable housing units per year, realizing that this may be difficult in periods of slack housing demand, and owing to the need to provide adequate sewer services for residential use. • Increase the Town’s Affordable Housing stock to achieve statutory requirements. There are long waiting lists for low-income family housing. Currently there are only eight units in Town. • Increase Senior Housing Options. There are many over 55 independent senior housing projects in Town. A need exists for progressive and assisted living developments. There are still long waiting lists for affordable accessible senior housing. 	<ul style="list-style-type: none"> • Encourage “friendly” and well-located affordable housing projects. Commit town-owned property to affordable housing. • Explore the utilization of town-owned land for low income and/or affordable housing developments. • Create zoning incentives for the creation of this housing type. Amend the Retirement Community By-law to encourage progressive living developments. 	<ul style="list-style-type: none"> • Affordable Housing Partnership Committee, Housing Authority and Board of Selectmen • Planning Board • Town Meeting
<ul style="list-style-type: none"> • Rezone more land in the Main Street Corridor for multi-family housing and 10,000 and 15,000 sq. ft. lots. Create “Village Zoning” in selected areas on Main Street to allow for housing in mixed-use commercial/residential development (see similar recommendation in the economic development element). 	<ul style="list-style-type: none"> • Prepare appropriate zoning amendments. Pass at Town Meeting. • Provide inclusionary zoning requirements for larger developments. 	<ul style="list-style-type: none"> • Planning Board • Town Meeting
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Encourage use of cluster zoning to save open space in low-density areas outside the Main Street Corridor. • Provide a variety of housing options recognizing there is a projected decrease in need for large single-family homes. 	<ul style="list-style-type: none"> • Prepare appropriate zoning amendments. Pass at Town Meeting. 	<ul style="list-style-type: none"> • Town Meeting • Planning Board
<ul style="list-style-type: none"> • Determine if the Affordable Housing Partnership Committee would broaden its role to encompass a greater range of housing issues facing Holden, if not a new and separate Committee should be formed. See Section 2.8. 	<ul style="list-style-type: none"> • Create a permanent Housing Committee or have AHPC broaden its scope. 	<ul style="list-style-type: none"> • Board of Selectmen/Town Manager



10.3. Natural Resources

A high priority goal for Holden residents is to maintain the rural and semi-rural character of the town, and the quality of the Town's natural areas and wildlife. Natural resources in the form of fields, pasture lands, forests, ponds, streams, wetlands, hills and wildlife make up a large part of the character that residents

Natural resources in the form of fields, pasture lands, forests, ponds, streams, wetlands, hills and wildlife make up a large part of the character that residents value. The primary implementation objective is to preserve these features and enhance access to them for greater enjoyment by town residents.

value. The primary implementation objectives is to preserve these features and enhance access to them for greater enjoyment by town residents. Holden is quite fortunate to have extensive undeveloped land protected by major water supply systems as watershed lands. Holden is also fortunate to have several trail systems that provide access to and through some of its natural resources. Another implementation objective is to further protect and manage the town's water resources by reducing erosion and stormwater runoff.

Much of the work of protecting Holden's natural resources requires a Town Conservation Agent. Presently, Holden does not have a full time Conservation Agent. The legally mandated administrative duties associated with implementation of the state Wetlands Protection Act and the Holden Wetlands Protection Bylaw are carried out by the Town Planner. A position of a full time Conservation Agent should be established to undertake the program of natural resource protection and management. The Conservation Agent would assist the Conservation Commission in the implementation of its responsibilities, including permit compliance inspections and land stewardship. This would also free up some needed time of the Town Planner. Holden needs a full-time Town Planner to carry out and oversee the entire program of implementation recommended in this Master Plan. Funding for the Conservation Agent position could potentially be provided in part, through project-specific grants that the Conservation Agent and others could seek, as well as adopting regulations incorporating additional filing fees. For example a potential alternative source of revenue to fund the position would be an increase in permit application filing fees under the Holden Wetland Bylaw.

The following table summarizes the recommendations, actions and assigned responsibilities for implementing a natural resource protection and

enhancement program. See Section 3 – Natural Resources, for additional information.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Protect natural resource areas from environmental degradation • Identify and permanently protect important unprotected natural resource areas, including wildlife corridors. • Protect important and scenic vistas and agricultural resources. 	<ul style="list-style-type: none"> • Create the position, fund and hire a Town Conservation Agent • Finalize and adopt stormwater regulations • Create an Open Space and Natural Resource Committee • Create ranking criteria; inventory and rank sites • Establish and fund a land acquisition program and protocol. • Adopt the Community Preservation Act (CPA) to fund natural resource land acquisition • Develop and monitor a plan for first right of refusal to purchase Chapter 61 land • Pass a “Right-to-Farm” Bylaw to leverage state funds. 	<ul style="list-style-type: none"> • Board of Selectmen, Finance Committee and Town Manager. • Conservation Commission Open Space Natural Resource Committee • Select Board, Finance Committee. • Assessor. • Planning Board • Town Meeting
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Increase appropriate public access to watershed protection areas. • Increase public access to ponds and streams for recreational uses. 	<ul style="list-style-type: none"> • Identify access opportunities. Acquire property rights 	<ul style="list-style-type: none"> • Town Manager, Board of Selectmen • Conservation Commission
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Provide special protection for slopes to preserve views and to reduce erosion and stormwater runoff. 	<ul style="list-style-type: none"> • Prepare by-law amendments. Pass at Town meeting. 	<ul style="list-style-type: none"> • Conservation Commission • Planning Board



10.4. Historic and Cultural Resources

Holden's historic and cultural resources add significantly to its character, and as noted, preserving existing character is very important to townspeople. These resources include not only buildings and their grounds and settings such as the Town Common, but also heritage landscapes and scenic roads and views. It will be important to preserve and enhance these resources for the enjoyment

Specific cultural and historical features that should be protected include village locations at Jefferson/Eagleville, Chaffinville and Quinapoxet, the Park Avenue and Grove Cemeteries, the Red Barn and Alden Laboratories, the Town Common and scenic roads such as South Road and Causeway Street.

and education of existing and future Holden residents and visitors. Specific cultural and historical features that should be protected include village locations at Jefferson/Eagleville, Chaffinville and Quinapoxet, the Park Avenue and Grove Cemeteries, the Red Barn and Alden Laboratories, the Town Common and scenic roads such as South Road and Causeway Street. A recurring sentiment of Holden residents who provided input into the Master Plan process was the high value that many place on the Gale Free Library. Ensuring continued financial support for the library should be a priority for Holden.

The following table summarizes the recommendations, actions and assigned responsibilities for implementing a cultural and historic resource protection and enhancement program. See Section 4: Historic and Cultural Resources.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Preserve and maintain existing Town-owned historic resources. 	<ul style="list-style-type: none"> • Evaluate and prioritize maintenance and repair of structures • Fund and implement maintenance and repair • Adopt Community Preservation Act (CPA as a source of funding) 	<ul style="list-style-type: none"> • Historic Commission & Historic District Commission • Town Manager, Board of Selectment Finance Committee

Recommendations	Actions	Responsibilities
<p><i>First Priority (continued)</i></p> <ul style="list-style-type: none"> • Develop a plan to preserve historic assets and encourage knowledge of Holden’s history 	<ul style="list-style-type: none"> • Create a preservation plan, and update inventory of historic assets identifying additional National Register Listings. • Possible Bylaws; Scenic Roads, Demolition Delay 	<ul style="list-style-type: none"> • Historic District Commission • Historic Commission • Town Manager Board of Selectmen
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Investigate the creation of historic districts at Jefferson, Quinapoxet and Chaffinville to supplement the two existing historic districts. 	<ul style="list-style-type: none"> • Define new districts. Pass article to create new districts at Town Meeting. 	<ul style="list-style-type: none"> • Historic District Commission • Historic Commission • Planning Board
<ul style="list-style-type: none"> • Review and possibly expand cultural opportunities for youth 	<ul style="list-style-type: none"> • Establish a Town committee with youth representation to review cultural opportunities 	<ul style="list-style-type: none"> • Town Manager
<ul style="list-style-type: none"> • Protect cultural landscapes around the Red Barn, Alden Laboratories and historic farms. 	<ul style="list-style-type: none"> • Prepare zoning amendments. Pass at Town Meeting. 	<ul style="list-style-type: none"> • Planning Board
<ul style="list-style-type: none"> • Expand and enhance Holden Common (Town Hall Area). 	<ul style="list-style-type: none"> • Review UMass Student Design Studio Project Recommendations (see Appendix) • Prepare a design and seek funding for Holden Common area. 	<ul style="list-style-type: none"> • Historic District Commission • Historic Commission



10.5. Open Space and Recreation

While Holden has considerable open space because of the watershed protection lands located in Town, some of these lands are not accessible to the public and are therefore not available for recreational use. It is therefore wise for the Town to be vigilant and pro-active in seizing opportunities to add to its protected open

It is ... wise for the Town to be vigilant and pro-active in seizing opportunities to add to its protected open space. Holden residents identified preservation of open space as a high priority objective....

space. Holden residents identified preservation of open space as a high priority objective, in visioning sessions held on the Master Plan. Additionally, Holden has recreational facilities, some of which are in need of repair and better maintenance. The following implementation table describes the actions and assigns responsibilities intended to improve open space and recreation conditions in Holden. See Section 5: Open Space and Recreation.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Create a Standing Open Space Committee 	<ul style="list-style-type: none"> • Create a standing committee to work on the open space plan, prioritize unprotected open space and create connections 	<ul style="list-style-type: none"> • Conservation Commission • Town Manager
<ul style="list-style-type: none"> • Create an Open Space and Recreation Plan and submit to the State for approval 	<ul style="list-style-type: none"> • Complete current draft and submit for approval. 	<ul style="list-style-type: none"> • Department of Growth Management • Conservation Commission
<ul style="list-style-type: none"> • Inventory unprotected open space 	<ul style="list-style-type: none"> • Create list of parcels over 5 acres with unprotected status 	<ul style="list-style-type: none"> • Open Space Committee • Assessors
<ul style="list-style-type: none"> • Protect land in open space opportunity areas to help preserve Town's character. (See lists of important areas below.) 	<ul style="list-style-type: none"> • Reach out to landowners. • Work with White Oak Land Conservation Society. 	<ul style="list-style-type: none"> • Conservation Commission • Open Space Committee
<ul style="list-style-type: none"> • Encourage additional use of tax incentives for private open space. 	<ul style="list-style-type: none"> • Create a Chapter 61 policy and Funding Mechanism 	<ul style="list-style-type: none"> • Growth Management Department and Town Manager

Recommendations	Actions	Responsibilities
<p><i>First Priority (continued)</i></p> <ul style="list-style-type: none"> Expand trail systems with a vision of creating an interconnected Town-wide system 	<ul style="list-style-type: none"> Continue cooperative efforts with the Wachusett Greenways Association and White Oak Land Conservation Society to expand on trail systems and create connections. 	<ul style="list-style-type: none"> Conservation Commission and Growth Management Department
<ul style="list-style-type: none"> Pursue adoption of conservation related bylaws and policies 	<ul style="list-style-type: none"> Create zoning incentives for the preservation of Open Space 	<ul style="list-style-type: none"> Growth Management Department
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> Create Skate Park/Ice Skating Rink 	<ul style="list-style-type: none"> A skate park was located at Dawson Rec. Park, problems should be identified along with solutions. A larger and more permanent solution than the minimal area at Senior Center should be identified. 	<ul style="list-style-type: none"> Recreation Committee and Department
<ul style="list-style-type: none"> Increase utilization of Eagle Lake 	<ul style="list-style-type: none"> Water treatments to eliminate weeds in the lake should be identified. This is in addition to the draw-down currently used. 	<ul style="list-style-type: none"> Department of Public Works
<ul style="list-style-type: none"> Seek permanent protection of CRA Field 	<ul style="list-style-type: none"> Work with owners to ensure the long-term preservation and maintenance of the existing ball fields. Investigate transferring ownership to the Town to protect the continued use of the existing fields. 	<ul style="list-style-type: none"> Recreation Committee and Department Board of Selectmen
<ul style="list-style-type: none"> Develop an indoor recreation facility for winter use 	<ul style="list-style-type: none"> Establish a study group under the Recreation Commission to look into developing such a facility. 	<ul style="list-style-type: none"> Recreation Director/Committee/Conservation Commission Board of Selectmen
<ul style="list-style-type: none"> Designate funds in an IIF sub-account for the preservation of Open Space 	<ul style="list-style-type: none"> Obtain necessary approval for using funds from the sale of tax-title property currently place in an IIF sub-account for this purpose. 	<ul style="list-style-type: none"> Recreation Director/Committee Infrastructure Investment Fund Board (IIF)

Recommendations	Actions	Responsibilities
<p><i>Second Priority (continued)</i></p> <ul style="list-style-type: none"> • Develop an outreach plan for owners of unprotected land • Pursue creation of Open Space fund 	<ul style="list-style-type: none"> • Create list of owners, develop letter to send out annually • Investigate the possibility of utilizing funds generated from the sale of tax title properties/excess land into an open space fund. 	<ul style="list-style-type: none"> • Open Space Committee, Assessors • Board of Selectmen, Finance Committee, IIF Committee
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Seek permanent protection of the Fox and Coon Club property 	<ul style="list-style-type: none"> • This property is owned by a non-profit organization. The Town should attempt to preserve it as open space should the organization dissolve. 	<ul style="list-style-type: none"> • Conservation Commission
<ul style="list-style-type: none"> • Protect important habitat areas; <ul style="list-style-type: none"> ○ NHESP Priority Habitat off Salisbury Street ○ Other unprotected parcels in NHESP Priority Habitats ○ Unprotected parcels in BioMap Core Areas ○ Large areas of contiguous forest 	<ul style="list-style-type: none"> • Ensure that these areas are given special attention and priority in reviewing development proposals • Review ownership of these sensitive areas and make plans for protection as appropriate and feasible 	<ul style="list-style-type: none"> • Conservation Commission and Growth Management Department • Open Space Committee
<ul style="list-style-type: none"> • Increase awareness and use of protected Open Space by public • Pursue creation of new trails and linkage between existing protected Open Space Lands 	<ul style="list-style-type: none"> • Create an Open Space and trail map (Town-wide map, not just rail trail) • Review maps for possibilities, outreach to owners of critical link parcels 	<ul style="list-style-type: none"> • Open Space Committee, Wachusett Greenways, White Oak possible consultant. • Open Space Committee, Wachusett Greenways, White Oak possible consultant.

Recommendations	Actions	Responsibilities
<p><i>Third Priority (continued)</i></p> <ul style="list-style-type: none"> • Protect agricultural areas to help maintain Town’s rural character and views; <ul style="list-style-type: none"> ○ Malden Street area ○ Northern Wachusett Street area ○ Bryant Road area ○ Areas north of River Street ○ Reservoir Street area ○ Broad Street area ○ Salisbury Street area ○ Other 	<ul style="list-style-type: none"> • Ensure that these areas are given special attention and priority in reviewing development proposals. 	<ul style="list-style-type: none"> • Conservation Commission and Growth Management Department
<ul style="list-style-type: none"> • Create linkages between already protected areas; <ul style="list-style-type: none"> ○ Explore connection between Eagle Lake/Stump Pond area and protected areas around Maple Spring Pond/Quinapoxet Reservoir ○ Explore connection between Dawson Pond and Chaffin Pond ○ Explore connection between Dawson Pond and Holden Reservoirs ○ Recognize already protected wetland areas and upland buffers as part of the Town’s open space system and explore their use as wildlife and trail corridors ○ Explore the creation of a Town-wide trail system using the Central Mass Rail Trail as a major element 	<ul style="list-style-type: none"> • Seek grants to do preliminary explorations and mapping of these linkages. 	<ul style="list-style-type: none"> • Wachusett Greenways Task Force, Holden Conservation Commission and Holden Recreation Committee and Department
<ul style="list-style-type: none"> • Urge Open Space Residential Development (use of cluster and mixed use provisions of zoning ordinance) in open space opportunity areas; <ul style="list-style-type: none"> ○ Fisher Road area ○ Area south of Reservoir Street ○ Area west of Unionville Pond ○ Bullard Street area ○ River Street area ○ Malden Street area ○ Jefferson Village/golf course area ○ Millbrook Street area ○ Area between Causeway Street and Main Street 	<ul style="list-style-type: none"> • Prepare zoning amendments with incentives to use cluster and mixed use provisions. Pass at Town Meeting. Encourage developers to use these provisions. 	<ul style="list-style-type: none"> • Planning Board and Growth Management Department

In addition to the actions and responsibilities identified in the table the following general actions are desirable to promote the interests of open space and recreation in Holden.

- Ensure that all members of the Open Space Committee are interested in open space.
- Empower Town officials to initiate discussions of utilizing Town-owned land for recreation uses.
- Assure that all non-profit organizations involved in open space and recreation activities and services are properly and legally constituted.



10.6. Economic Development

Further growth of commercial activities should be done primarily for the purpose of creating shopping and service purchase opportunities in Holden. Residents of the Town must now shop out of Town for many items and services that are not

Further growth of commercial activities should be done primarily for the purpose of creating shopping and service purchase opportunities in Holden.... Further industrial growth should be pursued on a very selective basis, to fill up existing industrial space, and to add to the tax base....

offered in local stores and offices. Further industrial growth should be pursued on a very selective basis, to fill up existing industrial space, and to add to the tax base of the Town if an opportunity to do so presents itself in the vicinity of a new interchange of Malden Street with I-190. Because a new interchange is still a very remote possibility its potential impact in Holden should not receive much attention. Moreover, any development in the area of the interchange would be constrained by environmental conditions such as wetlands and surface water, lack of sewer service and Town residents' desires not to add to traffic congestion.

An overall objective of economic development is to improve the appearance and functioning of Main Street. This can be done by selected traffic improvements to improve the functioning (see the recommendations in the transportation section) and by creation of commercial nodes with mixed-use, pedestrian-oriented shopping villages on Main Street. These villages can be created by deepening

An overall objective ... is to improve the appearance and functioning of Main Street...by selected traffic improvements ... and by creation of commercial nodes with mixed-use, pedestrian-oriented shopping villages on Main Street.

the commercial zoning on Main Street in targeted areas and by design review of commercial projects in the area. The village nodes will help define areas along Main Street as commercial areas, while leaving the residential and open areas on Main Street with their own identity. Another area that could benefit from expanded village zoning is Jefferson, at the intersection of Main Street and Princeton Street. There is already a small village zoning district there that could be expanded. It is also recommended that selective commercial uses be allowed in the existing industrial park on Industrial Drive to fill up unoccupied space.

One of the objectives of clustering commercial development is to prevent the continuation of strip commercial development with its visual disharmony and dysfunctional traffic patterns. Part of an effort to upgrade the appearance of Main Street involves improvements to existing storefronts through preparation and adoption of guidelines to promote small scale New England commercial area character. Some of this character can be achieved by amending the existing sign control provisions of the zoning bylaws.

Some of the small-scale village character can be achieved by creating office spaces in two story buildings in the village areas to house businesses that currently are operated in people’s homes. A search of the business registrations in Holden found about 30 businesses not located in business or industrial zones. These are small home occupations that may grow over time and require more formal business space. They are candidates for location along Main Street in mixed-use shopping/business villages. Some may also be candidates for location in existing homes on Main Street that create business space within them. This needs to be done very carefully because it has the potential to add to strip commercial development with its attendant visual and traffic problems. Any conversions of residential space should be done with design review.

Another objective of economic development, in keeping with the desire to promote small-scale New England type businesses is to keep out large-scale “big box” retail activities. It is likely that these large-scale activities will not want to locate in Holden because its commercial area has poor regional accessibility. However, just to be sure that “big box” retail does not locate in Holden, the Town should amend its zoning bylaws.

The following table summarizes the recommendation, actions and assigned responsibilities for implementing an economic development program. See Section 6: Economic Development.

Recommendations	Actions	Responsibilities
<i>First Priority</i> <ul style="list-style-type: none"> • Rezone selected lands behind existing commercial development on Main Street from residential to commercial. 	<ul style="list-style-type: none"> • Prepare appropriate zoning amendments. Pass at Town Meeting 	<ul style="list-style-type: none"> • Planning Board • Town Meeting
<ul style="list-style-type: none"> • In some selected land along Main Street rezone both commercial and residential to “village” which permits mixed use. 	<ul style="list-style-type: none"> • Prepare zoning amendments. Pass at Town Meeting 	<ul style="list-style-type: none"> • Planning Board • Town Meeting
<ul style="list-style-type: none"> • Allow service oriented commercial uses in the industrial zone on Industrial Drive, while preventing “big box” retail uses. 	<ul style="list-style-type: none"> • Prepare zoning amendments. Pass at Town Meeting 	<ul style="list-style-type: none"> • Planning Board • Town Meeting
<ul style="list-style-type: none"> • Amend the zoning bylaw to eliminate undesirable commercial uses such as “big box” retail. 	<ul style="list-style-type: none"> • Prepare zoning amendments. Pass at Town Meeting 	<ul style="list-style-type: none"> • Planning Board • Town Meeting

Recommendations	Actions	Responsibilities
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Encourage development of small office space with business support services to attract some existing home occupations into commercial space where the businesses can expand. 	<ul style="list-style-type: none"> • Identify appropriate properties. Prepare “Development Prospectus” 	<ul style="list-style-type: none"> • Planning Board • Economic Development Commission
<ul style="list-style-type: none"> • Use design review of commercial and mixed-use projects to promote the “New England” character of Holden. 	<ul style="list-style-type: none"> • Adopt Commercial Design Review Guidelines 	<ul style="list-style-type: none"> • Planning Board
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Implement a business recruitment program to get the types of businesses Holden residents want on Main Street, and conduct a storefront improvement program to upgrade the appearance of existing businesses. Identify the organization(s) that should be responsible for carrying out these activities. 	<ul style="list-style-type: none"> • Identify desirable businesses. Create financing mechanism. Assign roles for each responsible organization 	<ul style="list-style-type: none"> • Planning Board • Economic Development Commission • Chamber of Commerce



10.7. Transportation

A major objective of transportation improvements is to reduce the traffic volume and congestion on Main Street. The highest priority transportation items are to manage the traffic on Main Street and to implement safety and operations improvements at critical intersections such as Doyle Road at Brattle Street and

The highest priority transportation items are to manage the traffic on Main Street and to implement safety and operations improvements at critical intersections such as Doyle Road at Brattle Street

at the railroad crossing at Industrial Drive. Another important item is to implement the existing pavement management system for Town roadways based on the technical information and priorities developed by the Central Massachusetts Regional Planning Commission (CMRPC).

Since no one action will solve the traffic congestions problems, and many will make it worse, the impact on traffic in everything that is planned and done must be considered in all phases of a project. Transportation improvements involve all Town departments and committees dealing with development and land use as well as coordination of federal and state governmental programs.

Implementation of a sidewalk program to install new sidewalks and maintain existing sidewalks at critical locations such as elementary schools is of considerable importance as is the addition of new sidewalks and /or walkways to connect neighborhoods and shopping areas. Installing sidewalks/walkways can probably be done within existing annual budgets for improvements. Developing a pavement management system will probably require new funding sources.

Other transportation implementation items considered to be of significant importance to the Town are to continue to evaluate the feasibility and impacts of a new I-190 interchange in the vicinity of Malden Street, again using information from the CMRPC. The Town should also coordinate with the Worcester Regional Transit Authority as to the potential demand and feasibility for improved bus service that will be significantly curtailed in July 2008. A local shuttle could be added to extend to the High School and should be done in coordination with the Wachusett Regional School District to develop a program to discourage students from driving to school. Current policies and actions at the High School encourage more student use of automobiles by providing more parking and having driver's education vehicles at the site. Forecast trip volumes

prepared by the Central Massachusetts Regional Planning Commission show an increase of 5,000 vehicles per day on North Main Street at the High School (from 13,500 vehicles/day to 18,500) by the year 2030. This translates into about 500 more vehicles during peak hours.

As the area to the North is developed and fuel concerns increase, we should be aware of the possibility that the commuter railroad service may expand into Holden and be ready to adapt to it.

Finally Holden should continue requiring a traffic mitigation fee for new development to help fund traffic improvements necessitated by the projects being developed. This fee must be utilized within a certain time frame linked to the project's development.

The following table summarizes the recommendations, actions and assigned responsibilities for implementing a transportation program. See Section 7: Transportation.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Establish a sub-committee of the Transportation and Circulation Committee to develop Traffic Management Guidelines to be incorporated into the By-law 	<ul style="list-style-type: none"> • Create a sub-committee 	<ul style="list-style-type: none"> • Town Manager
<ul style="list-style-type: none"> • Implement safety and operations improvements at critical intersections such as Doyle Street and Brattle Street and potential railroad gates on Industrial Ave 	<ul style="list-style-type: none"> • Schedule and fund improvements. 	<ul style="list-style-type: none"> • Department of Public Works
<ul style="list-style-type: none"> • Implement a sidewalk program to install new sidewalks and maintaining existing sidewalks at critical locations such as elementary schools. 	<ul style="list-style-type: none"> • Schedule and fund improvements. 	<ul style="list-style-type: none"> • Department of Public Works
<ul style="list-style-type: none"> • Connect existing neighborhoods to each other and to commercial areas and schools with a system of pathways. 	<ul style="list-style-type: none"> • Design a pathway system. Apply for funding for it 	<ul style="list-style-type: none"> • Department of Public Works and Conservation Commission
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Develop and implement a Pavement Management System for Town roadways using information developed by the Central Massachusetts Regional Planning Commission (CMRPC). 	<ul style="list-style-type: none"> • Apply information from CMRPC. 	<ul style="list-style-type: none"> • Department of Public Works

Recommendations	Actions	Responsibilities
<p><i>Second Priority (continued)</i></p> <ul style="list-style-type: none"> • Coordinate with the Worcester Regional Transit Authority as to the feasibility of improved bus service and a local shuttle. 	<ul style="list-style-type: none"> • Analyze and forecast potential transit ridership. 	<ul style="list-style-type: none"> • Growth Management Department
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Reduce student traffic into/out of WRHS. 	<ul style="list-style-type: none"> • Work with school district officials to develop a program to discourage students from driving to school. 	<ul style="list-style-type: none"> • Master Plan Committee
<p><i>Longer Term Consideration</i></p> <ul style="list-style-type: none"> • Lacking significant benefits from an I-190 connector, begin now to develop a REGIONAL solution to the traffic congestion on Main Street. 	<ul style="list-style-type: none"> • Monitor and analyze local conditions and spearhead the pursuit of a REGIONAL solution with all affected Town and the CMRPC 	<ul style="list-style-type: none"> • Transportation/ Circulation Committee CMRPC, Department of Public Works, Planning Board and Growth Management Department as well as corresponding depts. From other Regional town having an impact on Holden.
<ul style="list-style-type: none"> • Explore with the PWRR what levels of ridership it would take to make it feasible to develop a commuter line from Gardner to Worcester that would be suitable for commuter service so as to establish benchmarks which if met would initiate discussions. 	<ul style="list-style-type: none"> • Work with the Town and PWRR to survey interest and monitor development 	<ul style="list-style-type: none"> • Transportation/ Circulation Committee CMRPC, Department of Public Works, Planning Board and Growth Management Department as well as corresponding depts. from other towns in the region having an impact on Holden.



10.8. Public Facilities and Services

In addition to increasing its contractually obligated sewer capacity and managing existing capacity to accommodate future growth, during much of our deliberations over two years, the highest priority need for public investments was to build a public safety facility housing the police and fire departments.

Future concerns include establishing funding mechanisms to ensure future projects can be built; replacing the current inadequate DPW facility; and addressing growing deficiencies in the present Town office locations, a youth recreation center to provide opportunities for Holden's teenagers to engage in productive wholesome activities after school or on weekends.

A vote on the current proposal was successfully completed in March 2008. Details on the new facility and existing issues can be found in Section 8 of the Element reports. Future concerns include establishing funding mechanisms to ensure future projects can be built; replacing the current inadequate DPW facility; and addressing growing deficiencies in the present Town office locations, establishing a youth recreation center to provide opportunities for Holden's teenagers to engage in productive wholesome activities, after school hours or on weekends. In addition, there are needs for expanded senior services to meet the growing needs of an aging population that is expected to increase substantially over the next few years. There is also a need to better systematize public investments via a comprehensive capital budget that encompasses and prioritizes Town investments. The following table summarizes the proposed implementation program for public facilities and services. See Section 8: Public Facilities and Services.

Recommendations	Actions	Responsibilities
<p><i>General Administrative Recommendation</i></p> <ul style="list-style-type: none"> • Establish a Prioritization and Funding Plan for Municipal Facilities. 	<ul style="list-style-type: none"> • Extend the IIF Board responsibilities to include capital planning. • Prepare a capital budget plan and program for municipal facilities. • Create systematic funding infusions into appropriate saving mechanisms. • Prioritize facilities and funding. 	<ul style="list-style-type: none"> • Town Manager and Board of Selectmen • Infrastructure and Investment Committee • Finance Committee

Recommendations	Actions	Responsibilities
<p><i>First Priority</i> Sewer System; the Town is essentially at its sewer capacity limit. It needs to:</p> <ul style="list-style-type: none"> • Develop detailed accounting of existing and committed/reserved flows, including approved developments and potential connections within sewer expansion area. • Evaluate capacity surplus/deficit. • Discuss with others including the City of Worcester regarding the potential for additional capacity. • Implement proposed improvements. • Continue on-going infiltration/inflow study • Develop a plan to manage growth under restrictions in allowed sewer connections. • Replace the DPW Garage/Fire Department Sub-Station. • May need sub-stations to cover northeast and southeast quadrants (currently Chaffin covers south) to ensure Town can meet industry standard of 6 minutes throughout the Town • Emergency Medical Response; Contract is up in two years. • Fire Department evaluating plan to determine if ambulance service could be provided more efficiently and more cost-effectively by the Fire Department. 	<ul style="list-style-type: none"> • Continue sewer needs studies. • Inquire if sewer capacity should be expanded or is the limiting growth factor desirable • I & I removal plan, remove illegal hookups • Determine ramifications of exceeding contractual capacity • Increase volume capacity in trunk lines leading to the Upper Blackstone Water Treatment Facility • Establish a study committee to develop a proposal for a new DPW Garage/Fire sub-station. • Place in Capital Budget for FY 2011 or beyond. • Conduct EMR Service Study • Develop plans based on studies • Appropriate funds 	<ul style="list-style-type: none"> • Department of Public Works • Board of Selectmen and Water and Sewer Advisory Board • City of Worcester, DCR, Water and Sewer Advisory Board • Infrastructure Investment Fund Board • Finance Committee • Town Manager • Board of Selectmen • Fire Department • Town Meeting
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Replace the Town Administration Offices. 	<ul style="list-style-type: none"> • Establish a study committee to develop a proposal for new Administrative Offices. • Place in Capital Budget for FY 2012 or beyond. 	<ul style="list-style-type: none"> • Infrastructure Investment Fund Board • Finance Committee • Town Manager and Board of Selectmen
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Recreation Department is in need of replacing inadequate and aging current recreational facility on Highland Street. This may be an opportunity to centralize and consolidate the Recreation Department at the Dawson location. 	<ul style="list-style-type: none"> • Consider constructing indoor space to include a teen center at Dawson site • Construct a youth skate park 	<ul style="list-style-type: none"> • Recreation Department • Recreation Committee • Town Manager • Board of Selectmen

Recommendations	Actions	Responsibilities
<p><i>Third Priority (Continued)</i></p> <ul style="list-style-type: none"> • Youth Center/Activities, provide young people with a place to go with appropriate and popular activities for after school hours. Possible extension of activities in evenings and weekends. 	<ul style="list-style-type: none"> • Monitor recreational needs • Establish Task Force on Youth Activities. 	<ul style="list-style-type: none"> • Recreation Department • Recreation Committee • Town Manager • Board of Selectmen
<p><i>Longer-Term Needs</i> Senior Center</p> <ul style="list-style-type: none"> • Increasing senior population as well as the new “kind” of senior emerging as the baby boomers “come of age” may require new kinds of services and activities. 	<ul style="list-style-type: none"> • Identify potential future services and increase transportation options, particularly to grocery stores and doctor’s appointments. • Monitor senior population needs 	<ul style="list-style-type: none"> • Council on Aging • Senior Center Staff
<ul style="list-style-type: none"> • Evaluate potential joint use of Senior Center for seniors and youth 	<ul style="list-style-type: none"> • Study current/future use/needs of Center 	<ul style="list-style-type: none"> • Recreation Committee • Council on Ageing • Board of Selectmen • Town Manager
<ul style="list-style-type: none"> • Water Supply System, confirm and update population projections and demand projections over time to confirm adequacy of water supply system, recognizing that water usage is adequate for the foreseeable future but is not under Town control. 	<ul style="list-style-type: none"> • Monitor water system needs • Public outreach for conservation techniques 	<ul style="list-style-type: none"> • Department of Public Works • Water and Sewer Advisory Board (WSAB)



10.9. Land Use in Holden

Land use implementation measures for Holden are intended to retain the town's existing character, to concentrate some future development in the Main Street Corridor where infrastructure and services exist, to provide for mixed land uses

Land use implementation measures for Holden are intended to retain the town's existing character, to concentrate some future development in the Main Street Corridor where infrastructure and services exist, to provide for mixed land uses where appropriate, and to ensure that land development is done in a responsible way that protects resources, and has as few negative impacts as possible.

where appropriate, and to ensure that land development is done in a responsible way that protects resources and has as few negative impacts as possible. It is assumed that Holden will continue to grow as the result of regional and market forces. Land use recommendations and the following implementation program are intended to assure that future growth will be as beneficial and rational as possible. See Section 9: Land Use in Holden.

Recommendations	Actions	Responsibilities
<p><i>First Priority</i></p> <ul style="list-style-type: none"> • Establish design guidelines to help assure quality of new development, infill, and adaptive reuse of historic buildings. • Ensure subdivision control regulations are in-line with the Community Vision expressed in the Master Plan. 	<ul style="list-style-type: none"> • Prepare and adopt design guidelines. • Prepare and adopt revised subdivision control regulations. 	<ul style="list-style-type: none"> • Planning Board
<ul style="list-style-type: none"> • Consider inclusion of “green building” principles and low impact development principles in Holden’s zoning bylaws, both as requirements where appropriate and as criteria for site plan review and special permits. 	<ul style="list-style-type: none"> • Prepare and adopt design guidelines. • Prepare and adopt revised Subdivision Control Regulations 	<ul style="list-style-type: none"> • Planning Board

Recommendations	Actions	Responsibilities
<p><i>Second Priority</i></p> <ul style="list-style-type: none"> • Focus a diversity of development along Main Street corridor. • Create mixed-use nodes at historic villages- Jefferson, Holden Center, Dawson, and Chaffinville 	<ul style="list-style-type: none"> • Prepare zoning amendments to promote mixed uses and focus on infill development. Pass at Town Meeting. 	<ul style="list-style-type: none"> • Planning Board, Economic Development Committee • Planning Board, Economic Development Committee, Historical Committee
<ul style="list-style-type: none"> • Encourage and provide incentives for sustainable development and consider inclusion of “green building” principles and low impact principles in Holden’s zoning by-laws and subdivision regulations. 	<ul style="list-style-type: none"> • Prepare and adopt revised zoning provisions and subdivision control regulations 	<ul style="list-style-type: none"> • Planning Board • Conservation Commission
<ul style="list-style-type: none"> • Encourage infill areas around the villages with a diversity of housing with one to three bedrooms and home offices. • Also encourage accessory apartments in Main Street corridor. 	<ul style="list-style-type: none"> • Encourage use of M.G.L. c. 40R and 40S • Adopt zoning amendments 	<ul style="list-style-type: none"> • Planning Board
<ul style="list-style-type: none"> • Use cluster design principles to preserve some open space in areas outside the Main Street corridor, recognizing that the cluster provisions in the zoning bylaw need revision. Consultants suggest offering a small density bonus of up to 17% to encourage use of the cluster provision. (See note on next page.) • Encourage use of open space residential development in open space opportunity areas to help preserve rural character and protect views (see Open Space Recommendations). 	<ul style="list-style-type: none"> • Prepare zoning amendments. Pass at Town Meeting • Encourage developers to use open space residential provisions in zoning 	<ul style="list-style-type: none"> • Planning Board
<p><i>Third Priority</i></p> <ul style="list-style-type: none"> • Protect agricultural areas to maintain Town’s rural character (see Open Space Recommendations). • Offer and apply incentives for maintaining the land in its present open space use. 	<ul style="list-style-type: none"> • Encourage greater use of Chapter 61A (farmland) tax abatements • Encourage greater use of Chapter 61B (forestland) Tax Abatements • Prepare zoning amendments. Pass at Town Meeting 	<ul style="list-style-type: none"> • Growth Management Department and Master Plan Committee • Growth Management Department and Planning Board

<p><i>Longer-Term Considerations</i></p> <ul style="list-style-type: none"> • Work out a plan for long-term maintenance of the retention/detention ponds and stormwater pumping stations that are required in Holden’s zoning bylaws • Explore establishment of a recreational/institutional zoning district category that requires town review of any proposals for reuse of recreational/open lands (e.g., golf courses) if they are sold. 	<ul style="list-style-type: none"> • Negotiate the assignment of responsibility and funding for maintenance with existing adjacent property owners and the State and the City of Worcester • Prepare zoning amendments. Pass at Town Meeting. 	<ul style="list-style-type: none"> • Town Manager and Board of Selectmen • Planning Board
--	---	---

Note: 17% is a bonus number that results in one whole additional unit when 6 units are permitted. The R-10 District in Holden requires a minimum 25,000 sq. ft. lot size and permits a four family structure. Item 7 of Chapter 7.1 VI of Holden's Zoning Bylaw allows 6 units for publically sponsored multi-family units for the elderly, or for any elderly housing sponsored by a non-profit organization under a recognized government assisted program. The calculation is 1 unit permitted for each 10,000 sq. ft. and 3,000 sq. ft. needed for each additional unit. This standard recognizes that 6 housing units can be built on 25,000 sq. ft. now in Holden. Applying a 17% density bonus for including 1 or more affordable units would yield 7 housing units on 25,000 sq. ft. This calculation is intended to relate the density bonus as much as possible to standards in the existing zoning bylaw. It is intended to encourage cluster housing development that would probably occur on tracts of land larger than 25,000 sq. ft.



10.10. Capital Costs of the Plan

Capital costs are the non-recurring costs of construction and equipment for new or remodeled or rehabilitated public facilities. Capital costs are different from operating costs that occur annually for salaries, expenses and materials and are normally paid from annual appropriations. Capital costs are normally paid with grants, bonds or revenues associated with the public services provided by the capital facility. Examples of capital costs in the Holden Master Plan are public safety buildings, utilities, schools and recreational facilities. These are shown on the first appendix table by item, with a brief explanation in footnotes and the years they are expected to occur. The costs are based on estimates prepared by or for Holden town officials, where available, or on comparisons with comparable recent facilities in other towns, or with the use of professional industry cost standards.



10.11. Funding for Plan Implementation

Many of the Master Plan implementation recommendations do not require extraordinary funding, beyond that contained in annual budgeting, because they are basically regulatory or continuing program matters. However, there are some implementation measures that will require extra funding beyond that normally found in the Town's budgeting. Furthermore, given the financial condition of Holden and all other local governments, facing rising municipal costs and a relatively fixed revenue base, some additional funding would be welcome. The Master Plan has identified the following possible funding sources for its proposed activities.

- The Community Preservation Act (CPA): CPA funds that could amount to several hundred thousand dollars every year could be used and accumulated into a fund to support open space and recreation, historic preservation and affordable

CPA funds ... several hundred thousand dollars every year, could be used ... to support open space and recreation, historic preservation and affordable housing activities.

housing activities. The amount raised would depend on the level of local taxation the Town chooses (1% to 3% of local property taxes) with local funds matched by the state.

- It might be possible to negotiate some form of annual payments from the State (or MWRA) and the City of Worcester for protection of their water resources in Holden. The payments would be used to cover the cost of maintaining the storm-water retention ponds and associated pumping stations. The payments would be sized to the annual maintenance costs.
- State grants are a possible source of funds to undertake activities to promote resource protection and use such as trails to link recreational areas. To the extent that such trails are regional in scope, connecting adjacent towns, state grants for their planning, design and construction becomes even more

Holden should remain alert for new and existing state and federal programs that provide grants for the type of projects identified in the Master Plan.

appropriate. Other candidates for state grants are historic preservation projects, development of innovative zoning provisions that could serve as models for other communities, and funding for a water conservation campaign. It might be possible to obtain special funding for protection programs for rare and endangered wildlife species. Holden should remain alert for new and existing state and federal programs that provide grants for the type of projects identified in the Master Plan.

- It is assumed that funds for conventional and continuing needs for town facilities, utilities, and services will be provided by conventional sources such as bonding, annual appropriations and state grant-in-aid programs such as Chapter 90 for roadway improvements. Another conventional source of funding has been the sale of Town-owned property. Where appropriate this should continue, with proper care being taken to assure that specific Town-owned property that would contribute to one or more objectives of the Master Plan, such as affordable housing or recreation or scenic character protection, is not sold off inadvertently.
- It is also assumed that traffic mitigation fees will continue to be assessed where merited, as indicated in traffic studies required by the Town (for developments of more than 10 housing units or developments requiring a special permit). Fees collected must be spent in the area of the development and within a reasonable time period.



10.12. Organizational Needs

The Master Plan recommends that four new or reconstituted groups be formed and given responsibilities. These are

- 1) a Housing Committee with broad responsibility for Town housing policies,
- 2) an Open Space Committee with responsibilities to identify and recommend open space acquisitions and to monitor use and maintenance of existing open space (support the Conservation Commission and Open Space Committee the plan also recommends a Conservation Agent position.),
- 3) a Youth Services Task Force charged with the task of determining the specific needs of Holden's youth and formulating a program to meet those needs, and
- 4) a Master Plan Monitoring Committee, with the job of seeing that the Master Plan is properly implemented and incorporated in Town ongoing activities. This monitoring committee should consist of some members of the current Master Plan Committee, some members of the Planning Board, and some Town officials with operational responsibilities in providing Town services. One of the tasks of the Master Plan Monitoring Committee will be to survey each committee identified in the Plan, to determine its progress toward meeting Master Plan goals.

The proposed Housing Committee should be composed of some members of the current Holden Affordable Housing Partnership Committee (AHPC), and some others with interests in other aspects of housing if AHPC does not accept an expanded role. As mentioned, care should be taken to ensure that members of these and all Town committees are proactively interested in pursuing the goals and objectives of the topics of their committee.

It is recommended that the Master Plan Monitoring Committee meet at least every four months (three times a year) to carry out its responsibilities, and that minutes be kept of meetings that would be distributed to department heads and other committees and boards in Town. It is further recommended that the Master Plan Monitoring Committee prepare a short annual report on progress toward master plan objectives and achieving the vision embodied in the plan, and, when necessary, meet with Town committees and officials. Each annual report would also cover any desired changes recommended for the plan and identify the actions necessary to implement the changes.



10.13. Timing of Implementation Actions

The 2nd appendix table shows the proposed timing of the actions listed on the previous tables. It is important to have an understanding of when the extensive list of actions should occur. The table lists each action by topic, by priority and by year and phase. The 20-year time span of the plan is divided into three phases. Phase I is the first 5 years of the plan. Phase II is the second 5 years, and Phase III is the last 10 years. It is recommended that the Master Plan be updated at the end of 10 years, when Phase III will become Phases I and II of a new plan.

There are two basic types of actions shown on the table, continuous actions that should be taken whenever opportunities present themselves, and one-time actions whose effect is established when the action is finished. Examples of one-time actions are zoning amendments and capital expenditures on public facilities such as a new public safety building. Examples of continuous actions are to continue to protect important and scenic agricultural resources by several means, and to support continued excellence at the Gale Free Library. Continuous actions are shown on the table by solid shading from the beginning of the action to the end of Phase III. One-time actions are shown as defined shaded cells in the table, indicating year and phase.

The timing table is fairly heavily “front-loaded” for zoning and other regulatory actions that set the stage for continuous actions intended to realize the plan’s objectives. For example nine zoning actions are proposed, all for the first year of plan implementation. Other regulatory changes are also proposed for the first year. As mentioned, these establish the conditions and working environment for carrying on the implementation of the plan. Considering that nine zoning amendments in the first year will place a burden on the Planning Board, the amendments may have to be scheduled over a longer time (1 ½ - 2 years).

The work of implementing the Master Plan will fall on a number of town boards, commissions, and departments, identified in the first set of tables in this chapter. The Town of Holden will have the administrative and staff capacity needed to implement the plan, with the addition of a full-time conservation agent, and the recommended creation of a Permanent Open Space Committee, conversion of the Affordable Housing Partnership Committee to a more broadly based Housing Committee, and establishment of a prioritization and funding plan for public facilities. While the implementation of those actions identified in the following table for the first year may seem very ambitious, it is likely that spreading the workload among various relevant boards, commissions and

departments, and focusing on the actions identified will get the work done. Successful completion of these actions in the first two years will be critical to realizing the plan objectives.

APPENDICES

Contents

Appendix 1 – Housing	A-2
Appendix 2 – Holden’s Historic Resources	A-3
Inventory of Holden’s Historic Resources	A-3
Jefferson Mill Plan	A-10
The Holden Town Common: Past, Present and Future	A-11
Appendix 3 – Open Space and Recreation.....	A-40
Appendix 4 – Economic Development	A-43
Appendix 5 – Transportation	A-46
Transportation Appendix A: Town of Holden Road Inventory	A-46
Transportation Appendix B: Town of Holden Sidewalk Inventory	A-56
Transportation Appendix C: WRTA Fixed Route Bus Service	A-60
Appendix 6 – Public Facilities and Services	A-64
Public Schools	A-64
Private Schools	A-68
Public Safety	A-68
Other Municipal Facilities and Services	A-73
Utilities and Infrastructure	A-78
Water Line Locations Map	A-83
Sewer Line Locations Map	A-84
Resources	A-85
Appendix 7 – Implementation	A-87
Cost Estimates for Capital Items in the Master Plan.....	A-87
Timing of Actions.....	A-89

Appendix 1 - Housing

<u>Subdivision Name</u>	<u>Developer</u>	<u>Date of</u>		<u># of Vacant</u>		<u>Location</u>
		<u>Approval</u>	<u>Expiration Date</u>	<u>Lots</u>	<u>Lots*</u>	
Coventry Estate II		1995	Street Accepted	21	0	East off Salisbury Street, West of Newell Street
Fox Hill Drive Ext.		1995	Street Accepted	6	0	Foxhill Drive
Dominitis Drive		July, 1996	Street Accepted	4	0	Off of Wachusett Street
Eagle Terrace		1998	Street Accepted	5	0	West Side of Princeton St. Opposite St. Mary's Drive
Quail Run		1998	Street Accepted	10	0	West of Main St. Just North of the Worcester Line
Coventry Estates III		1998	Street Accepted	6	0	East off Salisbury Street, West of Newell St.
Evergreen Estates		1998	Street Accepted	4	0	End of Anthony Drive
Flagler Village		1999	Street Accepted	34	0	East of Flagler Drive
Fox Hill Drive			Street Accepted	125	3	Fox Hill Drive
Hultin Circle			Street Accepted	6	1	South off of Parker Drive
High Plain Estates			Street Accepted	47	2	South of Manning Street
Village Green Phase II			Street Accepted	32	4	West Side of Newell Rd. Connecting to Cranbrook Dr.
Stone Ridge Estates	Springwood Dev't.	May, 1998	June, 2006	5	5	Off of Main Street North of Route 68
Stone Ridge Estates	40B Replat 5 Lots	Aug. 2005		40	30	Off of Main Street North of Route 68
Holden Manors		Oct. 1997	Street Accepted	22	0	Shrewsbury St. Just North of Wachusett Street
Morningside Estates		1998	Street Accepted	89	1	Extension of Greystone Drive off of Reservoir Street
Winterhill Estates	A. J. Lane	June, 1998		43	0	East of Winterhill Road
Quinapoxet Woods	Migdelaney	May, 2000	May, 2007	23	0	Continuation of Bull Run Rd. connecting to Quinapoxet St.
Mason Ridge	Gallo Builders	Oct. 2000	Dec. 2006	24	3	North of Mason Road West of Wood Street
Alden Woods	C. B. Blair Builders	Dec. 1999	Nov. 2006	45	6	Between Wachusett and Chapel Streets
Wagner Meadows	Casa Builders	July, 2003	July, 2006	29	24	East of Bullard Lane South of Mark Bradford Drive
Surrey Lane Extension	Pending Con. Comm.	Aug. 2004	Aug. 2007	6	5	Surrey Lane Centerwood Drive
Deer Run Subdivision	G. M. Bergeron	Apr. 2005	Apr. 2008	37	37	South Main St. between Stepping Stone & Sandy Glen
Oaks of Holden Retirement	Creative Developer			108 DUs	36	South of Big Y on Reservoir Street
Seasons of Salisbury Retirement	Sundin & Sons, Inc.	Apr. 2001 Amendment		91 DUs	16	Approximately 460 Salisbury Street
Newell Rd. Retirement Comm.	Fafard Realty	Aug. 2003	Aug. 2006	125	105	Newell Rd. Retirement Comm. South of Chaffins Pond.
Mount Pleasant Retirement	Alyssa Real Estate	May, 2005	May, 2008	48	48	Retirement Community 1800 Main Street
Fisher Terrace 40B	Crescent Builder	Dec. 2005	N. A.	32	32	Fisher Road
Stanjoy Estates Phase I	A. J. Lane	Aug. 2005	Aug. 08	8	8	Stanjoy Road off of Salisbury Street
Mill Pond Place	Roger Hoyt	Sept. 2006	Sept. 2008	46	46	1665 Main Street
Alden Woods (Litigation)	C. B. Blair Builders	May, 2006	May, 2009	11	11	Between Wachusett and Chapel Streets
Total Existing Lots				933	423	

Potential Lots

Winterberry Hollow (40B)	Scott Sundin			246	246	
Wachusett Woods	Holden Heights LLC			40	40	Holden Sand & Gravel Site on Highland & River Streets
Stanjoy Estates (Endangered Species)				60	60	East of Winterhill Road
Greenwood Estates (Litigation Denied July, 2001)				96	96	East Side of Union Street North of Highland Intersection
Stonybrook Estates (Litigation)				75	75	Reservoir Street across from Greystone Drive
Total Potential Lots				517	517	
Total Existing and Potential Lots				1,450	940	

* Vacant lots are those that have been approved but have not been issued a building permit. Data updated to March, 2006

Source: Holden Department of Growth Management

Appendix 2 – Holden’s Historic Resources

Inv. No	Property Name	Street	Year Built
HOL.316		11 Bascom Pkwy	1910
HOL.327		118 Highland St	1940
HOL.349		37 Phillips Rd	1910
HOL.360		21 Pleasant St	1930
HOL.318		25 Bascom Pkwy	1920
HOL.265		1631 Main St	1850
HOL.329		127 Highland St	1940
HOL.287		29 Princeton St	1925
HOL.351		53 Phillips Rd	1910
HOL.362		27 Pleasant St	1930
HOL.245		195 High St	1850
HOL.373		91 Sunnyside Ave	1950
HOL.124		442 Bullard St	1830
HOL.256		981 Main St	1920
HOL.320		2 Davis Way	1950
HOL.24		30 Lovell Rd	1900
HOL.88		35-37 Pleasant St	1880
HOL.202		38-40 Quinapoxet St	1880
HOL.331		141 Highland St	1850
HOL.342		1229-1233 Main St	1850
HOL.353		72 Phillips Rd	1910
HOL.364		65 Pleasant St	1980
HOL.375		95 Woodland Rd	1920
HOL.322		16 Fruit St	1980
HOL.333		17 Lovell Rd	1950
HOL.344		11 Park Ave	1910
HOL.291		181 Princeton St	1850
HOL.355		82 Phillips Rd	1910
HOL.366		14-26 Reservoir St	1870
HOL.249		100 Highland St	1925
HOL.260		1260 Main St	1910
HOL.324		97 Highland St	1925
HOL.206		1672 Main St	1870
HOL.335		39 Lovell Rd	1920
HOL.346		27 Phillips Rd	1910
HOL.357		90 Phillips Rd	1910
HOL.304		76 Sunnyside Ave	1900
HOL.368		26 Reservoir St	1970
HOL.251		136 Highland St	1885
HOL.315		1654 Main St	1870
HOL.326		115 Highland St	1930
HOL.273		1771-1773 Main St	1905
HOL.337		1116 Main St	1930
HOL.219		103-105 Princeton St	1880
HOL.348		36 Phillips Rd	1910
HOL.359		12 Pleasant St	1940
HOL.109		South Rd	1876
HOL.370		47 Reservoir St	1890
HOL.317		19 Bascom Pkwy	1910
HOL.85		1349 Main St	1860
HOL.328		122 Highland St	1950
HOL.275		1916 Main St	1915
HOL.339		1146 Main St	1923
HOL.221		234 Princeton St	1870
HOL.350		47 Phillips Rd	1950
HOL.361		26 Pleasant St	1930
HOL.244		189 High St	1850
HOL.255		892 Main St	1925
HOL.319		4 Boyden Rd	1910
HOL.201		41 Quinapoxet St	1880
HOL.330		133 Highland St	1980
HOL.352		65 Phillips Rd	1980
HOL.363		30 Pleasant St	1950
HOL.374		80 Walnut St	1950
HOL.321		10 Fruit St	1970

Inv. No	Property Name	Street	Year Built
HOL.25		26 Lovell Rd	1880
HOL.332		17 Laurelwood St	1940
HOL.343		1348-1350 Main St	1970
HOL.354		79 Phillips Rd	1920
HOL.365		78 Pleasant St	1950
HOL.248		88 Highland St	1920
HOL.376		104 Woodland Rd	1930
HOL.323		75 Highland St	1910
HOL.205		1712-1714 Main St	1870
HOL.270		1691 Main St	1900
HOL.334		25 Lovell Rd	1920
HOL.345		11 Phillips Rd	1930
HOL.356		85 Phillips Rd	1980
HOL.367		25 Reservoir St	1950
HOL.325		105 Highland St	1940
HOL.93		15 Park Ave	1840
HOL.207		1689 Main St	1870
HOL.272		1736 Main St	1900
HOL.336		50 Lovell Rd	1950
HOL.347		30 Phillips Rd	1910
HOL.358		90-106 Phillips Rd	1920
HOL.369		35 Reservoir St	1950
HOL.68	Abbott - Fisk - Boyden House	1293 Main St	1800
HOL.164	Abbott - Lindgren Farm	744 Reservoir St	1812
HOL.9	Abbott Tavern	14 Reservoir St	1763
HOL.908	Abbott Tavern Site	Reservoir St	1763
HOL.18	Abbott, John House	35 Boyden Rd	1786
HOL.919	Alden Hydraulic Research Labs Rotating Test Boom	30 Shrewsbury St	1911
HOL.921	Alden Hydraulic Rotating Test Boom Control House	30 Shrewsbury St	1937
HOL.288	Allen - Knowles House	66 Princeton St	1840
HOL.130	Allen - Scott Farm	619 South Rd	1860
HOL.19	Allen - Stevens House	51 Boyden Rd	1821
HOL.60	Allen, Jesse House	37 Maple St	1905
HOL.188	Avery Homestead	Avery Rd	1776
HOL.51	Babb, Rev. Thomas Earle House	50 Highland St	1908
HOL.271	Bacon, John House	1694 Main St	1830
HOL.126	Ball, Granville House	Manning St	1923
HOL.1	Baptist Parsonage	1218 Main St	1848
HOL.115	Bascom, Artemas D. Blacksmith Shop	1134 Main St	1840
HOL.119	Bascom, Artemas D. House	1129 Main St	1905
HOL.183	Bassett - Brewer House	140 Union St	1813
HOL.153	Bassett House	1478 Wachusett St	1859
HOL.84	Bassett, Preston House	1227 Main St	1850
HOL.103	Baxter - Ball House	152 Highland St	1838
HOL.166	Bigelow - Lindstrom House	90 Shrewsbury St	1800
HOL.303	Blake Farm	383 South Rd	1800
HOL.20	Boyden Homestead	61 Boyden Rd	1780
HOL.C	Boyden Road Area		
HOL.H	Boyden Road Historic District		
HOL.38	Brigham, Leonard B. House	28 Walnut St	1868
HOL.274	Broad - Bassett House	1858 Main St	1850
HOL.149	Broad, Ira Farm	1878 Main St	1820
HOL.110	Brown - Davis - Frost Farm	17 Whitney St	1780
HOL.108	Bullard Farmhouse	515 Shrewsbury St	1746
HOL.127	Camp, William - Gleason, Joseph House	19 Reservoir St	1860
HOL.340	Caswell King Funeral Home	1147 Main St	1970
HOL.152	Chaffin Congregational Church	Shrewsbury St	1894
HOL.161	Chaffin, Capt. John Farm	530 Salisbury St	1831
HOL.113	Chaffin, J. E. House	1156 Main St	1850
HOL.169	Chaffin, Nathan House	337 Salisbury St	1793
HOL.379	Chaffins School	11 Holden St	1922
HOL.300	Chaffinville School	307 Shrewsbury St	1878
HOL.95	Chase, L. Mark House	95 Sunnyside Ave	1903
HOL.305	Chase, L. Mark House	90 Sunnyside Ave	1890
HOL.148	Chenery, Cyrus House	257 Shrewsbury St	1830
HOL.105	Cheney - Graham Farm	624 Malden St	1816
HOL.64	Clapp, Albion B. House	1 Maple St	1905
HOL.31	Clapp, Katherine Sweet House	63 Walnut St	1907
HOL.267	Clark House	1654 Main St	1870

Inv. No	Property Name	Street	Year Built
HOL.58	Cleland, Thomas House	40 Maple St	1870
HOL.135	Cobb, Dr. Gardner House	Stone House Hill Rd	1920
HOL.143	Crystal Spring Farm	57 Reservoir St	1883
HOL.185	Curran's Footwear Building	1207 Main St	1840
HOL.118	Damon House	1135 Main St	1830
HOL.8	Damon House	1174 Main St	1901
HOL.7	Damon Memorial Building - Gale Free Library	25 Highland St	1887
HOL.230	Darling - Bennett House	571 Bullard St	1800
HOL.123	Darling, D. House	567 Bullard St	1830
HOL.258	Davis - Flagg House	1226 Main St	1779
HOL.98	Davis, Dr. David House	49 Sunnyside Ave	1840
HOL.83	Davis, Ethan House	1230 Main St	1800
HOL.45	Davis, Oliver G. - Armington, Samuel W. House	85 Highland St	1855
HOL.159	Davis, Thomas House	205 Mason Rd	1770
HOL.32	Deane, George House	58 Walnut St	1912
HOL.171	Dickenson, James - Potter, James House	203 Bullard St	1811
HOL.172	Doyle Farm	150 Doyle Rd	1802
HOL.102	Drury, William - Abel House	237 Brattle St	1830
HOL.257	Drury, William H. House	1090 Main St	1855
HOL.215	Eagle Lake Woolen Company Garage and Storage	29 Hilltop Ave	1890
HOL.204	Eagle Lake Woolen Company Store	1635 Main St	1870
HOL.263	Eagle Lake Woolen Company Worker Housing	1586 Main St	1880
HOL.211	Eagle Lake Woolen Company Worker Housing	25 Hilltop Ave	1890
HOL.213	Eagle Lake Woolen Company Worker Housing	17 Hilltop Ave	1890
HOL.217	Eagle Lake Woolen Company Worker Housing	190 High St	1860
HOL.212	Eagle Lake Woolen Company Worker Housing	21 Hilltop Ave	1890
HOL.216	Eagle Lake Woolen Company Worker Housing	184 High St	1832
HOL.F	Eagleville Area		
HOL.195	Eagleville Hotel - Eagle Lake House	Main St	1812
HOL.197	Eagleville Manufacturing Company Worker Housing	201 High St	1850
HOL.196	Eagleville Manufacturing Company Worker Housing	197 High St	1850
HOL.190	Estabrook - Howe - Hall Farm	River St	1805
HOL.299	Fairbanks, William H. House	Shrewsbury St	1870
HOL.155	Fales - Toombs House	788 Main St	1840
HOL.2	First Baptist Church	1216 Main St	1835
HOL.55	First Baptist Church, Old	35-37 Highland St	1819
HOL.5	First Congregational Church	1180 Main St	1789
HOL.187	Fisk - Dodd - Kendall House	78 Kendall Rd	1817
HOL.86	Fisk, Jonathan House	1343 Main St	1794
HOL.254	Fiske, Charles E. House	263 Main St	1925
HOL.26	Flagg House	18 Lovell Rd	1880
HOL.94	Flagg, Silas House	3 Park Ave	1850
HOL.56	Flagg, William H. House	49 Maple St	1873
HOL.62	Fletcher, Robert House	23 Maple St	1950
HOL.228	Forbush, Anna E. House	6 Boyden Rd	1920
HOL.372	Freight House	Sunnyside Ave	1870
HOL.141	Fuller, George A. House	47 Reservoir St	1912
HOL.306	George, William H. House	15 Walnut Terr	1937
HOL.82	Gleason, Warren L. House	1232 Main St	1850
HOL.233	Glendon, Frank A. House	31 Deane Ave	1925
HOL.75	Goddard, George S. House	1266 Main St	1865
HOL.22	Goulding, Joseph House	42 Lovell Rd	1891
HOL.285	Graham, Martha House	27 Phillips Rd	1909
HOL.175	Greenwood, Asa House	1 Union St	1799
HOL.802	Grove Cemetery	Main St	1854
HOL.378	Grove Cemetery Garage	Main St	1930
HOL.377	Grove Cemetery Memorial Chapel	Main St	1925
HOL.918	Grove Cemetery Stone Entrance	Main St	1888
HOL.235	Guilfoile, Daniel House	30 Fairview Ave	1895
HOL.912	Hancock Common	Main St	1750
HOL.900	Hancock Common Marker	Main St	1916
HOL.44	Hanson, George House	9 Walnut St	1950
HOL.237	Harrington - Hennessey House	37 Fairview Ave	1882
HOL.238	Harrington, Dennis W. House	47 Fairview Ave	1894
HOL.144	Harris House	256 Reservoir St	1917
HOL.125	Heiding, Erick Farm	306 Bullard St	1895
HOL.117	Hendricks, Charles L. House	1157 Main St	1884
HOL.239	Hennessey, Thomas Barn	50 Fairview Ave	1885
HOL.200	Hennessey, Thomas House	46 Fairview Ave	1884

Inv. No	Property Name	Street	Year Built
HOL.234	Hill, William House	29 Fairview Ave	1881
HOL.286	Hoit - Rand - Elmer House	106 Phillips Rd	1906
HOL.292	Holbrook - Goddard House	182 Princeton St	1826
HOL.69	Holden American Legion Post #42 Legion Home	1292 Main St	1900
HOL.A	Holden Center		
HOL.D	Holden Center Historic District		
HOL.J	Holden Center Historic District		
HOL.E	Holden Center Historic District		
HOL.11	Holden District #1 School	8 Boyden Rd	1854
HOL.917	Holden Park Bandstand	Main St	1970
HOL.281	Holden Railroad Depot	Park Ave	1870
HOL.905	Holden Roll of Honor Memorial	Main St	1935
HOL.208	Holden School House #5	1726 Main St	1844
HOL.116	Holden Second School House	1134 Main St	1824
HOL.4	Holden Town Hall	1196 Main St	1836
HOL.3	Holden Trowel Club	1204 Main St	1797
HOL.16	Holden, Edgar House	42 Boyden Rd	1921
HOL.308	Holden, Henry H. House	38 Lovell Rd	1949
HOL.371	Holt Coal Company Office Building	30 Sunnyside Ave	1920
HOL.28	Holt, Frederick T. House	78 Walnut St	1900
HOL.36	Holt, Frederick T. House	42 Walnut St	1880
HOL.79	Holt, Joab Winthrop House	1241 Main St	1912
HOL.33	Holton House	57 Walnut St	1850
HOL.53	Howard House	44 Highland St	1860
HOL.91	Howard, Charles House	57 Park Ave	1840
HOL.12	Howe - Bennett House	12 Boyden Rd	1832
HOL.911	Howe - Warren House Site	1161 Main St	1890
HOL.223	Howe and Jefferson Mill Office	168 Princeton St	1870
HOL.220	Howe and Jefferson Woolen Company Worker Housing	191-193 Princeton St	1850
HOL.224	Howe and Jefferson Woolen Mill Worker Housing	178-180 Princeton St	1878
HOL.236	Howe, Dea. William House	34-36 Fairview Ave	1860
HOL.46	Howe, George House	78 Highland St	1860
HOL.133	Howe, Levi H. House	52 Reservoir St	1904
HOL.39	Howe, Nathan House	27 Walnut St	1870
HOL.52	Howe, Nathan House	49 Highland St	1908
HOL.191	Hubbard - Dawson House	925 Main St	1847
HOL.179	Hubbard, Elisha Farm	1870 Wachusett St	1775
HOL.146	Hubbard, John Farm	57 Mill St	1840
HOL.71	Hubbard, Martin House	1279 Main St	1860
HOL.74	Hubbard, Samuel House	1273 Main St	1851
HOL.231	Hubbard, Simon Farm	381 Causeway St	1820
HOL.90	Hubbard, Simon House	21 Fruit St	1851
HOL.89	Hubbard, Simon House	34 Pleasant St	1853
HOL.264	Jarvis' Store	1625 Main St	1925
HOL.104	Jefferson Cotton Mill Boarding House	Hilltop Ave	1800
HOL.129	Jefferson Cotton Mill Worker Housing	Hilltop Ave	1770
HOL.G	Jefferson Manufacturing Company		
HOL.210	Jefferson Manufacturing Company - Building #1	1671 Main St	1850
HOL.309	Jefferson Manufacturing Company - Building #2	1671 Main St	1850
HOL.310	Jefferson Manufacturing Company - Building #3	1671 Main St	1850
HOL.311	Jefferson Manufacturing Company - Building #4	1671 Main St	1850
HOL.312	Jefferson Manufacturing Company - Building #6	1671 Main St	1850
HOL.910	Jefferson Manufacturing Company - Gatehouse	1671 Main St	1915
HOL.268	Jefferson Manufacturing Company Office	1655 Main St	1900
HOL.314	Jefferson Manufacturing Company Office	1655 Main St	1900
HOL.198	Jefferson Manufacturing Company Worker Housing	6-12 Fairview Ave	1878
HOL.222	Jefferson Manufacturing Company Worker Housing	188 Princeton St	1900
HOL.199	Jefferson Manufacturing Company Worker Housing	45-48 Quinapoxet St	1877
HOL.214	Jefferson Manufacturing Company Worker Housing	24 Hilltop Ave	1890
HOL.225	Jefferson Mill	156 Princeton St	1850
HOL.B	Jefferson Mill Village		
HOL.114	Jefferson, John House	1142-1144 Main St	1800
HOL.163	Johnson Farm	81 Lincoln Ave	1820
HOL.43	Johnson, Dr. Verner House	16 Walnut St	1940
HOL.307	Johnson, Elmer J. House	79 Woodland Rd	1923
HOL.160	Kimball, David House	836 Salisbury St	1795
HOL.247	Kirby, Arthur House	32 Highland St	1906
HOL.901	Knights Templar Monument	Main St	1924
HOL.906	Knopp, Alonzo Learned Tablet	Highland St	1921

Inv. No	Property Name	Street	Year Built
HOL.279	Knowlton - Fales House	45 Mayo Rd	1785
HOL.157	Knowlton - Lindquist House	118 Chapel St	1830
HOL.121	Knowlton, Charles House	336 Reservoir St	1868
HOL.70	Lakin, George S. - Hubbard, Samuel House	1285 Main St	1850
HOL.338	Learned, Alonzo K. High School	1128 Main St	1926
HOL.209	Lee, Matthew House	1708 Main St	1896
HOL.262	Loring, Silas H. House	1352 Main St	1882
HOL.21	Lovell Farm	55 Lovell Rd	1899
HOL.158	Lovell, Jonathan Farm	Malden St	1752
HOL.297	Lowell, William J. House	Reservoir St	1840
HOL.147	Manning - Ball House	370 Manning St	1790
HOL.293	Marlowe, Thomas House	90 Quinapoxet St	1894
HOL.294	Marsh, Charles H. House	98 Quinapoxet St	1889
HOL.176	Marshall, Thomas D. House	740 Salisbury St	1850
HOL.203	Meehan, Margaret F. House	43 Quinapoxet St	1904
HOL.909	Meeting House Site, Old	Main St	
HOL.904	Memorial Hall Tablets	Main St	1876
HOL.266	Merrick, Edward House	1650 Main St	1875
HOL.41	Metcalf, William C. House	22 Walnut St	1882
HOL.112	Miles Funeral Home	1158 Main St	1854
HOL.40	Miles, Walter House	26 Walnut St	1930
HOL.913	Mill Street Bridge over Quinapoxet River	Mill St	
HOL.924	Mill Street Bridge over Quinepoxet River	Mill St	1936
HOL.341	Mobil Gas Station	1175 Main St	1970
HOL.65	Moore House	1355 Main St	1830
HOL.48	Moore, S. House	67 Highland St	1870
HOL.100	Moore, Theda House	39 Sunnyside Ave	1857
HOL.170	Morse, Stillman F. House	1727 Main St	1882
HOL.132	Moy Ranch	Moy Ranch Rd	1793
HOL.295	Mozier, Frank House	143 Quinapoxet St	1887
HOL.128	Nash, Samuel - Lowell, Oliver House	468 Shrewsbury St	1773
HOL.277	Newell - Howe House	48 Maple St	1870
HOL.139	Newell Homestead	177 Newell Rd	1830
HOL.99	Newell, Amos H. House	43 Sunnyside Ave	1850
HOL.35	Newell, Bertram S. House	46 Walnut St	1908
HOL.34	Newell, Bertram S. House	49 Walnut St	1890
HOL.167	Newell, J. Albert House	187 Newell Rd	1879
HOL.59	Newell, Phineas R. House	38 Maple St	1873
HOL.145	Nichols - Raymond House	1100 Wachusett St	1780
HOL.800	Old Burying Ground	Main St	1742
HOL.232	Ottoson, Carl A. House	45 Chapel St	1915
HOL.136	Paddock Farm	259 Salisbury St	1780
HOL.50	Paine, Dr. William H. - Moore, Marcus House	57 Highland St	1834
HOL.81	Paine, Horatio W. - Warren, Joseph H. House	1236 Main St	1850
HOL.801	Park Avenue Burying Ground	Main St	1826
HOL.194	Parker - Anderson House	502 Shrewsbury St	1760
HOL.151	Parker Farm	248A Parker Ave	1797
HOL.278	Parmenter - Mason Farm	Mason Rd	1818
HOL.174	Partridge, Jesse House	9 South Rd	1798
HOL.73	Pearson House	1274 Main St	1870
HOL.261	Pearson, J. D. House	1270 Main St	1880
HOL.298	Perkins - Drawbridge House	520 Reservoir St	1835
HOL.27	Peterson, Ada - Fowler, Wilbur House	79 Walnut St	1925
HOL.227	Phillips - Gould House	70 Highland St	1867
HOL.282	Phillips, Oscar Barn	17 Phillips Rd	1880
HOL.283	Phillips, Oscar Barn	21-23 Phillips Rd	1880
HOL.80	Pierce House	1240 Main St	1840
HOL.259	Pierce House	1238 Main St	1840
HOL.78	Pierce, Alice House	1246 Main St	1849
HOL.168	Pierce, Oliver House	170 South Rd	1853
HOL.42	Pomeroy, Charles House	21 Walnut St	1903
HOL.57	Potter, Aaron House	41-43 Maple St	1905
HOL.72	Powers, Christopher House	1276 Main St	1895
HOL.296	Pratt, F. Louise House	150 Quinapoxet St	1880
HOL.923	Princeton Street Bridge over Quinapoxet Outlet	Princeton St	1937
HOL.61	Putnam, Archelaus House	34 Maple St	1872
HOL.I	Quabbin Aqueduct		
HOL.916	Quabbin Aqueduct	Quabbin Aqueduct	1927
HOL.915	Quabbin Aqueduct Shaft #2	Manning St	1931

Inv. No	Property Name	Street	Year Built
HOL.907	Quinapoxet Dam Marker	Princeton St	1953
HOL.189	Read, Jonas House	125 Princeton St	1750
HOL.142	Red House, Old	1215 Main St	1750
HOL.914	Reservoir Street Bridge	Reservoir St	1914
HOL.284	Rice, Marjery A. School	Phillips Rd	1911
HOL.181	Richardson House	Muschopauge Rd	1855
HOL.29	Richardson House	69 Walnut St	1925
HOL.134	Richardson, George N. House	38 Reservoir St	1873
HOL.242	Richardson, Heman House	124 High St	1800
HOL.140	Richardson, John D. House	44 Reservoir St	1873
HOL.922	River Street Bridge over Quinapoxet River	River St	1937
HOL.269	Rivers Bowling Alley	1676 Main St	1925
HOL.226	Rivers Skating Rink	24 Princeton St	1891
HOL.250	Robbins, Benjamim H. House	110 Highland St	1913
HOL.122	Rogers Farm	Chapin Rd	1783
HOL.92	Rogers House	21 Park Ave	1840
HOL.14	Rogers House	28 Boyden Rd	1733
HOL.137	Rogers, Emery House	13 Pleasant St	1874
HOL.54	Rogers, Emory - O'Connor, Andrew House	38 Highland St	1830
HOL.49	Rood - Packard - Miles House	63 Highland St	1870
HOL.30	Rose, John House	66 Walnut St	1925
HOL.47	Saint Francis Episcopal Church	70 Highland St	1965
HOL.67	Saint Mary's Catholic Church Rectory, Old	1296-1300 Main St	1870
HOL.66	Saint Mary's Catholic Church, Old	1304 Main St	1868
HOL.803	Saint Mary's Cemetery	1304 Main St	1867
HOL.186	Saint Mary's Roman Catholic Church	114 Princeton St	1891
HOL.290	Saint Mary's Roman Catholic Church Rectory	114 Princeton St	1875
HOL.920	Shrewsbury Street Bridge over Chaffins Pond Outlet	Shrewsbury St	1850
HOL.182	Smith - Stratton - Parsons Farm	Bryant Rd	1813
HOL.150	Smith, Levi - Turner, Charles House	Mixer Rd	1829
HOL.165	Smith, Levi House	106 Shrewsbury St	1814
HOL.302	South School	177 South Rd	1852
HOL.13	Sparrow - Mirick Homestead	20 Boyden Rd	1832
HOL.37	Spaulding, A. G. House	33 Walnut St	1885
HOL.138	Spring Dale School	Manning St	1835
HOL.218	Spring, John P. House	Spring St	1895
HOL.243	Stearns - Merrick House	185 High St	1850
HOL.240	Stearns, George H. House	53 Fairview Ave	1880
HOL.173	Stearns, Harry House	59 Fairview Ave	1880
HOL.77	Stickney, Dr. Clifford W. House	1252 Main St	1885
HOL.17	Stone, Charles H. House	25 Boyden Rd	1941
HOL.107	Stony Farm	428 Salisbury St	1790
HOL.76	Stratton, Freemont House	1256 Main St	1860
HOL.289	Stratton, Josiah B. House	85 Princeton St	1860
HOL.276	Titus House	33 Maple St	1855
HOL.63	Titus Place, Old	31 Maple St	1850
HOL.23	Trask House	33 Lovell Rd	1913
HOL.280	Trow, Israel House	411 North St	1800
HOL.184	U. S. Post Office - Holden Old Branch	1213 Main St	1880
HOL.131	Veitch Farm	108 Mill St	1872
HOL.178	Walker, Hezeikiah House	735 Mason Rd	1778
HOL.180	Warner - Maynard Farm	Muschopauge Rd	1870
HOL.313	Warren Carriage House	1161 Main St	1890
HOL.902	Warren Fountain	Main St	1909
HOL.97	Warren, Henry W. House	57 Sunnyside Ave	1882
HOL.241	Warren, Joseph Henry House	58 High St	1800
HOL.101	Warren, Susan and Ann House	12 Sunnyside Ave	1894
HOL.111	Warren, W. Goulding House	1161 Main St	1900
HOL.253	Warren, Waterman Goulding House	25 Laurelwood St	1930
HOL.6	Warren, William Howe House	26 Maple St	1910
HOL.15	Webb, Capt. George House	36 Boyden Rd	1798
HOL.246	White - Chapman - Rivers House	200 High St	1825
HOL.193	Willard - Fisk Farm	123 Whitney St	1772
HOL.162	Winch, David House	9 Lincoln Ave	1820
HOL.96	Winn, Peter and Frank House	64 Sunnyside Ave	1881
HOL.87	Winn, Peter S. House	99 Pleasant St	1840
HOL.154	Winn, William House	145 Causeway St	1792
HOL.903	World War Monuments	Highland St	1925
HOL.301	WTAG Radio Station	Shrewsbury St	1940

Inv. No	Property Name	Street	Year Built
HOL.252	Young, Harold House	140 Highland St	1926

Source: Massachusetts State Historical Commission

See Next Pages for University of Massachusetts, Landscape Architecture Student Projects on Restoring some of Holden's Historic Resources.

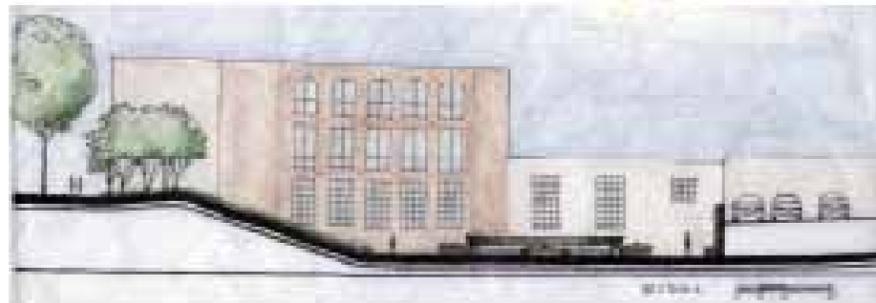
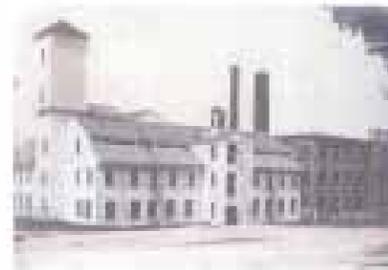
Jefferson Mill Plan



PROPOSED STREETSCAPE

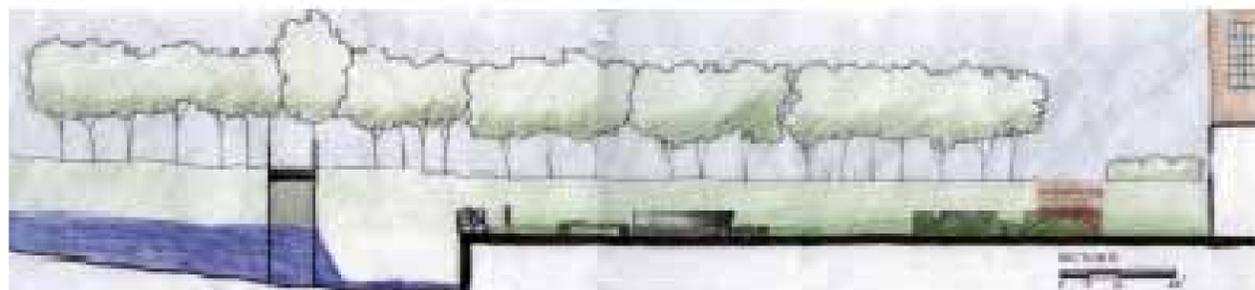


THE REMNANTS OF THE GABLE ROOF SHOULD BE PRESERVED



FEATURES OF THE JEFFERSON MILL PLAN

- Create a parking structure so that it is used as a pedestrian walkway that is integrated with the existing site
- Provide pedestrian access to a natural path with a view of the lake
- Create a water wall with a walkway and a viewing area for the lake
- Create the effect of the parking structure as the water wall with a glass wall
- Consider a walkway along the lake to connect to a natural path along the Birge Lake leading to the 'Great Walk'



JEFFERSON MILL PLAN
 JEFFERSON, HOLDEN, MASSACHUSETTS
 L. JENNINGS, S. McMULLEN, B. SCHNEIDER
 LA806: CULTURAL LANDSCAPES
 UMASS AMHERST, LARP
 VISITING INSTRUCTOR: MARTHA LYON

The Holden Town Common: Past, Present and Future

Cultural Landscape Plan



Prepared by:
Mackenzie Greer, Maggie Leonard and Ann Weiland

Oversight from:
Martha Lyon, Landscape Architect

Landscape Architecture and Regional Planning Department
University of Massachusetts Amherst
May, 2007

Table of Contents

The Holden Common: A Cultural Landscape Plan

Section 1: Introduction 1

Section 2: Town history 3

Section 3: Civic functions 7

Section 4: Site analysis
and existing conditions 8

Section 5: Recommendations. 16

Master Plan 16

Town Common 19

Civic Space 21

Downtown Design Guidelines 23

Section 6: Conclusion 27

- Appendices:
- Evolution of New England Town Commons
 - National Trust Recommendations

Section 1: Introduction

Holden, Massachusetts

The community of Holden, Massachusetts, is located in the rolling hills of central Massachusetts, approximately 46 miles west of Boston, and just north of Worcester (fig. 1.1). Holden's town center originated at an important transportation crossroads dating back to 1737. Today, these crossroads have developed into state highway Routes 122A and Route 31 (fig. 1.2). Of the two, Route 122A is the more significant as it connects directly with Worcester where many of Holden's residents work. The two major travel corridors, Route 2 in the north and Interstate 91 in the south, are located on either side of Holden, but they do not directly connect with the town.

Originally a rural, farming community, Holden was settled in 1737 with the construction of its first meetinghouse. In-

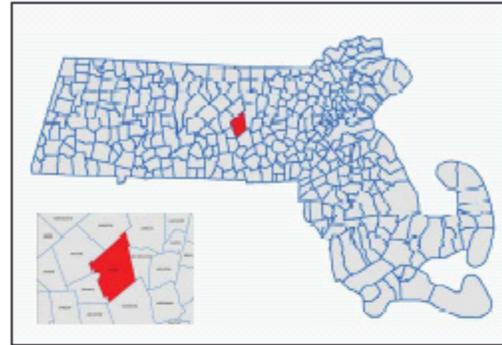


Fig. 1.1: Town of Holden, state and county locator maps.

corporated in 1741, its town government is based on the Selectmen-Town Manager system, and it is one of the oldest in Massachusetts (fig. 1.3). The town is comprised of approximately 36 square miles with a population of 17,036 residents (Source: <http://www.townofholden.net>).



Fig. 1.2: Town of Holden, aerial view of town center and major crossroads.



Fig. 1.3: Town of Holden, aerial view of municipal buildings in the town center.

Holden's land use is heavily oriented to open uses, with approximately 40% of the town's land protected watershed with direct impact on the Worcester water supply and the Wachusett Reservoir. The remaining land use is primarily residential with only 2-3% designated for commercial activity.

The residents of Holden are civic-minded with a strong sense of community. They seek to broaden the town's tax base with light industrial and small commercial business development, while at the same time retaining the small town charm and historical character of Holden. To that end, the community conducted a visioning workshop in October, 2006, to provide input and voice concerns regarding the future development of their town (fig. 1.4).

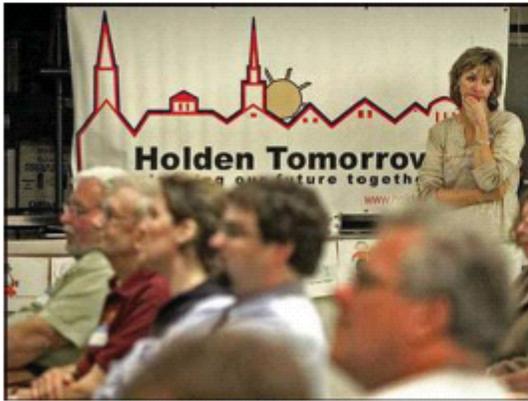


Fig. 1.4: Holden residents at visioning workshop, Holden Tomorrow.

The major goals from the workshop, A Shared Vision for Holden's Tomorrow, include:

- “Preserve small town atmosphere.
- Enhance open space.
- Encourage commercial development.
- Reduce traffic congestion.
- Improve town center.
- Create community gathering spaces.”

Source: <http://www.townofholden.net>

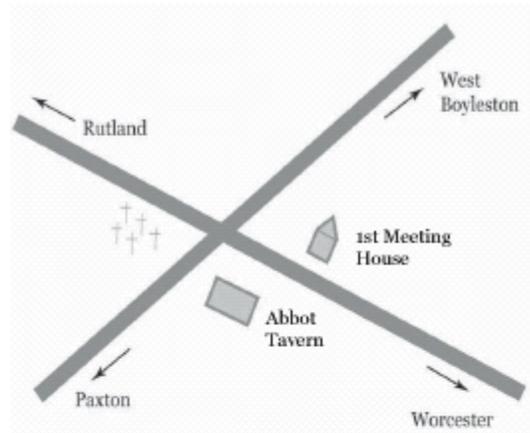
This is the big challenge facing Holden: careful, planned growth combined with preservation of its small town charm and historic character. This report provides clear recommendations to the town of Holden on how to stimulate this growth in the town center in a way that is consistent with the objectives defined in Holden Tomorrow.

The design recommendations reestablish and extend the old Town Common at the heart of the town center. Stronger links between civic spaces bring people to the town center in a pedestrian-friendly environment. Development guidelines encourage new commercial development, thereby preserving the special character of the downtown area in a way that is consistent with the period of significance, mid-1700s to 1900. In short, these connections combine as an integrated whole resulting in the preservation of Holden as a vibrant, historic small town with its New England character.

Section 2: History of the Common

1st STAGE: FOUNDING OF THE TOWN *by 1736*

In its founding stages, the common's main function is as a crossroads at the junction of Main, Highland and Reservoir Streets (fig 2.1). These roads were all highways to nearby towns and small cities. At this time, the church and state are one. The meeting house (fig. 2.2) was established at the common providing shelter and location for both worship and town business. Another prominent building, the Abbot Tavern was founded at the corner of Reservoir and Main, receiving much business due to its location. The burying grounds were established out of necessity, and soon the town outgrew its small corner lot.



1st Stage Development Diagram

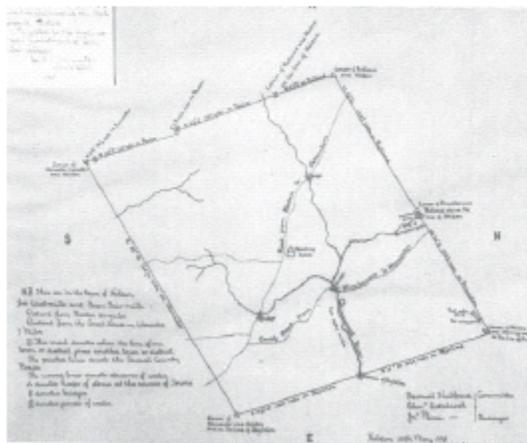


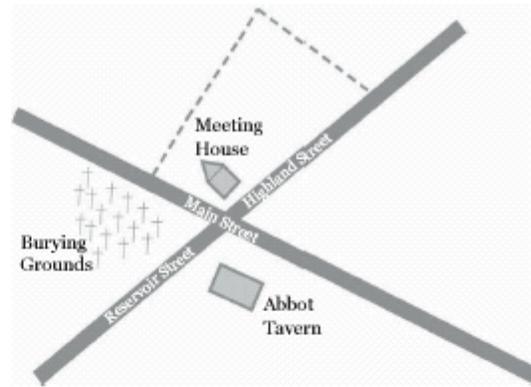
Fig. 2.1, left: Town of Holden 1795, map showing meetinghouse at crossroads.

Fig. 2.2, above: Woodcut of Holden meetinghouse and common crossroads.

Images Courtesy Gale Free Public Library.

2nd STAGE: INITIAL GROWTH
by 1789

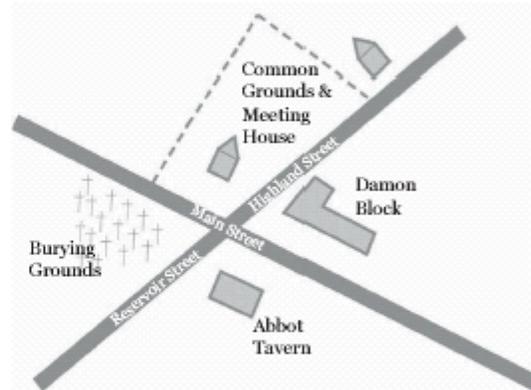
A significant point of growth for Holden was the building of a new meetinghouse, fifty years after the first was built and received much use and subsequent wear. Holden was deeded a small parcel of land from John Hancock and the State of Massachusetts on which to locate its new meetinghouse.



2nd Stage Development Diagram

3rd STAGE: STRONGHOLD OF THE TOWN
by 1828

As the town developed further and more diverse residents came to live in Holden, changes occurred in the church/state structure. The meetinghouse consequently became the home of the Congregational Church and a Baptist Church formed in the town. The Congregational Church was modernized to take the style of an Old World church. A strong presence of civic and church buildings formed along Main Street (fig. 2.3).



3rd Stage Development Diagram

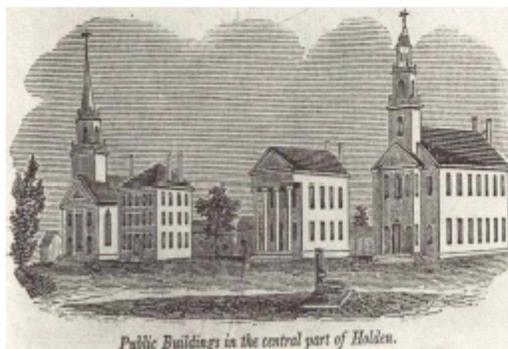
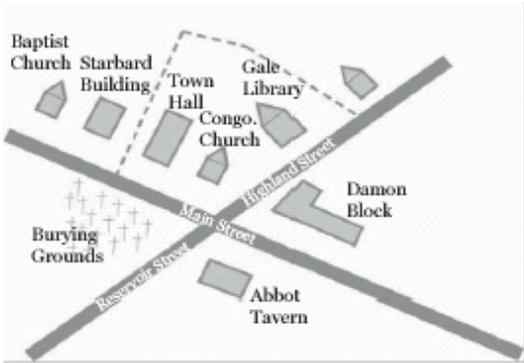


Fig. 2.3, left: Public buildings in central part of Holden, c. 1839.

Courtesy American Antiquarian Society

4th STAGE: SIGNIFICANT EXPANSION OF THE COMMON *by 1888*

During this time, there was a significant expansion of the sense of the common to include additional buildings and land. In 1832 there was an official separation of church and state. Holden commenced plans to build a new town hall, which was completed in 1836, and is still in use today. In 1888 a generous donation by the Gale family provided the town with a grand building in the Roman Romanesque style to house library and high school rooms, which eventually were relocated elsewhere. The grounds surrounding the library were broad and the common area became a site in which many gatherings were held (fig. 2.4).



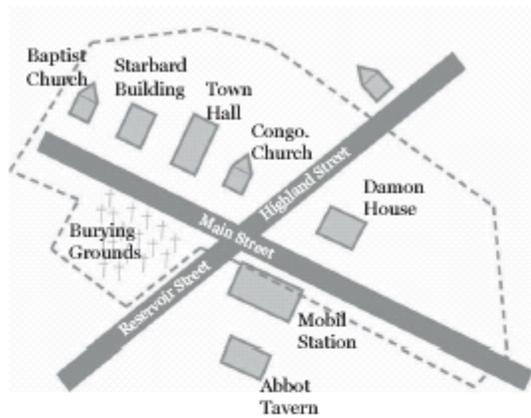
4th Stage Development Diagram



Fig. 2.4, left: Gale Public Library at the turn of the century. Just visible to the left of the building is a tent for a town celebration.

5th STAGE: CONTRIBUTIONS TO CURRENT STATE *by 2007*

At the turn of the century, 1901, the burning of the Damon Block (fig. 2.5) greatly changed the character of the downtown. A smaller building (fig. 2.6) replaced the former commercial/residential space and altered the setback and massing of the buildings in this critical intersection of the crossroads. Both the churches on Main Street underwent expansion and change. Alterations to the Abbot Tavern must have greatly changed the feel of the downtown. In the 1930's a small filling station was constructed in front of the Tavern. Then in 1970, the Abbot Tavern was moved further down Reservoir Street and set away from the road. The small filling station was demolished and a large Mobil Station constructed to take its place. In recent years, all of the roads at this common area were widened and paved. The sense of the common has expanded to become more of a town center.



5th Stage Development Diagram



*Fig. 2.5, left: The Damon Block buildings. There was a general store and other business along Main Street and residences in the rear.
Fig. 2.6, above: The Damon House, constructed in 1901 after the Damon Block burned.
Images Courtesy Gale Free Public Library.*

Section 3: Civic Functions of the Common



Holden is fortunate to have a community that participates in recreational events as well as decisions that affect the future of the town. Some recreational events the community enjoys within the limits of the town center are the Holden Garden Club annual plant sale, farmers' market, community baseball league games, Memorial Day Parade, and Holden Days (fig. 3.1).

Holden Days, held on the last Saturday of August, is the biggest event of the year and attracts a large portion of the community. On this day, Main Street is closed and various activities including games, a craft fair, flea market, music performances, and eating take place. It is an opportunity for the Holden community to gather, have fun, and enjoy the resources of their town center.

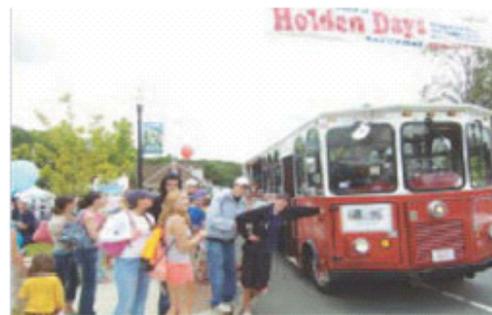


Fig. 3.1 Holden Days, a community event that includes games, prizes, food, music, and crafts. Photo by Steve King.

Section 4: Site Analysis & Existing Conditions

GATEWAYS TO DOWNTOWN HOLDEN

There are four gateways from the west, east, north, and south that mark the thresholds of the Holden town center. The gateways were determined by topography and by views into the town center and of historic landmarks.



WEST GATEWAY

The west gateway is located at the intersection of Reservoir and Main Streets. The approach to this gateway is on a hill from Reservoir Street. The point at which a person reaches the gateway the land becomes flat and a view of the town center is revealed. The two distinguishing landmarks at this gateway are the First Congregational Church and the Damon House (fig. 4.1).



Fig. 4.1: West Gateway located at the intersection of Main and Reservoir Streets, the First Congregational Church (far left) and Damon House (far right) are two landmarks in view.

EAST GATEWAY

The east gateway is approached on Highland Street through a residential neighborhood. The landmark that indicates this gateway is the Gale Library. From here the First Congregational Church is seen in the distance as well as open green space. (Fig. 4.2a and 4.2b)



Figs. 4.2a and 4.2b: East Gateway located on Highland Street, the Gale Library is the landmark that distinguishes this gateway.

The north and south gateways are located on Main Street.

NORTH GATEWAY

The approach to the north gateway is on a hill and the point at which the gateway is reached the land flattens. From this gateway the view includes a dense massing of historic commercial businesses on one side of the road and the First Baptist Church, the Starbard Building and the First Congregational Church on the other side of the road. (Figure 4.3a and 4.3b)



Fig. 4.3a and 4.3b: North Gateway located on Main Street, dense massing of historic businesses (above, right) and a view of the Baptist Church, Starbard Building, and Congregational Church distinguish this gateway (above).

SOUTH GATEWAY

The south gateway is located in front of the bandstand area. It provides a clear, long view of the commercial businesses located on either side of Main Street. (fig. 4.4a and 4.4b)



Fig. 4.4a and 4.4b: South Gateway located on Main Street at the bandstand. From this gateway there is a view of the local businesses lining Main Street.

EXISTING CONDITIONS

VEHICULAR CIRCULATION

The town center of Holden is situated at the intersection of Route 122A and Route 31, the two state highways which evolved from the original crossroads when Holden was first established (fig. 4.5). Route 122A carries the more significant volume of traffic, particularly since it connects the surrounding villages and town center with Worcester in the south.

Most residents of Holden work in other locales; traffic volume is significant through the center of town, and traffic backups at the signal of the main intersection are not uncommon (fig. 4.6). The commercial district is concentrated on the main corridor of Route 122A, and secondary roads leading off Route 122A transition immediately to residential neighborhoods.



Fig. 4.6: Traffic congestion on Route 122A heading south into the town center towards Worcester.



Fig. 4.5: Primary and secondary roads (blue) in Holden, building footprints (yellow) of town center.

BUILDINGS

The buildings in Holden are comprised of a mix of architecture with no real pattern exhibited. Setbacks vary and show little consistency, and buildings of historic significance are mingled with twentieth century architecture in a haphazard way (fig. 4.7). At the heart of the town center, where the original town common contains the second meetinghouse (now the Holden Congregational Church), the Town Hall, and the Starbard Building, an architectural line is established but is not continued through the downtown district. Moreover, the old, historic municipal buildings are opposite the 1970's Mobile gasoline station (fig. 4.8)

EXISTING CONDITIONS



Fig. 4.7: 20th century construction which is inconsistent with historic architecture of the period.



Fig. 4.8: The Mobil station located directly across from the Holden Congregational Church and Town Hall at the old town common.

situated on the corner of the main cross-roads where Abbot Tavern once stood.

Other building configurations, however, such as along Highland Road near the Congregational Church and the Gale Public Library, do create a combination

that works architecturally with the period of significance (fig. 4.9). In short, the current uneven patterning of building architecture shows opportunities for styles that could work together in a more harmonious way consistent with the period of significance.



Fig. 4.9: The Holden Congregational Church, Gale Free Library and common area with architecture of the historic period of significance.

EXISTING CONDITIONS

OPEN GREEN SPACE AND PEDESTRIAN CIRCULATION

Holden is fortunate to have significant amounts of open green space in the downtown area, largely centered around the municipal buildings and the senior center (fig. 4.10, 4.11a-4.11c). These areas are not well-connected, however, primarily because the pedestrian circulation is limited to the primary roadways. Enhancing the pedestrian circulation off the main roads provides a significant opportunity for Holden to connect these green spaces more effectively and to enhance their use for the local residents.



Fig. 4.10: Open green space (green) in the town center and pedestrian circulation (red).



Fig. 4.11a: Open space at senior center.



Fig. 4.11b: First cemetery across from the Holden Congregational Church.



Fig. 4.11c: Open space between Gale Free Library and Holden Congregational Church.

EXISTING CONDITIONS

IMPERVIOUS SURFACES

The town center contains extensive amounts of impervious, paved surfaces, mainly in the form of large, inefficiently defined parking lots (fig. 4.12). Hard surfaces around the municipal buildings are quite large but under utilized, except for peak periods related to activity at the Holden Congregational Church (fig.4.13a-4.13b). Reorganizing these lots into shared spaces for municipal and commercial use, as well as incorporating green materials, such as tree plantings and islands, provides an opportunity to create more of a town common feeling reminiscent of Holden's historic past.



Fig. 4.12: Impervious surfaces, mostly parking lots, in town center.



Fig. 4.13a, 4.13b: Municipal parking lots (right) in town center, shared parking (below) for municipal offices and Congregational Church.



Section 5: Recommendations

OBJECTIVES

The goals put forth by the community during the visioning workshop assisted in the development of the design objectives for the proposed master plan for the Holden town center (fig. 5.1).

Preserve the character of the Town Common by establishing a historical time period from which aesthetic and development decisions will be rooted.

Develop a pedestrian-friendly environment in the Town Center through increased open spaces and extensive pedestrian walkways and connections.

Calm traffic through the Town Center with the use of visual and physical cues which will indicate to drivers an area of interest.

MASTER PLAN



Fig. 5.1: Proposed Master Plan. Green space and pedestrian connections have been increased and parking lots have been organized for better efficiency.

The proposed master plan focuses on Holden's town center with the period of significance dating from mid-1700s through 1900. Within this plan, the town center has been divided into three zones, the historic, civic, and commercial.

The historic zone (fig. 5.2) is located to the north of the town center and includes the Historic Town Common and Old Burying Grounds.

The civic zone (fig. 5.3) is located in the southeast region of the town center. The civic zone holds three major open green spaces including the area adjacent to Highland Street, the bandstand, and Bubar Field. Many community recreational events occur in this zone including Holden Days.



Fig. 5.3: Civic zone highlighted in blue includes three open spaces, Bubar Field, the bandstand, and an area adjacent to Highland Street.



Fig. 5.2: Historic zone highlighted in green includes the Historical Town Common and the Old Burying Grounds.

The commercial zone (fig. 5.4) is in the southwest region of the town center. It is composed of local businesses that straddle Main Street. The area where each of these zones meet or overlap is the area we have defined as the present day town common.



Fig. 5.4: Commercial zone highlighted in red. This zone straddles Main Street and is concentrated with local businesses.

The goal of the proposed design is to knit each of these zones together with the pedestrian circulation. The pedestrian circulation still continues to follow the roadways, but the number of crosswalks along Main, Highland and Reservoir Streets has been increased from five to nine. New circulation separate from the road and vehicles has also been developed to connect open spaces and businesses.

Impervious surfaces have been decreased where possible in an effort to increase the amount of green open space. Three areas have been targeted to increase open space including the area in front of and between the Town Hall and the First

Congregational Church, the area adjacent to Highland Street, and the area around the bandstand.

Parking lots throughout the town center have been organized for better efficiency and improved aesthetics. The parking in the commercial zone has been positioned behind businesses to create strong architectural frontage along Main Street, and all the parking lots have increased plantings.

The proposed master plan has been divided into two vignettes, the historic zone and the civic zone, and design guidelines have been developed for the commercial zone.

VIGNETTE 1: THE COMMON



Fig. 5.1: Vignette of historic zone. Open green space in front of the Town Hall and Congregational Church on Main Street have been restored and replanted with large shade trees, along with other reestablished green spaces. Pedestrian circulation has been improved to reconnect these green spaces here and with other green spaces in the Town Center.

The first vignette of the proposed plan focuses on the historic zone (fig. 5.1). This area encompasses the original common land deeded to the town by John Hancock in 1789, as well as the municipal buildings and the Gale Free Library. The main goal of this zone is to reestablish the feeling of the original town common through the restoration of open green space. Parking lots have been reconfigured with one way vehicular flow and impervious surface

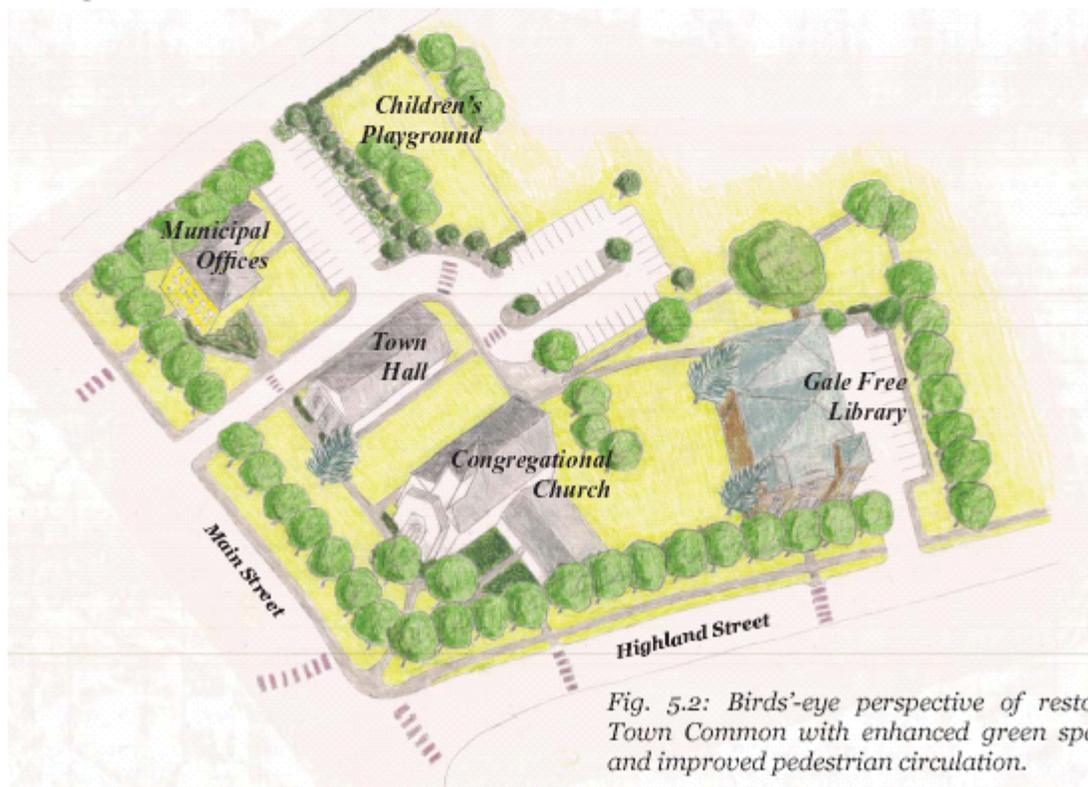
area has been reduced with the addition of traffic islands and tree plantings. Two driveways in front of the Town Hall have been consolidated into a shared, one-way driveway, and the reclaimed land area has been restored to a green lawn. Deciduous trees, such as Lindens and Sugar Maples, have been replanted to recall the great specimens which used to line the common from the historic past.

VIGNETTE 1: THE COMMON

Improving pedestrian circulation is another important goal of the historic zone. Pathways have been reconfigured for clarity and function, allowing pedestrians to traverse the area in an efficient, easy-to-read manner. The new pedestrian arrival at the children's playground, combined with additional safety crosswalks, now ensures the safe passage of children from the Congregational Church and parking areas to the playground. The municipal parking lot augments parking for downtown activities, and pedestrian paths have been designed to provide connections to the downtown district, as well as other civic spaces at the town center. This con-

nectivity, in turn, integrates the common space with the other green spaces in the civic zone.

The birds-eye perspective drawing (fig. 5.2) illustrates the expansive qualities of the redefined historic zone, with the open green spaces connected through the pedestrian pathways. Visitors will be able to come to rest in informal gatherings in these open spaces, with views all around. The green space between the Gale Free Library and the Holden Congregational Church will continue to function as a gathering space with memorials to Holden's veterans.



VIGNETTE 2: THE CIVIC SPACE

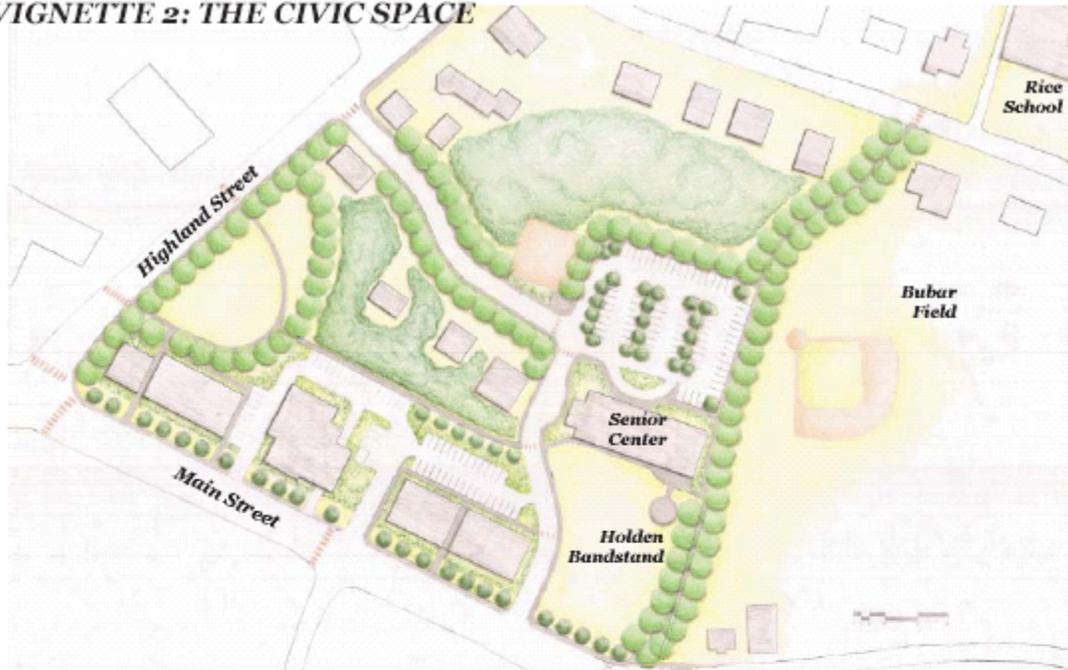


Fig. 5.3: Vignette of civic zone. The sizes of the open green space adjacent to Highland Street and the bandstand open space have been increased. Two new pedestrian connections have been created, one connecting the bandstand and the area adjacent to Highland Street and another connecting Main Street and Rice School.

The second vignette of the proposed plan focuses on the civic zone (fig. 5.3). Because the civic zone holds many community events, the main goal in this zone is to increase the size of the existing open spaces. The open space adjacent to Highland Street is increased by removing the parking lot behind and beside the Damon House. The town's acquisition of the property to the north of the area allows for the increased size of the bandstand open space. By acquiring this land, the space becomes larger and of a better proportion.

The second goal within this zone is to increase pedestrian connectivity. The pe-

destrian circulation circumnavigates this zone following the roadways. Two new pedestrian connections, separate from the roads, have been developed. One path connects the bandstand area and the area adjacent to Highland Street.

The other path connects Main Street with the Rice School, which will eventually be turned into condominiums. The land surrounding the school has been acquired by the town and will be used for recreational purposes. Trees including Linden, Sugar Maple and Red Maple, are used to define the edges of the open spaces and paths and to act as a unifying element (figs. 5.4a-d).

VIGNETTE 2: THE CIVIC SPACE



Fig. 5.4a: Existing conditions on Highland Street.



Fig. 5.4b: A perspective of Highland Street presenting proposed conditions. The utilities have been buried underground and the parking lot adjacent to the Damon House has been removed increasing the size of green space. A sidewalk and trees have been added.



Fig. 5.4c: Existing conditions at the Holden Bandstand.



Fig. 5.4d: A perspective of the bandstand including proposed conditions. The green space has been expanded and a sidewalk to the left/south of pavilion has been added.

COMMERCIAL ZONE: DESIGN GUIDELINES

Many residents have expressed a desire for more commercial variety in Holden. At the same time, residents wish to keep their small-town and historic nature. This leads to undeniable pressures on Holden and its development. Commercial strip development encroaches from the direction of Worcester, while currently there is a Walgreens Pharmacy proposed for Main Street. This franchise has already purchased three contiguous lots on which they intend to site a new store. Many residents and city officials are concerned about the nature of the proposed building.

The following are some references, suggestions and tools, which may help Holden work with the Walgreens representatives, as well as suggested proactive measures to aid the town in the future to encourage development in the desired manner for both new construction and modifications to existing buildings.

In the most general terms, Holden should establish design guidelines that would encourage and perhaps require that style and massing of buildings be consistent throughout the downtown. This can be done by building off existing setbacks and styles of the most successful buildings in the Main Street area.

Overall, the main goal of these design guidelines is to create a pedestrian friendly environment in which a critical mass of shoppers can develop, where they are welcomed, interested, and made to feel safe. This can be accomplished in part by designing with many windows at pedestrian level and primary Main Street entrances. There should be a variety in appearance within acceptable styles and especially the discouragement of long, blank walls. Ample, well located parking, with vehicular access, is important. A move toward shared parking among businesses supplemented by municipal lots, located behind businesses and away from the main shopping street, can encourage the development of a vibrant commercial center that puts pedestrians first (fig. 5.5 and 5.6).

The development of franchise businesses may be inevitable, but the condition can exist in which developers are encouraged to be partners this positive development of the downtown (fig 5.7 and 5.8). The creation of a design review board creates a fair and deliberate process through which all building proposals can be evaluated and adapted in partnership between the developer and the town. Such a process can help to empower neighborhoods, developers and municipal staff, to make the best decisions possible by encouraging growth in a way that reflects the desires of the residents of Holden.

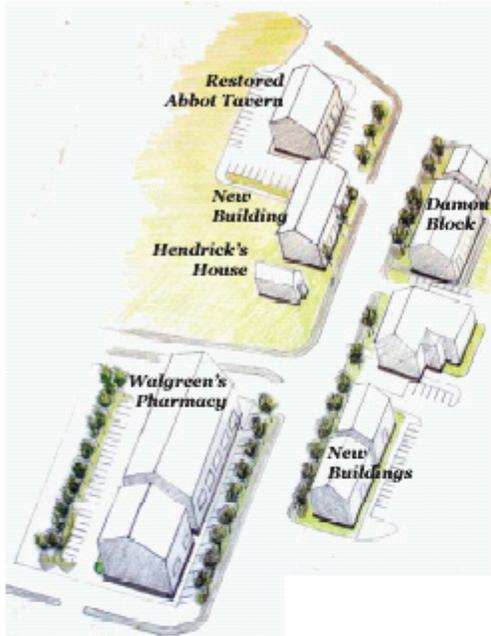


Fig. 5.5: (above) A perspective showing the proposed concentrated development along Main Street, shade and softening provided by street tree plantings.

Fig. 5.6: (left) A bird's eye perspective showing the proposed massing of buildings and tree plantings. Most parking has been moved behind buildings and is shared between businesses.

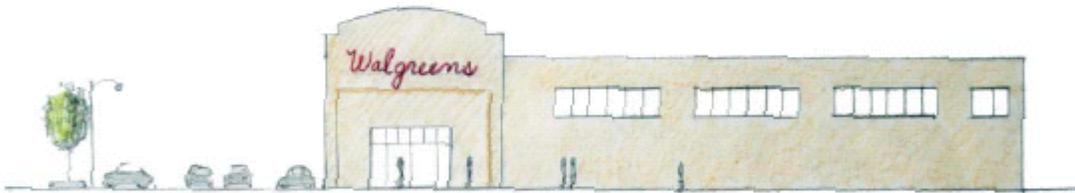


Fig. 5.7: (far above) A drawing showing a typical Walgreens facade.

Fig. 5.8 (above) A drawing of an alternative Walgreens facade with more windows, awnings and street plantings.

The following are some specific ideas for design guidelines collected from successful examples around the country.

DESIGN GOALS

Respect the neighborhood character; preserve the small-town character of downtown Holden.

Complement the existing historic architecture. Promote, enhance and enliven the streetscape; provide safe, comfortable, active and interesting streetscapes.

Encourage new development within a framework respectful of the historic nature and concentrated to best preserve resources.

Address compatibility between different land uses.

Buildings

Scale: proportions of buildings as they relate to their surroundings and to the human scale. New construction should complement the existing or proposed pattern of building heights.

Mass: proportional layout of a building.

Orientation: how buildings are positioned relative to either natural features, such as rivers or hills, or the built environment surrounding.

Setbacks: buildings in the overlay district should together form a wall of buildings to create a strong Main Street function.

Building frontages for facades

Avoid long, blank walls.

Maintain the same setback and alignment of facades along the sidewalk edge.

Size and proportion of windows and door openings should be consistent with adjacent buildings.

Maintain existing windows, hardware, fenestration wherever possible.

Maintain a clear visual division between street level and upper floors.

Landscaping

Use landscaping to enhance the pedestrian experience, employing a variety of plant material to provide a palette of textures, colors and scents.

Plants should provide four-season interest and soften the built environment.

Trees should be planted to provide shade, shelter, and environmental benefits.

Also, landscaping elements may be used to hide undesirable items such as dumpsters and mechanical systems.

Utility Areas

All trash dumpsters and mechanical units should be screened from view, with materials consistent with the building façade, so that they do not take away from the buildings appearance.

Streetscape

The streetscape should be uniform to provide continuity throughout the downtown. Improvements should follow the same design standards.

Franchise Architecture

Work to maintain the unique character of Holden’s downtown, buildings should not be branded with a particular architectural style of a company.

Building materials

Use long lasting materials and detailing. Traditional materials including brick, stone and stucco should be used as primary materials.

Windows & Doors

Encourage large, open view into the commercial space while enhancing the pedestrian experience.

Restoration or renovation of storefront facades should attempt to return it to the building’s original character.

Street furniture.

Elements to create a special, cohesive sense of space.

Signs

Signs should be architecturally compatible with surroundings.

Symbolic and historic three-dimensional signs should be encouraged.

Internally illuminated signs should be discouraged or prohibited.

All signs should be limited in size appropriate to character of the downtown.

Awnings

Provide shade for pedestrians and conserve cooling costs. Awnings can be a sign panel for businesses.

Encourage the breaking of long expanses of awnings and not extend along multiple buildings.

Parking

Parking should serve the needs of the downtown without detracting from its positive aesthetics. Orient away from major streets and buildings; locate behind buildings where possible. Keep lots small and use landscaping to provide visual breaks. Parking shouldn’t interfere with the alignment of building facades.

Materials

Choose high quality materials; develop a consistent material and color palette.

Section 6: Conclusion

The Holden Common is rich with history, and its use today is very similar to how it was used in the past. The period of significance falls between the mid-1700s and 1900. During this time, Holden developed the basis of its common history, and it is this time period which represents the glory days of the common.

The recommendations from this plan include:

1. Improving pedestrian circulation.
2. Decreasing impervious cover to increase green space.
3. Establishing a design review board that will develop guidelines that respect the integrity of the existing building styles and massings.

These design recommendations reestablish Holden's town center as a destination for local residents. By implementing these design recommendations, the Town will improve the pedestrian atmosphere, making it easier and more interesting for residents and visitors to move about the town center. In addition, Holden will be preserving the historic character of its common and town center by encouraging development consistent with the historic period while also improving and diversifying its tax base. These goals are consistent with the objectives developed by the residents in the visioning workshop held in October, 2006.



27

Appendix 3 – Open Space and Recreation

Town Owned Land	
Permanently Protected	1,017.26
Holden Town Forest	153.04
Trout Brook Conservation Area	664.35
Cemeteries	44.55
Recreation Land	19.09
Town Wells	41.88
Other	94.35
Limited Protection	169.26
Recreation	106.97
Education	62.29
Other Town-owned Land	22.42
Total Town Owned Land	1,208.94
DCR Waterhed Land	3,634.39
Other State-owned Land	425.36
Poutwater Pond WMA	389.06
Quinapoxet River Access	36.29
City of Watershed Worcester Land	3,809.88
Private Land	
Permanently Protected	1,542.59
Agricultural Protection Restriction	418.09
Conservation Restrictions	603.58
MassAudubon	221.94
Greater Worcester Land Trust	114.26
White Oak Land Conservation Society	162.82
Other	21.91
Limited Protection (Holden Youth Sports)	70.92
No Protection	157.12
Camp Kinneywood	101.68
Worcester Natural History Camp	48.57
Chaffin's Mens Club	6.87

Source: MassGIS and Holden Assessors Records

Natural Corridors

Wetlands provide important “natural corridors” that can be enhanced by careful planning. Holden recognizes this potential by creating an additional buffer around its wetlands and the Open Space and Recreation Plan urges protection of lands adjacent to already protected areas. Another strategy for improving the value of these natural corridors would be to provide developers with incentives for protecting areas adjacent to wetlands and/or providing trails along the wetlands that pass through their developments. This would be especially valuable in situations where the corridor would serve as a link between already protected parcels.

Planning for Corridors

One of the Open Space Plan’s main goals is to develop trails and greenways to link open spaces and provide access. Trails provide a healthful alternative to driving to the market or to a nearby recreation site. Trails have also been acknowledged as an important means to help improve health. The Master Plan’s Open Space Plan Map shows numerous potential corridors. Each of these potentials links existing open space resources with other protected land or with areas designated as “priority habitats” or BioMap areas by the state’s Natural Heritage and Endangered Species Program. Many of the proposed corridors follow already protected wetlands and stream corridors. Some of these wetland corridors serve as natural linkages between larger upland and wetland areas. Not all of these wetland-based corridors are suitable for trails, but many may easily provide a trail linkage if a right-of-way were negotiated with the private owners or if the dedication of a right-of-way were made a condition of the properties’ development. In other cases trails can be routed along existing roads for part of their way.

Many of the potential corridors connect to or cross over Chapter 61 lands. These lands have been given a reduction in their property taxes as an incentive for being used for agriculture, forest, or recreation. In addition, the town has a 120-day option to buy these lands if the current owner wishes to sell. The town has developed criteria for prioritizing these lands in terms of their importance for inclusion in the future open space system. Their role in providing potential corridors can be one more reason for the permanent protection of at least a portion of these areas.

Corridors and greenways are beginning to be more recognized both as a means of providing wildlife habitat and opportunities for exercise, thus contributing to both the health of the environment and to the health of people. Research is showing that when mixed with large protected areas, corridors can play an important role in preserving a diversity of wildlife. The following is a set of design guidelines to achieve these goals:

- Wider is better. Corridors less than 150 feet wide do not provide meaningful wildlife habitat. Narrow corridors can be important for trail connections, but they may be inadequate for use by wildlife.
- Heavily used trails in corridors should be located along the edge rather than in the middle of the corridor. A wide trail in the middle of a 500-foot wide corridor can divide it into two narrow corridors and reduce its value for wildlife.
- Maintain natural cover and dead trees in corridors.

Appendix 4- Economic Development

Name of Business	Address	Date Filed	Expiration Date	Owner	Owner's Street	Owner' PO Box	Town State
ARTS TRAVEL	59 Bancroft Rd	2/16/2006	2/15/2010	Marieke Peleman	59 Bancroft Rd		Holden, MA
Pleasant House of Pizza Inc.	71 Nichols St	2/21/2006	2/20/2010	Christos Panagiotidis	71 Nichols St		Jefferson, MA
High Meadows Equestrian Center Inc.	69 Summit St	2/22/2006		Renee M. Kinne	163 Malden St		West Boylston, MA
Once Upon A Storybook	787 Main St	2/28/2006	2/27/2010	Nancy M. Bassett	34 Edson Ave		Rutland, MA
Crystal Clear Glass Designs	189A Highland St	3/3/2006	3/3/2010	Linda Rae Freeman	189A Highland St		Holden, MA
Computer Based Education (CBE)	29 Jackson St	3/22/2006	3/21/2010	Erica J. Tyer	29 Jackson St		Jefferson, MA
J & M Enterprise	456 Main St	3/27/2006	3/26/2010	James R. Clinton	3 Colonial Ave		Thompson, CT
Crystal Clear Waters	17 Diamond Hill Rd	3/29/2006	3/28/2010	Eric Swenson	17 Diamond Hill Rd		Jefferson, MA
Patty Curtin dba Unique Cleaners	161 Parker Ave	3/31/2006	3/30/2010	Patricia Curtin	161 Parker Ave		Holden, MA
New Age Office Products	697 Main St	4/7/2006	4/6/2010	Frank Benjaminsen	5 Coram Farm Rd		Northboro, MA
Rexam Home & Personal Care	100 Industrial Dr	4/28/2006	4/27/2010	Rexam Consumer Plastics Inc.	100 Industrial Dr		Holden, MA
Rexam Pharma	100 Industrial Dr	4/28/2006	4/27/2010	Rexam Consumer Plastics Inc.	100 Industrial Dr		Holden, MA
Rexam Closures	100 Industrial Dr	4/28/2006	4/27/2010	Rexam Consumer Plastics Inc.	100 Industrial Dr		Holden, MA
Rexam Mold Manufacturing	100 Industrial Dr	4/28/2006	4/27/2010	Rexam Consumer Plastics Inc.	100 Industrial Dr		Holden, MA
J. Shamlian Building & Const.	29 Sherwood Hill Dr	5/2/2006	5/1/2010	John A. Shamlian	29 Sherwood Hill Dr.		Holden, MA
Shamrock's Pub & Eatery	700 Main St	5/10/2006	5/9/2010	Patrick J. McQuaid	33 Wilder Rd		Sterling, MA
Wachusett Environmental	27 Holden St	5/15/2006	5/14/2010	Lewis T. Reed Jr.	27 Holden St	P.O. Box 129	Holden, MA
L & B Associates	9 Juniper Ln	5/18/2006	5/17/2010	Lisa Oates and William Oates	9 Juniper Ln		Holden, MA
R & B Enterprises	2339 Main St	5/22/2006	5/21/2010	Raymond T. Pekkola	2339 Main St		Holden, MA
Creative Building Services	109 Lovell Rd	5/25/2006	5/24/2010	Robert J. Benedict	109 Lovell Rd		Holden, MA

Name of Business	Address	Date Filed	Expiration Date	Owner	Owner's Street	Owner' PO Box	Town State
Cutie PET Ootie Pet Designs	200 Chapel St	5/26/2006	5/25/2010	Amy Marie Braun	200 Chapel St		Holden, MA
David B. Lewis Preservation Carpentry	124 Bailey Rd	5/26/2006	5/25/2010	David B. Lewis	124 Bailey Rd		Holden, MA
SJD Lawn Service	680 Bullard St	6/1/2006	5/31/2010	Scott J. Deptula	680 Bullard St		Holden, MA
Grace Blydenburgh	20 York Towne Ter	6/2/2006	6/1/2010	Grace F. Blydenburgh	20 York Towne Ter		Holden, MA
The Yoga Garden at Wachusett Fitness	1097 Main St	6/12/2006	6/11/2010	Linda M. Burke	559 Reservoir St		Holden, MA
T.H. Maki Landscape Construction	37 Walnut Ter	6/15/2006	6/14/2010	Tyler Maki	37 Walnut Ter		Holden, MA
Holden Hands Family Child Care	136 Parker Ave	6/19/2006	6/18/2010	Michelle Shindle	136 Parker Ave		Holden, MA
Busy Bee Nursery & Landscape Construction	57 Broad St	6/22/2006	6/21/2010	Richard F. Lovely	33 Hilltop Ave		Jefferson, MA
In House Design	162 Britney Dr	6/22/2006	6/21/2010	Beata Lada	162 Britney Dr		Holden, MA
Jay W. Melick Design	4 Boyden Rd	6/26/2006	6/25/2010	Jay Melick	270 Thompson Rd		Princeton, MA
Inspired Interiors	176 Reservoir St	6/27/2006	6/26/2010	Lori Ann O'Connor	107 Main St		Rutland, MA
Shine Bright	138 High St	7/3/2006	7/2/2010	David R. Chenevert	138 High St		Jefferson, MA
Holden Veterinary Clinic	11 Industrial Dr	7/6/2006	7/5/2010	Danielle I. Friend	4 Short St		Holden, MA
Nails by Stephanie	678 Main St	1/5/2006	1/4/2010	Stephanie M. Rivera	15 Cameron Dr		Rutland, MA
Decorative Artistry	37 Heather Cir	2/10/2006	2/9/2010	Holly McCarthy	37 Heather Cir.		Jefferson, MA
Excel Tutoring Company	1207 Main St	7/25/2006	7/24/2010	Alison Graham	1207 Main St, #2		Holden, MA
Flickerdown Data Systems	1207 Main St	7/25/2006	7/24/2010	David Graham	1207 Main St, #2		Holden, MA
Al Fresco Trattoria & Café	788 Main St	7/28/2006	7/27/2010	Nicola V. Viapiano	28 Meadow Wood Dr		Holden, MA
Lyric Coaching and Consulting	88 Sycamore Dr	8/2/2006	8/1/2010	Donelle Belway Wright	88 Sycamore Dr		Holden, MA
R.S. Enterprises	42 Quinapoxet St	8/8/2006	8/7/2010	Russell R. Soderman	42 Quinapoxet St		Jefferson, MA

Name of Business	Address	Date Filed	Expiration Date	Owner	Owner's Street	Owner' PO Box	Town State
SJA Real Estate Investing LLC d/b/a SJA Consulting	130 Blair Dr	8/11/2006	8/10/2010	Stacy J. Adams	130 Blair Dr		Holden, MA
K & P Plowing	247 Wachusett St	8/21/2006	8/20/2010	Robert J. Keeney	247 Wachusett St		Holden, MA
Daisy's Decorative Designs	75 Princeton St	8/23/2006	8/22/2010	Darlene McGann	75 Princeton St	PO Box 262	Jefferson, MA
Shamrock's Pub & Eatery	700 Main St	8/29/2006	8/28/2010	Robert Hannah	116 Cranbrook Dr		Holden, MA
Holden Tailors & Alteration	788 Main St	8/30/2006	8/29/2010	Majeda Youhanou n	6 Goldthwaite Rd #17		Worcester, MA
Pelevan Remodeling	91 Timber Ln	9/5/2006	9/4/2010	Ismail Pelevan	91 Timber Ln		Holden, MA
Matty T's Old Tyme Barber Shop	243 Main St	9/1/2006	9/1/2010	Matthew Taylor	96 Puritan Ave		Worcester, MA
Arbonne Products	65 Reservoir St	9/6/2006	9/5/2010	Cheryl M. Jobe	65 Reservoir St		Holden, MA
Larson and Sons Floor Company	1 Lane Ave	9/25/2006	9/25/2010	Craig Silver Larson	1 Lane Ave		Holden, MA
ACFN of Western Mass	198 Highland St	9/26/2006	9/25/2010	James M. Wood	198 Highland St		Holden, MA
Brady Management Services	497 Malden St	10/13/2006	10/12/2010	Michael C. Brady	497 Malden St		Holden, MA
MakeNow.com	47 Bancroft Rd	10/18/2006	10/17/2010	Benjamin C. Woodbury	47 Bancroft Rd		Holden, MA

Appendix 5 – Transportation
Appendix A – Holden Road Inventory

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	D	Last Maintenance Action	Age
Acorn Dr	Birchwood		Parker Ave to Woodhaven Rd	905	28	I	CB	Both Sides	x	x	x	x	x		Sewers installed 2003, 2" overlay	2.0
Adams Rd	South Main	1	Blue Plate to Pole #179	935	28	I	No	No	x	x				x	Reclaimed Type I	6.0
Adams Rd	South Main	2	Pole #179 to Main St	330	28	I	No	No	x	x				x	Reclaimed Type I	6.0
Allen Rd	South Main		S Main St to S Main St	619	23	I	No	No	x	x					Type I, 1.5" VHB modified Top 1998	8.0
Alpha Rd	South Main		Main St to Dead End	648	18	I	No	No	x	x					Pugmill & Seal 1992	14.0
Anderson Ave	Western States		Shrewsbury St to W Boylston Line	1,064	20	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Ann St	Bronwood		Birchwood Dr to Wildwood Dr	757	21	I	No	No	x	x					Cold Plain 2" overlay	6.0
Anthony Dr	Birchwood		Shrewsbury St to Dead End	620	18	I	No	No	x	x					Sewer 1999 2" overlay	7.0
Anthony Dr Ext	Pinecroft		Cook St to Dead End	200	20	I	No	No	x	x					Pugmill & Seal 1999	17.0
Appletree Ln	Center		Highland St to Harrington Dr	1,018	23	I	CB	No	x	x					Reclaim 3" Type I 2001	5.0
Arizona Av	Western States		Shrewsbury St to Dead End	2,194	23	I	CB, DI	No	x	x					Sewer overlay 1999	7.0
Armington Ln	Center		Highland St to Dead End	731	18	I	CB, DI	No	x	x					Pugmill & Seal 1988	18.0
Ash Cir	Salisbury		Sycamore Dr to Cul-de-sac	260	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1999	7.0
Autum Cir	South Main		Winterhill to Winterhill	2,340	28	I	CB	Yes	x	x	x	x	x	x		
Avery Heights Dr	South Holden	1	Reservoir St to Avery Rd	735	24	I	No	No	x	x					Cold Plain 2" overlay	6.0
Avery Heights Dr	South Holden	2	Avery Rd to Brunell Dr	828	24	I	CB	No	x	x					Cold Plain 2" overlay	6.0
Avery Heights Dr	South Holden	3	Brunell Dr to Elec Box #25	538	28	I	CB	Both Sides	x	x	x	x	x		Cold Plain 2" overlay	6.0
Avery Heights Dr	South Holden	4	Elec Box # 25 to Jennifer	318	28	I	CB	Both Sides	x	x	x	x	x		1999	17.0
Avery Rd	South Holden		Reservoir St to Avery Heights Dr	1,385	22	I	CB	No	x	x					Sewer overlay 2004	2.0
Avery Rd Ext.	South Holden		Avery Hts. To end	345	12	G	No	No							Private, Winter maintained	
Bailey Rd	Salisbury	1	Rt 122-A to Pole #12	1,473	17	I	CB	No	x	x					Type I Pole #12 to P&WRR 1995	21.0
Bailey Rd	Salisbury	2	Pole #12 to Pole #25	1,769	20	FMS	CB	No	x						Pugmill & Seal 1991	15.0
Bailey Rd	Salisbury	3	Pole #25 to Putnam Rd	2,395	18	FMS	CB	No	x						Pugmill & Seal 1985	21.0
Bailey Rd	Salisbury	4	Putnam Rd to Chapin Rd	2,596	18	I	No	No							1.5" overlay Type I VHB 97	8.0
Bailey Rd	Salisbury	5	Chapin Rd to Reservoir St	3,676	17	I	CB	No							1.5" overlay Type I VHB 97	8.0
Banbury Ln	South Main		Coventry Rd to Cul-de-sac	1,131	28	I	CB	No	x	x	x	x	x		Cold Plain 2" overlay 2001	6.0
Bancroft Rd	Center		Route 122-A to Dead End	804	20	I	CB	No	x	x					Cold Plain 2" overlay 2001	6.0
Bascom Pkwy	Center		Highland St to Municipal Lot	594	22	I	No	No	x	x					Reclaim 3" Type I 2001	4.0
Beechwood Cir	Salisbury		Foxhill to Cul-de-sac	360	28	I	CB	Yes	x	x	x	x	x		Accepted 1999	7.0
Beechwood Rd	Center		Highland St to Dead End	281	20	I	No	No	x	x					Sewer overlay 1999	28.0
Beechwood Rd	Sundin's	1	Nota Drive to Dead End	788	25	I	CB	No	x	x					Sewers, reclamation 3" Type I	4.0
Beechwood Rd	Sundin's	2	Nota Drive to Forest Dr	1,301	23	I	CB	No	x	x					Sewers, reclamation 3" Type I	4.0
Birchwood Dr	Birchwood	1	Shrewsbury St to Plymouth Rd	1,500	26	I	CB	Partial	x	x					Cold Plain 2" overlay 2001	5.0
Birchwood Dr	Birchwood	2	Plymouth Rd to Brattle St	1,500	26	I	CB	Partial	x	x					Overlay 2" 2000	6.0
Blueberry Ln	Birchwood		Shrewsbury St to Dead End	380	18	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Bond Rd	Jefferson		Route 122-A to Rutland Line	2,580	18	I	No	No							2" overlay 2004	2.0
Boulder Hill Rd	Quinpoest		Mason Rd to Wood St	2,200	28	I	CB	Yes			x	x	x		accepted 2005	
Boydin Rd	Center		Route 122-A to Route 122-A	1,533	21	I	CB	One Side	x	x					Reclamation Type I 98	8.0
Brattle St	Main Roads	1	Shrewsbury St to Doyle Rd	890	20	I	No	No	x	x					Sewer overlay 2" 2002	4.0
Brattle St	Main Roads	2	Doyle Rd to City Line	3,340	23	I	CB	No	x	x					Sewers, reclamation CaCl 3" Type I	2.0
Brennan Way	South Holden		Reservoir St to Cul-de-sac	1,475	23	I	CB	No	x						Reclamation Type I 2003	3.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Seet	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	G	Last Maintenance Action	Age
Brentwood Dr	Brentwood	1	Holden St to Fairhill Rd	1,235	22	I	CB	No	x	x					Type I 1999	7.0
Brentwood Dr	Brentwood	2	Fairhill Rd to Fairchild Dr	1,800	21	I	CB	No	x	x					Type I 1999	7.0
Brewer Way	Sundin's		Highland St to Dead End	1,608	13	I	No	No		x					Winter maintenance	
Brarcliff Ln	Brentwood		Fairchild Dr to Fairchild Dr	1,375	22	I	CB	No	x	x					Type I 1999	7.0
Britney Dr	South Holden	1	Off Jennifer	1,358	28	I	CB	Yes	x	x	x	x	x		Accepted 2000	8.0
Britney Dr	South Holden	2	Jennifer to Courtney	2,938	28	I	CB	Yes	x	x	x	x	x		Accepted 2004	2.0
Broad St (Route 88)	Main Roads		Route 122-A to Rutland Line	7,708	40	I	CB, CI	No	x						Cold plain 3.5" overlay 2001	4.0
Brookside Dr	Jefferson		Mt Pleasant Av to Cul-de-sac	900	21	I	CB	No	x	x					Sewer overlay 2" 2001	5.0
Brunnell Dr	South Holden		Avery Heights Dr to Cul-de-sac	788	28	I	CB	Both Sides	x	x	x	x	x		Cold Plain 2" overlay 2001	5.0
Bryant Rd	Jefferson	1	Cobb Rd to Pole 29	1,648	20	I	No	No							2" overlay 2004	1.9
Bryant Rd	Jefferson	2	Pole #29 to Route 88	5,114	20	I	No	No							2" overlay 2004	1.9
Buckingham Dr	Quinapoxet		Mason Rd to Cul-de-sac	672	28	I	CB	Both Sides	x		x	x	x		1988	18.0
Bull Run	Quinapoxet		Fort Sumner Dr to Cul-de-sac	1,070	28	I	CB	Both Sides	x	x					Reclaim 3" Type I 2001	5.0
Bull Run	Quinapoxet	2	Cul-de-sac to Quinapoxet St	1,295	28	I	CB	Yes	x	x	x	x	x			
Bullard St	Main Roads	1	Shrewsbury St to Mark Bradford Dr	2,868	21	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Bullard St	Main Roads	2	Mark Bradford Dr to Maiden St	4,282	21	I	CB	No	x						CaCl Reclamation Type I 1996	10.0
Bullard St	Main Roads	3	Malden St to Wachusett St	2,860	21	I	CB	No	x						CaCl Reclamation Type I 1993	13.0
Butternut Cir	Salisbury		Sycamore to Cul-de-sac	450	28	I	CB	Yes	x	x	x	x	x		Accepted 1999	7.0
Cannon Rd	Jefferson		Millbrook St to Rutland Line	2,822	17	I	No	No							Reclaim 3" Type I 2001	14.0
Canterbury La	Salisbury		Lexington Cir to Cul-de-sac	502	28	I	CB	Yes	x	x	x	x	x		Accepted 1996	10.0
Catalpa Cir	Salisbury		Sycamore Dr to Cul-de-sac	325	28	I	CB	Both Sides	x	x	x	x	x		1988	20.0
Causeway St	Jefferson	1	Rutland Line to Claire Ln	2,430	16	I	No	No							2" overlay 2004	2.0
Causeway St	Jefferson	2	Claire Ln to Pole #57	2,950	16	I	CB	No							2" overlay 2004	2.0
Causeway St	Jefferson	3	Pole #57 to Eagle Lake Beach Rd	5,824	18	I	No	No							2" overlay 2004	2.0
Causeway St	Jefferson	4	Eagle Lake Beach Rd to Route 122-A	950	18	I	No	No	x	x					2" overlay 2004	2.0
Cedar Rd	South Main		Allen Rd to Cedar Rd	1,534	28	I	CB	Both Sides	x	x	x	x	x		1978	28.0
Centerwood Dr	Center		Raymond St to Sunny Ln	2,085	24	I	CB, CI	No	x	x					Sewer overlay 2" 2002	4.0
Chaffin Ln	Brentwood		Homestead Rd to Dead End	633	25	I	CB	No	x	x					Pugmill & Seal 1990	16.0
Chapel St	Main Roads	1	Shrewsbury St to Lincoln Av	1,880	25	I	CB	One Side	x	x					Sewers, 3" type I overlay 2004	2.0
Chapel St	Main Roads	2	Lincoln Av to Power Line	2,548	20	I	CB	One Side	x						CaCl Reclamation Type I 1996	11.0
Chapel St	Main Roads	3	Power Line to Pole #43	2,053	25	I	CB	No	x						CaCl Reclamation Type I 1993	13.0
Chapel St	Main Roads	4	Pole #43 to Malden St	650	25	I	CB	No	x						CaCl Reclamation Type I 1993	13.0
Chapin Rd	Salisbury	1	Bailey Rd to End of Pavement	1,125	13	I	CB	No	x	x					Pugmill & Seal 1980	26.0
Chapin Rd	Salisbury	2	End of Pavement to Pole #85	1,320	12	G	No	No							Gravel 1985	21.0
Chestnut Hill Rd	Sundin's		Rolling Ridge Rd to Dead End	506	24	I	No	No	x	x					Sewer overlay 1999	7.0
Cinnamon Ln	Sundin's		Forest Dr to Fort Sumner Dr	1,732	28	I	CB	Both Sides	x	x	x	x			Sewer overlay 1999	7.0
Claire Ln	Jefferson		Causeway St to Dead End	751	14	I	No	No							1978	28.0
Clark St	Sundin's		Nola Dr to Lowell Rd	495	21	I	CB	No	x	x					Sewer overlay 1999	7.0
Clearview Rd	South Main		Allen Rd to Cul-de-sac	338	30	I	CB	Both Sides	x	x	x	x	x		1980	26.0
Cold Brook Rd	Quinapoxet		Boulder Hill to Cul-de-sac	550	28	I	CB	Yes			x	x	x		Accepted 2005	
Colonial Rd	South Main		Main St to Edgewood Dr	685	24	I	No	No	x	x					Cold Plain 1999	6.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sec	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	U	Last Maintenance Action	Age
Colorado Cir	Western States		Colorado Dr to Dead End	262	31	I	CB	No	x	x					Sewer overlay 1999	7.0
Colorado Dr	Western States		Bullard St to Arizona Av	744	23	I	CB, DI	No	x	x					Sewer overlay 1999	7.0
Cook St	Pinecroft	1	Dead End to Stoneleigh Rd	1,456	28	I	CB	One Side	x	x				x	Cold Plain 2" Type I	6.0
Cook St	Pinecroft	2	Stoneleigh Rd to Anthony Dr Ext	1,638	28	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Cook St	Pinecroft	3	Anthony Dr Ext to Harold St	2,265	28	I	CB	Partial	x	x				x	Sewer overlay 2" 1999	7.0
Cook St	Pinecroft	4	Harold St to Stoneleigh Rd	629	28	I	CB		x	x					Sewer overlay 2" 1999	7.0
Courtney Dr	South Holden		Jennifer to Cul-de-sac	1,150	28	II	CB	Yes	x	x	x	x	x		Accepted 2004	2.0
Cowenry Rd	South Main	1	Newell Rd to Lexington Cir	422	30	II	CB	Both Sides	x	x	x	x	x		Cold Plain 2" Type I overlay	6.0
Cowenry Rd	South Main	2	Lexington Cir to Cul-de-sac	590	26	II	CB	Both Sides	x	x	x	x	x		Accepted 1998	11.0
Cranbrook Dr	Salisbury		Newell Rd to Mark Cir	2,879	28	II	CB	Yes	x	x	x	x	x		Accepted 2002	4.0
Cranbrook Dr	Salisbury		Salisbury St to Mark Cir	1,031	25	I	CB	No	x	x					Reclaim CaCl 3" Type I	1.7
Crestview Dr	Center	1	Malden St to Sherwood Hill Dr	640	27	I	CB	Both Sides	x	x					Sewer overlay 2004	2.0
Crestview Dr	Center	2	Sherwood Hill Dr to Route 122-A	858	23	I	CB	No	x	x					Sewer overlay 2004	2.0
Cumberland Cir	Brentwood		Homestead Rd to Cul-de-sac	453	21	PMS	No	No	x	x					Pugmill & Seal 1990	15.0
Cutter Rd	Jefferson		Main St to Mushocapsug	1,994	17	G	No	No			x	x	x		Private	
Cypress Cir	Salisbury		Foxhill to Cul-de-sac	280	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1999	7.0
Davis Way	South Holden		Reservoir St to dead-end	351	13	I	No	No	x	x					Winter Maintained private	
Damon Rd	Center		Highland St to Dead End	720	26	I	CB	No	x	x					1977	29.0
Dawson Cir	Salisbury		Salisbury St to Cul-de-sac	600	28	I	CB	Both Sides	x	x	x	x	x		1979	27.0
Deane Av	Center		Walnut St to Arrington Ln	590	17	PMS	CB	No	x	x					Pugmill & Seal 1988	18.0
Dix St	Center		Deane Av to Dead End	190	10	G	No	No	x	x					Gravel 1995	21.0
Dogwood Cir	Salisbury		Sycamore Dr to Cul-de-sac	404	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1999	7.0
Donald Av	Salisbury		Powers Rd to Dead End	1,060	21	I	CB	No	x	x					Sewer overlay 2004	2.0
Dominick Dr	Quinapocet		Wachusett St to Cul-de-sac	520	28	I	CB	Yes	x	x	x	x	x	x	Accepted 2001	6.0
Dorothy Av	Sundin's		Lovel Rd to Dead End	1,515	26	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Doyle Rd	Main Roads		Strewsbury St to Worcester Line	4,160	26	I	CB, DI	One Side	x	x	x		x		Sewer overlay 2000	6.0
Driftwood Dr	Center		Malden St to Meadow Wood Dr	785	26	II	CB	Both Sides	x	x					Sewer installed 2002 overlay 2004	2.0
Duxbury Dr	Sundin's	1	Valley Hill Dr to Pole #8	770	26	II	CB	Both Sides	x	x					Reclaimed 3" overlay 2002	4.0
Duxbury Dr	Sundin's	2	Pole #8 to Laurel Hill Ln	700	26	II	CB	No	x	x					Reclaimed 3" overlay 2002	4.0
Eagle Terr	Jefferson		Princeton St to Cul-de-sac	390	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1996	6.0
East Howard St	South Holden	1	Paxton Town Line to Beginning Gravel	1,057	13	G	No	No							Oiled 1971	35.0
East Howard St	South Holden	2	Beginning Gravel to Camp St	1,039	13	G	No	No							Gravel 1973	33.0
East Howard St	South Holden	3	Camp St to End	1,100	19	PMS	CB, Stone	No							Pugmill & Seal 1988 Drainage	18.0
Edgewood Dr	South Main		Colonial Rd to Dead End	813	25	I	DI	No	x	x					Cold plain 2" overlay 1999	7.0
Elmwood Av	Quinapocet	1	Wachusett St to Pole #6	2,735	18	I	No	No	x						Type I 1999	7.0
Elmwood Av	Quinapocet	2	Pole #6 to Princeton St	4,398	18	I	No	No							1.5" Type I overlay VHB TOP 07	8.6
Fairchild Dr	Brentwood		Holden St to Brentwood Dr	1,905	23	I	CB	No	x	x					Type I 1999	7.0
Fairhill Rd	Brentwood		Brattle St to W Fairhill Rd	861	20	I	No	No	x	x					Type I 1999	7.0
Fairview Av	Jefferson		Princeton St to Quinapocet St	1,185	18	I	No	One Side	x	x					Sewer overlay 2000	6.0
Farragut Way	Quinapocet		Fort Sumner Dr to Dead End	530	29	I	CB	Both Sides	x	x	x	x	x		Reclaimed 3" Type I Overlay 2000	6.0
Fisher Rd	Salisbury		Salisbury St to Dead End	2,515	17	I	No	No							Pugmill & Seal 1983	23.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	U	Last Maintenance Action	Age
Flagler Dr	Center	1	Phillips Rd to Botany Bay Subdiv	1,020	27	I	CB	One Side	x	x	x	x	x		1979	27.0
Flagler Dr	Center	2	Elderly Home to Cul-de-sac	1,907	28	I	CB	Yes	x	x	x	x	x		Accepted 2002	4.0
Forest Dr	Sundin's		Nola Dr to Greenwood Pkwy	2,171	26	I	CB	No	x	x					Type I overlay 2" 2001	5.0
Fort Sumter Dr	Quinapocet		Massachusetts St to Cul-de-sac	2,524	28	I	CB	Both Sides	x	x					Reclaimed 3" Type I Overlay 2000	6.0
Fox Hill Dr	Salisbury	1	Salisbury St to Ho #68	1,370	29	I	CB	Both Sides	x	x	x	x	x	x	Reclaimed CaCl ₂ 3" Type I overlay	5.0
Fox Hill Dr	Salisbury	2	House #68 to Sycamore Dr	944	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1999	7.0
Fruit St	South Holden		Route 122-A to Pleasant St	365	17	I	CB	No	x	x					Reclamation CaCl ₂ 3" Type I 2003	3.0
Gail Cr	South Main		Main St to Cul-de-sac	639	24	I	No	No	x	x					Pugmill & Seal 1992	14.0
Galtair Cir	Salisbury		Fox Hill Dr to Cul-de-sac	411	28	I	CB	Yes	x	x	x	x	x		1990	16.0
General Hobbs Rd	Quinapocet		Manning St to Nichols St	3,835	28	I	CB	Yes	x	x	x	x	x		2000	6.0
Glenwood Av	Birchwood		Parker Av to Cook St	290	28	I	CB	One Side	x	x			x		Pugmill & Seal 1999	17.0
Glenwood St	Birchwood		Doyle Rd to Parker Av	1,457	24	I	CB	No	x	x					Cold Plain 2" Type I overlay	6.0
Greenbrier Ln	Sundin's		Duxbury Dr to Laurel Hill Ln	649	28	I	CB	No	x	x					Type I overlay 2" 2001	5.0
Greenwood Pkwy	Sundin's		Lowell Rd to Greenwood Pkwy Ext	1,590	28	I	CB	Both Sides	x	x					Type I overlay 2" 2001	5.0
Greenwood Pkwy Ex	Sundin's		Greenwood Pkwy to Cul-de-sac	440	28	I	CB	Both Sides	x	x	x	x	x		Type I overlay 2" 2001	5.0
Greenwood Ter	Sundin's		Greenwood Pkwy to Dead End	134	22	I	CB	No	x	x	x	x	x		Type I overlay 2" 2001	5.0
Greystone Dr	South Holden		Reservoir St to Cul-de-sac	1,000	28	I	CB	Yes	x	x	x	x	x		accepted 1992	14.0
Greystone Dr	South Holden	2	Cul-de-sac to Britney	1,572	28	I	CB	Yes	x	x	x	x	x		accepted 2004	2.0
Harold St	Pinacott		Cook St to Stoneleigh Rd	360	23	I	CB, DI	No	x	x					Sewer overlay 1999	7.0
Harrington Dr	Center		Highland St to Dead End	830	23	I	CB	No	x	x					Reclaimed 3" Type I Overlay 2000	6.0
Harris St	Western States	1	River St to Town Forest Brook	3,590	25	PMS	CB	No							1986	20.0
Harris St	Western States	2	Town Forest Brook to Bullard St	1,562	18	PMS	No	No							Pugmill & Seal 1999	17.0
Hawthorne Rd	South Main		Main St to Torrey Ln	548	19	PMS	No	No	x	x					PMS 1999	17.0
Heather Cir	Sundin's		Tannery Dr to Tannery Dr	2,938	28	I	CB	Both Sides	x	x	x	x	x		Type I overlay 2" 2001	5.0
Hebert La	Quinapocet		Bull Run to Cul-de-sac	419	28	I	CB	Yes	x	x	x	x	x			
Hemlock Dr	Sundin's		Oak Ridge Rd to Rolling Ridge Rd	752	21	I	CB	No	x	x					Type I overlay 2" 2001	5.0
Heritage Ln	Brentwood		Holden St to Pausan Rd	460	28	I	CB	Both Sides	x	x			x		Type I 1999	7.0
Hickory Cir	Salisbury		Sycamore Dr to Cul-de-sac	557	28	I		Both Sides	x	x	x	x	x		1999	17.0
High Ridge Rd	Center	1	Highland St to Scott Ter	225	28	I	No	No	x	x					Type I overlay 2" 2001	5.0
High Ridge Rd	Center	2	Scott Ter to Dead End	940	25	I	CB	No	x	x					Type I overlay 2" 2001	5.0
High St	Jefferson	1	Main St to Pole #5	836	18	PMS	CB	No	x						Reclaimed 3" Type I 2005	1.0
High St	Jefferson	2	Pole #6 to Pole #17	1,437	18	O	No	No	x						Reclaimed 3" Type I 2005	1.0
High St	Jefferson	3	Pole #17 to Princeton St	1,039	18	I	CB	No	x	x					Type I Overlay 2" 2005	1.0
Highland Av	Center	1	Highland St to Dead End	2,395	28	I	CB	Both Sides	x	x					Reclaimed 3" Type I Overlay 2000	6.0
Highland Av	Center	2	Flagler Dr to Winthrop La	598	28	I	CB	Yes	x	x	x	x	x		Accepted 2002	4.0
Highland St	Main Roads	1	Main St to Union St	3,871	24	I	CB	One Side	x	x	x				Milling, 2.5" Base, 1.5" Top 1995	10.7
Highland St	Main Roads	2	Union St to Massachusetts St	3,539	24	I	CB	No	x	x	x				Sewer Overlay 2" Type I 2000	5.7
Hilltop Av	Jefferson		Causeway St to Dead End	575	16	I	No	No	x	x					Sewer overlay 2004	2.0
Holden St	Main Roads	1	Shrewsbury St to Pole #105	3,165	26	I	CB, DI	One Side	x	x	x		x		Reconstructed 1998	8.0
Holden St	Main Roads	2	Pole #105 to City Line	2,360	26	I	CB, DI	One Side	x	x	x		x		Reconstructed 1998	8.0
Holly Cir	Salisbury		Sycamore Dr to Cul-de-sacs	690	20	I		Both Sides	x	x	x	x	x		1999	17.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	0	Last Maintenance Action	Age
Holt Rd	Center		Route 122-A to Dead End	1,143	22	I	CB	No	x	x		x			Cold plain 2" overlay 1999	7.0
Homestead Rd	Brentwood		Shrewsbury St to Dead End	1,941	30	I	CB	No	x	x					Pugmill & Seal 1990	15.0
Hullin Cir	Birchwood		Parker Ave. to Cul-de-sac	405	28	I	CB	Yes	x	x	x	x	x		Accepted 2000	6.0
Hunter Cir	Sundin's		Slipper Hill Ln to Cul-de-sac	581	28	I	CB	Both Sides	x	x	x	x	x		Type I overlay 2" 2001	5.0
Industrial Dr	Center		Route 122-A to Cul-de-sac	1,771	38	I	CB	One Side	x	x	x	x	x	x	Reclamation Type I 5" overlay 1997	9.0
Jackson St	Jefferson		Princeton St to Jackson St	3,400	30	I	CB	One Side	x	x					Type I overlay 2" 2001	5.0
Jamieson Rd	Center	1	Lowell Rd to Type I	1,245	27	I	CB	One Side	x	x					Reclaim CaCl 3" Type I 2002	4.0
Jamieson Rd	Center	2	Type I to Highland St	936	27	I	CB	One Side	x	x					Reclaim CaCl 3" Type I 2002	4.0
Jennifer Dr	South Holden		Avery Hts. Dr. to Kris Allen	935	28	I	CB	Both Sides	x	x	x	x	x		2000	6.0
John Alden Dr	Birchwood		Birchwood Dr to Cul-de-sac	1,131	28	I	CB	Both Sides	x	x					1976	30.0
John St	Birchwood		Parker Av to Anthony Dr	487	18	I	No	No	x	x					Sewer overlay 2" 1999	7.0
Johnson St	Brentwood		Holden St to Wildwood Dr	354	19	I	No	No	x	x					Cold plain 2" overlay 1999	7.0
Juniper Ln	Western States		Shrewsbury St to Cul-de-sac	1,015	23	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Kendall Rd	Jefferson	1	Route 122-A 1000 W/ly	1,000	17	I	CB	No	x	x					Reclamation Type I 1991	15.0
Kendall Rd	Jefferson	2	End of Type-I to Dead End	2,916	17	I	No	No	x						Reclamation CaCl 3" Type I Overlay	5.0
Kenwood Rd	Center	1	Highland Av to Winthrop Ln	288	28	I	CB	Both Sides	x	x					Reclaim 2" overlay Type I 2000	6.0
Kenwood Rd	Center	2	Winthrop Ln to Dead End	480	19	I	No	No	x	x					Sewer Overlay 2" Type I 2000	6.0
Kris Allen Dr	South Holden	1	Off Brunell Dr	138	28	I	CB	Both Sides	x	x	x	x	x		Cold plain 2" overlay 1999	7.0
Kris Allen Dr	South Holden	2	Jennifer to Brunell	775	28	I		Both Sides	x	x	x	x	x		1999	17.0
Larkspur Rd	Pinecroft		Pinecroft Av to Cul-de-sac	713	28	I	CB	Both Sides	x	x				x	Sewer overlay 2" 1999	7.0
Laurel Hill Ln	Sundin's		Quinapoint St to Valley Hill Dr	1,978	26	I	CB	No	x	x					Sewer overlay 2" Type I 2001	5.0
Laurelwood Rd	Center		Route 122-A to Cul-de-sac	1,400	19	I	CB	No	x	x					Cold plain 2" overlay 1999	7.0
Lee Ln	Quinapoint		Fort Sumner Dr to Cul-de-sac	263	28	I	CB	No	x	x					Reclaim 3" Type I 2001	5.0
Lexington Cir	South Main		Salisbury St to Coventry Rd	2,289	28	I	CB	Both Sides	x	x	x	x	x		Accepted 1995	11.0
Lincoln Av	Brentwood	1	Shrewsbury St to End of Type I	428	20	I	No	No	x	x					Type I 1992	14.0
Lincoln Av	Brentwood	2	End of Type I to Chapel St	1,331	20	I	PMS	No	x	x					Pugmill & Seal 1992	14.0
Longmeadow Av	Pinecroft		Cook St to Larkspur Rd	1,256	28	I	CB	Both Sides	x	x	x	x	x	x	Sewer overlay 2" 1999	7.0
Lovell Rd	Sundin's	1	Main St to Walnut St	937	24	I	CB	No	x	x	x	x	x		Sewer overlay 2" 2002	4.0
Lovell Rd	Sundin's	2	Walnut St to Jamieson Rd	1,442	24	I	CB	One Side	x	x					Reclaim 3" Type I 2002	4.0
Lovell Rd	Sundin's	3	Jamieson Rd to Beechwood Rd	2,360	25	I	CB	No	x	x					Reclaim 3" Type I 2002	4.0
Lowell Av	Birchwood		Shrewsbury St to Dead End	2,096	19	I	CB	No	x	x					Sewer overlay 2" Type I 1999	7.0
Malden St	Main Roads	1	Main St to Chapel St	4,691	27	I	CB, DI	No	x	x					Sewer installed 2002	4.0
Malden St	Main Roads	2	Chapel St to Bullard St	3,600	21	I	CB	No	x						Overlay 1 1/2" Type I	8.6
Malden St	Main Roads	3	Bullard St to Ho #775	3,916	21	I	CB	No							Reclaim cacl 3" type I 1999	7.0
Malden St	Main Roads	4	Ho #775 to W Boylston Line	1,671	30	I	CB	No							Type I 1990	20.0
Manning St	Main Roads	1	Wachusett St to North St	5,914	30	I	CB	No	x	x					Reclamation Type I 97, sewer installed	8.6
Manning St	Main Roads	2	North St to W Boylston Line	4,025	30	I	CB	No							Reclamation Type I 97	8.6
Maple St	Center		Route 122-A to Walnut St	746	28	I	CB	One Side	x	x					Reclamation Type I 98	7.9
Mark Bradford Dr	Western States		Bullard St to Circle	2,020	26	I	CB	Both Sides	x	x					Sewer overlay Type I 2" 1999	7.0
Mark Cir	Salisbury	1	Salisbury St E/ly	650	27	I	CB	Partial	x	x					CaCl Reclamation 2" Type I 1990	16.0
Mark Cir	Salisbury	2	End Sect 1 to Cranbrook Dr	656	27	I	CB	Partial	x	x					2" Type I 1990, sewer 2002	16.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	D	G	Last Maintenance Action	Age
Marin Rd	Brentwood		Homestead Rd to Holden St	763	30	PMS	CB	No	x	x					Pugmill & Seal 1990	15.0
Mason Rd	Quinapocet	1	Wachusett St to Pole #20	3,065	18	I	No	No	x						Overlay 2" Type I 1996	8.0
Mason Rd	Quinapocet	2	Pole #20 to Pole #67	6,846	18	I	No	No							Overlay type I 2" 1996	8.0
Mason Rd	Quinapocet	3	Pole #67 to Princeton Line	2,051	18	I	No	No							Overlay 1 1/2" Type I 97	8.6
Mayo Dr	Center		Main St to Surrey Ln	843	28	I	Yes	Both Sides	x	x	x	x	x	x	Accepted 1996	10.0
Mayflower Cir	South Main		Colonial Rd to Edgewood Dr	985	25	I	Yes	No	x	x					Cold plain 2" overlay 1999	7.0
Meadow Wood Dr	Center	1	Raymond St to Pole #14	1,586	27	I	CB	No	x	x					Sewer 2002	4.0
Meadow Wood Dr	Center	2	Pole #14 to Driftwood Dr	832	27	I	CB	Both Sides	x	x					Sewer 2002	4.0
Meadow Wood Dr	Center	3	Driftwood Dr to Cul-de-sac	1,200	28	I	CB	Both Sides	x	x	x	x	x		Sewer 2002	4.0
Miles Ave	Jefferson		Main St to Dead End	914	13	O/I	No	No	x						Private	
Mill Street	Quinapocet		Wachusett St to Bridge	3,760	15	I	No	No	x						Overlay 2" 1999	7.0
Millbrook St	Jefferson		Route 122-A to Muschopauge Rd	1,325	18	I	CB	No	x						Reclamation CaCl 3" Type I 2003	3.0
Mixer Rd	South Holden		Reservoir St to Private Way	1,586	18	I	No	No							Reclamation CaCl 3" Type I 2003	3.0
Mixer Rd	South Holden	2	End of pavement to Deadend	1,585	14	G	No	No							Private	
Montana Dr	Western States		Arizona Av to Wyoming Dr	1,085	20	I	CB	No	x	x					Sewer overlay 1999	7.0
Morgan Cir	South Holden		Off Britney Dr	335	28	I	CB	Yes	x	x	x	x	x		Type I 2003	6.0
Moscow Rd	Quinapocet		Wachusett St to Dead End	2,225	18	I	No	No	x						Pugmill & Seal 1992	14.0
Mt Pleasant Av	Jefferson		Route 122-A to Princeton St	1,900	20	I	CB	One Side	x	x					Sewer overlay 2" Type I 2001	5.0
Mt View Dr	Birchwood		Shrewsbury St to Dead End	2,052	20	I	CB	No	x	x					Pugmill & Seal 1991	15.0
Muschopauge Rd	Jefferson	1	Route 68 to RR Bridge	1,237	17	I	No	No	x						Reclaimed 3" Type I Overlay 2000	6.0
Muschopauge Rd	Jefferson	2	RR Bridge to Pole #16	872	17	I		No	x						Reclaimed 3" Type I Overlay 2000	6.0
Muschopauge Rd	Jefferson	3	Pole #16 to Rutland Line	2,455	17	I	CB, DI	No	x						Reclaimed 3" Type I Overlay 2000	6.0
Nelson St	Birchwood	1	Doyle Rd to Pole #9	1,028	20	I	CB	No	x	x					Type I Overlay 1995, sewer 2002	4.0
Newell Rd	South Main	1	Main St to Pole #50	2,000	21	I	CB	No	x	x					Reclamation Type I	8.6
Newell Rd	South Main	2	Pole #50 to Pole #44	845	18	I	No	No	x	x					Pugmill & Seal 1991	15.0
Newell Rd	South Main	3	Pole #44 to Culvert Brook	688	18	I	No	No	x	x					Sewer Reclamation CaCl 2004	2.0
Newell Rd	South Main	4	Culvert Brook to Pole #23	1,220	18	I	No	No	x	x					Sewer Reclamation CaCl 2004	2.0
Newell Rd	South Main	5	Pole #23 to Coventry Rd	887	17	I	CB	No	x	x					Sewer Reclamation CaCl 2004	2.0
Newell Rd	South Main	6	Coventry Rd to Pole #8	1,062	18	I	No	No	x	x					Sewer Reclamation CaCl 2004	2.0
Newell Rd	South Main	7	Pole #8 to Salisbury St	938	18	I	DI	No	x	x					Sewer Reclamation CaCl 2004	2.0
Nichols St	Quinapocet		Manning St to General Hobbs Rd	1,366	28	I	CB	Yes	x	x	x	x	x		Type I 2000	2.0
Nola Dr	Sundin's	1	Jamieson Rd to Clark St	1,164	22	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Nola Dr	Sundin's	2	Clark St to Highland St	2,171	22	I	CB	No	x	x					sewer overlay 2" 2002	4.0
North St	Quinapocet	1	Manning St to Pole #28	3,040	19	I	CB, DI	No							Overlay 2" Type I 2005	1.0
North St	Quinapocet	2	Pole #28 to Dead End	2,400	16	O	No	No							Overlay 2" Type I 2005	1.0
Nottingham Cir	Quinapocet		Nottingham Dr to Cul-de-sac	300	28	I	CB	Both Sides	x		x	x	x		1988	18.0
Nottingham Dr	Quinapocet		Wachusett St to Buckingham Cir	1,139	28	I	CB	Both Sides	x		x	x	x		1988	18.0
Oak Cir	Pinecroft		Stonleigh Rd to Cook St	942	27	I	CB	One Side	x	x				x	Cold Plain 2" overlay Type I 2003	3.0
Oak Crest Rd	Sundin's		Wildrose Av to Dorothy Av	809	23	I	CB	No	x	x					Sewer overlay 2" Type I 2002	4.0
Oak Ridge Rd	Sundin's		Lovell Rd to Rolling Ridge Rd	915	23	I	CB, DI	No	x	x					Sewer overlay 2" Type I 2002	4.0
Oakwood Dr	South Main		Main St to Oakwood Est	611	20	PMS	No	No	x	x					Pugmill & Seal 1989	17.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	Q	Last Maintenance Action	Age
Oakwood Ext	South Main		Oakwood Dr to Cul-de-sac	1,075	28	I		Both Sides	x	x	x	x	x		1999	17.0
Old Broad St	Jefferson		Route 68 to Route 68	1,297	18	I	No	No							Reclaim cacl 3" type I 1998	8.0
Old Salisbury St	Salisbury		Salisbury St to Dead End	748	14	I	CB	No	x	x					Reclaim 3" Type I 1999	7.0
Old South Rd	South Holden	1	Paxton Rd to Pole #71	3,365	15	I	CB	No							2" overlay 2003	3.0
Old South Rd	South Holden	2	Pole #71 to Reservoir St	1,960	15	I	No	No							2" overlay 2003	3.0
Orchard Rd	Center		Highland St to Dead End	664	18	I	No	No	x	x					Sewer overlay 2" 2002	4.0
Oregon Tr	Western States		Bullard St to Arizona Av	748	25	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Osgood Av	Pinecroft		Sheffield Way to W Boylston Line	316	28	I	CB	Both Sides	x	x				x	Sewer overlay 2" 1999	7.0
Otterbrook Dr	Salisbury		Cranbrook to Season's	650	28	I	Cb	Yes	x	x	x	x	x	x		
Ottoson Way	Brentwood		Chapel St to Cul-de-sac	727	28	I	CB	Both Sides	x	x	x	x	x		1990	18.0
Park Av	South Holden		Route 122-A to Pleasant St	360	19	I	CB	No	x	x					Reclamation CaCl 3" Type I 2003	3.0
Parker Av	Birchwood	1	City Line to Wentworth Dr	3,527	23	I	CB	No	x	x					Reclaim 3" type I 2000	6.0
Parker Av	Birchwood	2	Wentworth Dr to Shrewsbury St	600	23	I	CB	No	x	x					Reclaim 3" Type I 2000	6.0
Parker Rd	Birchwood		Parker Ave to Steele St	850	15	G	No	No	x	x					Private	
Paugus Rd	Brentwood		Lane Av to Cul-de-sac	1,837	28	I	CB	Both Sides	x	x	x	x	x	x	Reclaim cacl 3" Type I	7.0
Paugus Rd	Brentwood	2	Lane ave to Typol	450	15	G	No	No	x	x					Private	
Paxton Rd	Main Roads		Old South Rd to Paxton Line	4,070	25	I	No	No							CaCl Reclamation, Milling, Type I 1994	9.6
Phillips Rd	Center		Boyden Rd to Highland St	1,875	25	I	CB	One Side	x	x					Reclamation Type I 98	7.8
Piccadilly Cir	Quinapoxet		Mason Rd to Cul-de-sac	500	28	I	CB	Both Sides	x		x	x	x		1988	18.0
Pilgrim Dr	Birchwood		Birchwood Dr to Cul-de-sac	2,290	28	I	CB	Both Sides	x	x	x	x	x		Reclaim 3" Type I 2001	6.0
Pine Haven Dr	Birchwood		Mt View Dr to Dead End	400	18	PMS	No	No	x	x					Pugmill & Seal 1991	15.0
Pinebrook Ln	Quinapoxet		Wachusett St to Cul-de-sac	700	25	I	CB	Both Sides	x	x					Sewer overlay 2" 2002	4.0
Pinecroft Av	Pinecroft		Cook St to W Boylston Line	3,000	28	I	CB	Both Sides	x	x				x	Cold Plain 2" Type I 2003	3.0
Pioneer Rd	Center		Highland St to Dead End	642	17	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Pleasant St	South Holden		Reservoir St to Sunnyside Av	1,521	18	I	CB	No	x	x					Reclamation CaCl 3" Type I 2003	3.0
Plymouth Rd	Birchwood		Birchwood Dr to Pilgrim Dr	994	29	I	CB	No	x	x					Reclamation CaCl 3" Type I 2003	3.0
Powers Rd	Salisbury		Bailey Rd to Gravel	708	18	I	No	No	x	x					Sewer overlay 2004	2.0
Princeton Ln	Jefferson		Princeton St to Dead End	350	12	I	No	No	x	x					Private	
Princeton St	Jefferson	1	Route 122-A to Asneburnskit Br	2,275	24	I	CB	One Side	x	x					Reclaim 3" Type I 2000	6.0
Princeton St	Jefferson	2	Asneburnskit Br to Jackson St	1,309	24	I	CB	One Side	x	x					Sewer overlay 2" 2002	4.0
Princeton St	Jefferson	3	Jackson St to Whitney St	2,060	20	I	No	No	x						CaCl Reclamation Type I 1996, 1.5" ty	9.7
Princeton St	Jefferson	4	Whitney St to Princeton Line	11,500	20	I	No	No							Type I 1999	7.0
Putnam Ln	Salisbury		Putnam Rd to Putnam Rd	1,453	18	I	DI	No	x	x					Sewer Trench patched 2002	4.0
Putnam Rd	Salisbury	1	Bailey Rd to Putnam Ln	2,009	20	I	CB	No	x	x					Sewer Trench patched 2002	4.0
Putnam Rd	Salisbury	2	Putnam Ln to Salisbury St	740	18	G, Stone	DI	No	x	x					Sewer Trench patched 2002	4.0
Quail Run	Jefferson		Jackson St to Cul-de-sac	586	28	I	CB	Yes	x	x	x	x	x		Accepted 1999	7.0
Quaker Rd	Jefferson		Jackson St to Cul-de-sac	570	28	I	CB	Both Sides	x	x	x	x	x		Sewer overlay 2" 2002	4.0
Quinapoxet Ln	Jefferson		Quinapoxet St to Dead End	500	14	I	No	No	x	x					Private	
Quinapoxet St	Main Roads	1	Princeton St to P&WRR	1,063	25	I	CB	One Side	x	x					Sewer overlay 2" 2002	4.0
Quinapoxet St	Main Roads	2	P&WRR to Laurel Hill Ln	4,070	19	I	No	No	x						Type I Overlay 1990	16.0
Quinapoxet St	Main Roads	3	Laurel Hill Ln to Pole #51	1,587	28	I	CB	No	x	x					Sewer overlay 2" 2002	4.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Dist	Location	Length	Width	Surface	Drainage	Sidewalks	W	S	E	T	C	G	Last Maintenance Action	Age
Quinapocet St	Main Roads	4	Pole #51 to Pole #65	1,520	23	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Quinapocet St	Main Roads	5	Pole #65 to Wachusetts St	1,119	28	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Raymond St	Center		Route 122-A to Meadow Wood Dr	1,350	24	I	CB	No	x	x					Sewer Trench patched 2002	4.0
Rod Barn Rd	Branthwood		Shrewsbury St to Chapel St	915	28	I	CB	Yes	x	x	x	x	x	x	accepted 2003	3.0
Roadgate Ln	Center		Meadow Wood Dr to Maiden St	500	24	I	CB	No	x	x					Sewer Trench patched 2002	4.0
Reservoir St	Main Roads	1	Main St to Mider Rd	6,730	25	I	CB, DI	Both Sides	x	x					CaCl Reclamation, Milling, Type I 1999	9.6
Reservoir St	Main Roads	2	Mider Rd to Pole #78	2,763	22	I	CB	No							Reclaim ca cl 3" type I	7.0
Reservoir St	Main Roads	3	Pole #78 to 1st Bridge	3,764	24	I	CB	No							Type I 1999	7.0
Reservoir St	Main Roads	4	1st Bridge to Skiff Hill Rd	3,019	24	I	CB, Stone	No							Type I 1999	7.0
Reservoir St	Main Roads	5	Skiff Hill Rd to 1st Dam	3,258	24	I	CB, Stone	No							Type I 1999	7.0
Reservoir St	Main Roads	6	1st Dam to Stonehouse Hill Rd	4,033	24	I	CB, Stone	No							Type I 1999	7.0
Reservoir St	Main Roads	7	Stonehouse Hill Rd to City Line	1,000	22	I	CB, Stone	No							Type I 1999	7.0
Ridgewood Rd	Sundin's		Scenic Dr to Scenic Dr	1,430	24	I	CB, DI	No	x	x					Sewer overlay 2" 2002	4.0
River St	Western States	1	Wachusetts St to Quinapocet River Br	1,180	18	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
River St	Western States	2	Quinapocet River Br to Landfill Gate	6,588	20	FMS	No	No							Pugmill & Seal 1995	20.0
River St	Western States	3	Landfill Gate to Beginning Type I	1,245	15	G	No	No							Pugmill & Seal 1990	16.0
River St	Western States	4	Type I to W Boylston Line	1,011	23	I	CB	No							Type I 1990	29.0
Rondeau Rd	Jefferson		Miles Ave to Dead-end	914	13	G	No	No							Private	
Rolling Ridge Rd	Sundin's		Lowell Rd to	1,080	24	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Sagewood Cir	Pinecroft		Pinecroft Av to Cul-de-sac	378	28	I	CB	Both Sides	x	x				x	Sewer overlay 2" 2000	6.0
Salem Rd	South Holden		Avery Rd to Cul-de-sac	628	20	I	CB	Both Sides	x	x	x	x	x		1995	20.0
Salisbury St	Main Roads	1	Main St to Newell Rd	3,621	27	I	CB, DI	One Side	x	x				x	CaCl Reclamation 4" Type I 1994	11.7
Salisbury St	Main Roads	2	Newell Rd to Lexington Cir	1,000	27	I	CB, DI	One Side	x	x				x	CaCl Reclamation 4" Type I 1994	11.7
Salisbury St	Main Roads	3	Lexington Cir to Mark Cir	4,591	27	I	CB, DI	No	x	x				x	CaCl Reclamation 4" Type I 1993	13.0
Salisbury St	Main Roads	4	Mark Cir to City Line	6,400	27	I	CB	No	x					x	CaCl Reclamation 4" Type I 1993	13.0
Sandy Glen	South Main		Main St to Cul-de-sac	1,000	26	I	CB	Both Sides	x	x					reclaim cacl type I 1999	7.0
Sawyer Ln	Center		Maiden St to Dead End	1,480	22	I	No	No	x	x					Sewer overlay 2004	2.0
Scenic Dr	Sundin's		Lowell Rd to Rolling Ridge Rd	1,210	26	I	CB, DI	No	x	x					Sewer overlay 2" 2002	4.0
Scott Ter	Center		High Ridge Rd to Dead End	160	24	I	No	No	x	x					Sewer overlay 2" 2002	4.0
Sheffield Way	Pinecroft		Pinecroft Av to Cul-de-sac	804	28	I	CB	Both Sides	x	x				x	Sewer overlay 2"2000	6.0
Shenwood Hill Dr	Center		Route 122-A to Crestview Dr	1,124	23	I	CB	No	x	x					Sewer overlay 2004	2.0
Short St	Sundin's		Nola Dr to Lowell Rd	430	21	I	No	No	x	x					Sewer Overlay 2" 2002	4.0
Shrewsbury St	Main Roads	1	Main St to Chapel St	2,392	30	I	CB	One Side	x	x	x	x	x		Reconstructed 1998	8.0
Shrewsbury St	Main Roads	2	Chapel St to Doyle Rd	2,096	25	I	CB	One Side	x	x	x	x	x		Reconstructed 1998	8.0
Shrewsbury St	Main Roads	3	Doyle Rd to Arizona Av	3,276	25	I	CB	One Side	x	x		x	x		Sewer overlay 2" 2000	6.0
Shrewsbury St	Main Roads	4	Arizona Av to W Boylston Line	2,276	25	I	CB	No	x	x		x	x		Sewer overlay 2" 2000	6.0
Slipper Hill Ln	Sundin's		Windy Ridge Rd to Ternary Dr	1,058	28	I	CB	Both Sides	x	x	x	x	x		Sewer overlay 2" 2002	4.0
Somerset Ln	South Main		Colonial Rd to Edgewood Dr	796	23	I	No	No	x	x					Reconstructed 3"Type I 2000	6.0
South Rd	Main Roads		Mider Rd to Paxton Rd	6,406	25	I	CB	No	x						CaCl Reclamation, Milling, Type I 1999	9.6
South Wachusetts St	Branthwood		Shrewsbury St to Dead End	775	18	I	CB	No	x	x					Reconstructed 3"Type I 2000	6.0
Spring St	Jefferson		Princeton St to Dead End	1,050	19	I	No	No	x	x					Sewer overlay 2" 2002	4.0

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalk	W	S	E	T	C	G	Last Maintenance Action	Age
Spruce Ln	Sundin's		Greenwood Pkwy to Cul-de-sac	531	28	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Standjoy Dr.	Salisbury		Salisbury St to Dead End	265	18	G	No	No	x						Private	
St Mary's Dr	Jefferson	1	Princeton St to E Ty	200	26	I	CB	No	x						Type I 1991	15.0
St Mary's Dr	Jefferson	2	End of Type I to Cul-de-sac	600	26	FMS	CB	No	x						Pugmill & Seal 1991	15.0
Stearns Ln	Western States		Malden St to Dead End	630	10	G	No	No							Sealed grindings 1995	19.0
Steele St	Birchwood		Doyle Rd to Dead End	1,374	20	I	No	No	x	x					Sewer Trench patched 2002	4.0
Steppingstone Dr	South Main		Route 122-A to Cul-de-sac	620	28	I	CB	Both Sides	x	x	x	x	x		1992	14.0
Sterling Road	Quinapoet	1	Mason Rd to Pole #29	3,640	18	I	No	No							Type I 1999	8.0
Sterling Road	Quinapoet	2	Pole #29 to Sterling Line	4,421	18	I	No	No							Type I 1998	7.0
Stoneloigh Rd	Pinecroft	1	Shrewsbury St to Oak Cir	1,457	26	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Stoneloigh Rd	Pinecroft	2	Oak Cir to Parker Av	818	26	I	CB	No	x	x					Sewer overlay 2" 2000	6.0
Sumac Cir	Salisbury		Fox Hill Dr to Cul-de-sac	450	28	I	CB	Both Sides	x	x	x	x	x	x	Reconstructed 3" type I 2002	4.0
Summer La	South Main		Winter Hill to Autumn Cir	1,312	28	I	CB	Yes	x	x	x	x	x	x		
Summit Rd	Jefferson		Quinapoet St to Dead End	1,020	18	I	No	No	x						Type I 1983	23.0
Sunnyside Av	South Holden		Route 122-A to Route 122-A	1,020	19	I	CB	No	x	x					Reclamation CaCl 3" Type I 2003	3.0
Sunset Dr	South Holden		Avery Heights Dr to Britney Dr.	466	28	I	CB	Both Sides	x	x	x	x	x		Accepted 2000	6.0
Surrey Ln	Center		Raymond St to Centerwood Dr	713	24	I	CB	No	x	x					Sewer Trench patched 2002	4.0
Sycamore Dr	Salisbury	1	Fox Hill Dr to Ho #66	987	28	I	CB	Both Sides	x	x	x	x	x	x	Reconstructed 2002	4.0
Sycamore Dr	Salisbury	2	House #68 to Foxhill Dr	938	28	I	CB	Both Sides	x	x	x	x	x	x	1989	17.0
Sycamore Dr	Salisbury	3	Foxhill Dr to Putnam Rd	1,697	28	I	CB	Yes	x	x	x	x	x	x	Accepted 1999	7.0
Talbot St	Birchwood		Brattle St to Dead End	243	17	I	CB	No	x	x					Pugmill & Seal 1990	18.0
Tamarack Cir	Salisbury		Sycamore Dr to Cul-de-sac	692	28	I	CB	Both Sides	x	x	x	x	x	x	Accepted 1987	19.0
Tannery Dr	Sundin's		Quinapoet St to Heather Cir	809	28	I	CB	Both Sides	x	x	x	x	x		Sewer overlay 2" 2002	4.0
Tanya Dr.	South Holden		Jennifer to Cul-de-sac	499	28	I	CB	Yes	x	x	x	x	x		Accepted 2004	2.0
Terrie Ln	Sundin's		Greenwood Pkwy to Valley Hill Dr	400	28	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Thayer Cir	Center		Union St to Cul-de-sac	490	26	I	CB		x		x	x	x		Accepted 1996	11.0
Thorny Lea	Salisbury		Bailey Rd to Cul-de-sac	781	28	I	CB	Both Sides	x	x	x	x	x		1988	20.0
Timber Ln	Birchwood		Birchwood Dr to Birchwood Dr	2,036	20	I	CB	Both Sides	x	x	x	x	x		1996	20.0
Tucker Rd	Birchwood		Glenwood to Dead end-	467	12	G	No	No							Private	
Toney Ln Ext	South Main		Hawthorne Rd to Oakwood Ext	720	20	I		Both Sides	x	x	x	x	x		1989	17.0
Twinbrooke Dr	Salisbury		Salisbury St to Putnam Rd	3,000	21	I	CB, DI	No	x	x					Sewer Trench patched 2002	4.0
Tyler Rd	Brentwood		Red Barn To Cul- da- sac	324	20	I	CB	Yes	x	x	x	x	x	x	accepted 2003	3.0
Union St	Center		Highland St to Wachusett St	3,660	19	I	No	No	x						Reclamation Type I 88	7.6
Valley Hill Dr	Sundin's	1	Scenic Dr to Greenbriar Ln	560	26	I	CB	No	x	x					Sewer overlay 3" 2002	4.0
Valley Hill Dr	Sundin's	2	Greenbriar Ln to Duxbury Dr	1,067	26	I	CB	Both Sides	x	x					Sewer overlay 3" 2002	4.0
Wokeburg Cir	Quinapoet		Fort Sumter Dr to Fort Sumter Dr	593	26	I	CB	Both Sides	x	x					Sewer overlay 2" 2002	4.0
Willage Green	South Main		Newell Rd to Cul-de-sac	645	28	I		Both Sides	x	x	x	x	x		1999	17.0
Virginia Hill Dr	Center		Raymond St to Dead End	400	18	I	No	No	x	x					Sewer Overlay 2" 2002	4.0
Wachusett St	Main Roads	1	Shrewsbury St to Chapel St	5,460	20	I	X Culverts	No	x	x					Sewer Overlay 2" 2002	4.0
Wachusett St	Main Roads	2	Chapel St to Highland St	8,025	22	I	CB	No	x						CaCl Reclamation Type I 1993	13.0
Wachusett St	Main Roads	3	Highland St to Manning St	3,361	25	I	CB	No	x	x					Milling, 2.5" Base, 1.5" Top 1995	10.7

TOWN OF HOLDEN ROAD INVENTORY

Holden Department of Public Works

Street Inventory

Name	Area	Sect	Location	Length	Width	Surface	Drainage	Sidewalk	W	S	E	T	C	G	Last Maintenance Action	Age
Wachusett St	Main Roads	4	Manning St to Mill St	2,674	25	I	No	No	x	x		x			Milling, 2.5" Base, 1.5" Top 1995	10.7
Wachusett St	Main Roads	5	Mill St to Mason Rd	3,316	25	I	No	No	x			x			Milling, 2.5" Base, 1.5" Top 1995	10.7
Wachusett St	Main Roads	6	Mason Rd to Wood St	3,240	25	I	No	No	x			x			Milling, 2.5" Base, 1.5" Top 1995	10.7
Wachusett St	Main Roads	7	Wood St to Princeton Line	4,100	25	I	CB	No				x			Milling, 2.5" Base, 1.5" Top 1995	10.7
Wahatrom Ln	Quinapoet		Wood St to Dead End	850	14	PMS	No	No							Pugmill & Seal 1988	18.0
Walnut St	Center		Highland St to Lovell Rd	1,283	27	I	CB	One Side	x	x					Reclamation Type I 98	7.8
Walnut Ter	Center		Walnut St to Jamieson Rd	1,185	19	I	CB	No	x	x					Reconstruction 3" Overlay 2002	4.0
Wayland Cir	Pinecroft		Oak Cir to Woodridge Rd	770	26	I	CB	Both Sides	x	x					Cold Plain 2" Type I 2003	3.0
Wentworth Dr	Birchwood		Parker Av to Dead End	390	24	I	No	No	x	x					Sewer overlay 2" 1999	7.0
West Fairhill Rd	Brentwood		Brentwood Dr to Fairhill Rd	570	20	I	CB	No	x	x					Type I 1999	7.0
Westview Rd	Brentwood		Holden St to Wildwood Rd	420	21	I	No	No	x	x					Cold plain 3" overlay 1999	7.0
Whitney St	Jefferson		Princeton St to Bryant Rd	4,300	18	PMS		No	x						Overlay 2" Type I 2005	1.0
Wild Willow	Brentwood		Lincoln Av to Cul-de-sac	1,261	26	I	CB	One Side	x	x					Sewer overlay 2004	2.0
Wildrose Av	Sundin's		Dorothy Av to Dead End	415	22	I	CB	No	x	x					Sewer Overlay 2" 2002	4.0
Wildwood Rd	Brentwood		Westview Rd to Johnson St	308	21	I	No	No	x	x					Cold plain 3" overlay 1999	7.0
Williams St	Center		Holt Rd to Bancroft Rd	460	20	I	No	No	x	x					Cold plain 2" overlay 1999	7.0
Willowbrook Dr	Salisbury		Bailey Rd to Bailey Rd	1,942	28	I	CB	Both Sides	x		x	x	x		1991	15.0
Windsor Cir	Sundin's		Quinapoet St to Cul-de-sac	647	28	I	CB	Both Sides	x	x	x	x	x	x	Sewer overlay 2" 2002	4.0
Windsor Ct	Sundin's		Windsor Cir to Cul-de-sac	430	28	I	CB	Both Sides	x	x	x	x	x	x	Sewer overlay 2" 2002	4.0
Windy Ridge Rd	Sundin's		Quinapoet St to Cul-de-sac	1,035	28	I	CB	Both Sides	x	x	x	x	x		Sewer overlay 2" 2002	4.0
Winfield Rd	Pinecroft		Woodridge Rd to Woodridge Rd	1,490	26	I	CB	No	x	x				x	Sewer overlay 2" 1999	7.0
Winter Hill Rd	South Main	1	Newell Rd to Last Hydrant	2,436	17	I	DI	No	x	x					Sewer overlay 2" 1999	7.0
Winter Hill Rd	South Main	2	Last Hydrant to City Line	747	17	PMS	No	No							Pugmill & Seal 1988	18.0
Winthrop Ln	Center	1	Pioneer Rd to Kenwood Rd	646	19	I	CB	No	x	x					Sewer overlay 2" 2002	4.0
Winthrop Ln	Center	2	Kenwood Rd to Highland Av	1,340	28	I	CB	Both Sides	x	x					Sewer overlay 2" 2002	4.0
Wood St	Quinapoet		Wachusett St to Mason Rd	2,550	16	PMS	No	No							Pugmill & Seal 1988	18.0
Woodhaven Dr	Birchwood		Acorn Dr to Acorn Dr	1,034	28	I	CB	Both Sides	x	x	x	x	x		Sewer overlay 2004	2.0
Woodland Rd	Center		Phillips Rd to Highland St	1,855	20	I	CB	One Side	x	x					Reclamation Type I 98	7.8
Woodridge Rd	Pinecroft	1	Shrewsbury St to Wayland Cir	1,669	26	I	CB	No	x	x				x	Sewer overlay 2" 1999	7.0
Woodridge Rd	Pinecroft	2	Wayland Cir to Woodridge Rd	1,350	26	I	CB	One Side	x	x				x	Sewer overlay 2" 1999	7.0
Wynchurst Dr	Salisbury		Twinbrooke Dr to Twinbrooke Dr	1,546	25	I	CB, DI	No	x	x					Sewer Trench patched 2002	9.0
Wyoming Dr	Western States		Arizona Av to W Boylston Line	1,950	22	I	CB	No	x	x					Sewer overlay 2" 1999	7.0
Zettoli Rd	South Main		Main St to Main St	1,171	18	I	Yes	No	x	x		x			Cold plain 2" overlay 1999	7.0
				117.0	MILES											8.31

Updated by Richard DeWitt 10/1/06

Appendix B – Holden Sidewalk Inventory

TOWN OF HOLDEN SIDEWALK INVENTORY
Holden Department of Public Works
Sidewalk Inventory

Street	Direction	Length	Right Side Width	Condition	Length	Left Side Width	Condition	Comments
Acorn Cr	Parkier Ave	888	48	G	828	48	G	Sewer trench 2003
Adrian Hill Rd	Dead End							New Road not accepted
Ash Cr	Sycamore to cul-de-sac	260	48	G	260	48	G	
Avery Hills Dr	Brunell to Jennifer Dr	850	48	G	850	48	G	
Bainwood Dr	Frosthill Dr to cul-de-sac	360	48	G	360	48	G	
Blair Dr								New Road not accepted
Boulder Hill Rd	Wood St to Minnie Rd	2200	48	G	2000	48	G	recepted 2005
Boydton Rd	Main St to Phillips Rd	260	68	VG	660	58	VG	paved
Brice Cr								New Road not accepted
Britney Cr	Jennifer to Courtney	4284	48	VG	4284	48	VG	
Brunell Cr	Avery Hills to cul-de-sac	740	38	G	740	38	VG	
Buckingham	Ernie	570	38	G	570	38	VG	
Bull Run	Catapult to Ft. Sumner	2888	38, 48	G, E	2888	38, 48	G, E	New section not accepted
Bulford St	Shrewsbury to Myers School	3893	48	E	1317	48	E	
Buttrick Cr	Sycamore to cul-de-sac	450	48	E	450	48	E	
Candlebury Ln	Leighton to cul-de-sac	902	48	G	902	48	G	
Canalpa Cr	Sycamore to cul-de-sac	220	48	G	220	48	G	
Cedar Rd	Allen Rd to Allen Rd	1818	48	E	1818	48	E	
Chapel St	Shrewsbury to Lincoln	1742	48	G				paved
Chapel St	House #148 to Lincoln Ave.				340	48	E	paved
Clearview Rd	Allen Rd to cul-de-sac	360	48	E	340	48	E	
Colbrook Cr	Boulder Hill to cul-de-sac	550	48	E	550	48	E	
Cook St	Stoneleigh Rd to dead end	1450	48	G	960	48	G	recepted 2005
Courtney Cr	Jennifer to cul-de-sac	1150	48	E	1150	48	E	
Courtois Cr	Mered to House #71	2872	48	G	2872	48	G	
Crestview Dr	Malden St to Sherwood Hill	634	48	G	634	48	G	
Cypress Cr	Fossil to cul-de-sac	200	48	E	200	48	E	
Daven Cr	Selabery St to cul-de-sac	500	48	VG	500	48	VG	
Dogwood Cr	Sycamore to cul-de-sac	404	48	E	404	48	E	
Dominick Cr	Winchester St to Cul-de-sac	4234	48	P	360	48	E	paved
Doyle Rd	Shrewsbury to Town line							
Duffered Cr	Malden St to Moscovitch	760	48	G	760	48	G	

TOWN OF HOLDEN SIDEWALK INVENTORY

Holden Department of Public Works
Sidewalk Inventory

Address	735	40	P	735	40	P	735	40	P
Dunbury Dr									
Bagle Tern	360	40	VG	300	40	VG	300	40	VG
Fairview Ave				508	40	G	508	40	G
Farragut Way	739	40	VG	739	40	VG	739	40	VG
Flagler Dr	950	40	P		40	E	1961	40	E
Flagler Dr	1061	40	E		40	G	2534	40	G
Fort Sumner Dr	2634	40	G		40	G	2214	40	G
Fox Hill Dr	2314	40	G		40	G	406	40	G
Geller Cr	406	40	G		40	E	2638	40	E
General Hobbs	3638	40	E		40	G	304	40	G
Greenwood St				1340	40	P	1340	40	P
Greenwood Pk	1440	40	P		40	G	500	40	G
Greystone Dr	1950	40	G		40	G	390	40	G
Haulbar Cr	390	40	G		40	E	419	40	E
Hobart Ln	419	40	E		40	G	474	40	G
Heritage Ln	474	40	G		40	G	474	40	G
Hickory Cr	490	40	G		40	D		40	D
Highland Ave	606	40	D		40	G	3488	40	G
Highland Ave	2088	40	G		40	E	5009	40	E
Highland St				480	40	E	480	40	E
Holton St	5000	40	E		40	G	719	40	G
Holly Cr	719	40	G		40	E	441	40	E
Hullin Cr				385	40	G	385	40	G
Hunter Cr	385	40	G		40	G	1742	40	G
Industrial Dr				3216	40	G	3216	40	G
Jacobs St					40	E		40	E
Jennison Rd	2142	40	E		40	E	2290	40	E
Jennifer Dr	2290	40	E		40	G	1919	40	G
John Allen Rd	1919	40	G		40	E	222	40	E
Kennecott Rd	222	40	E		40	G	880	40	G
Koa Allen Dr	880	40	G		40	G	590	40	G
Larkspur Rd	590	40	G		40	G	250	40	G
Laurel Hill Ln	275	40	G		40	G	2048	40	G
Levinson Cr	2048	40	G		40	G	950	40	G
Longmeadow	950	40	G		40	G		40	G
Lowell Rd	1309	40	G		40	G		40	G

TOWN OF HOLDEN SIDEWALK INVENTORY

Holden Department of Public Works
Sidewalk Inventory

Address	8004	4C	E	8004	4C	E	2002-2004, planned 2002-2004, planned 5007 new concrete 2004, plan planned
Main St							
Main St	2500	4C	E	8004	4C	E	
Main St	9392	4C	E				
Main St	758	4C	G	715	4C	G	
Main St	2004	4B	G	900	4B	G	
Main St	1100	3B	G	1100	3B	G	
Main St	843	3B	P	843	3B	P	
Main St	1940	3B	G	1840	3B	G	
Main St	225	4B	E	305	4B	E	
Main St	1308	4B	E	1785	4B	G	planned
Main St	251	3B	G	1358	4B	E	
Main St	1100	3B	G	201	3B	G	
Main St				1100	3B	G	
Main St	950	4B	E	900	4B	G	
Main St	316	4B	G	900	4B	E	
Main St	500	4B	G	316	4B	G	
Main St	1728	4B	G	815	4B	G	
Main St	430	3B	E	1720	4B	YG	
Main St	2128	3B	G	430	4B	E	
Main St	600	3B	P	2708	4B	G	
Main St	2000	4B	P	600	3B	P	
Main St	960	4B	P	2000	4B	P	
Main St	2000	4B	G	1800	4B	G	planned
Main St	506	4B	G	595	4B	G	
Main St	907	3B	YG	507	3B	YG	
Main St				600	4B	G	planned
Main St	1000	4B	E	915	4B	E	
Main St	211	4B	G	506	4B	E	
Main St	600	4B	G	211	4B	G	
Main St	4000	4B	P	536	4B	G	
Main St	1000	4B	G	1000	4B	G	planned
Main St	975	4B	P	573	4B	P	
Main St	2000	4B	P	7100	4B	P	planned
Main St	1004	4B	G	5004	4B	G	

TOWN OF HOLDEN SIDEWALK INVENTORY

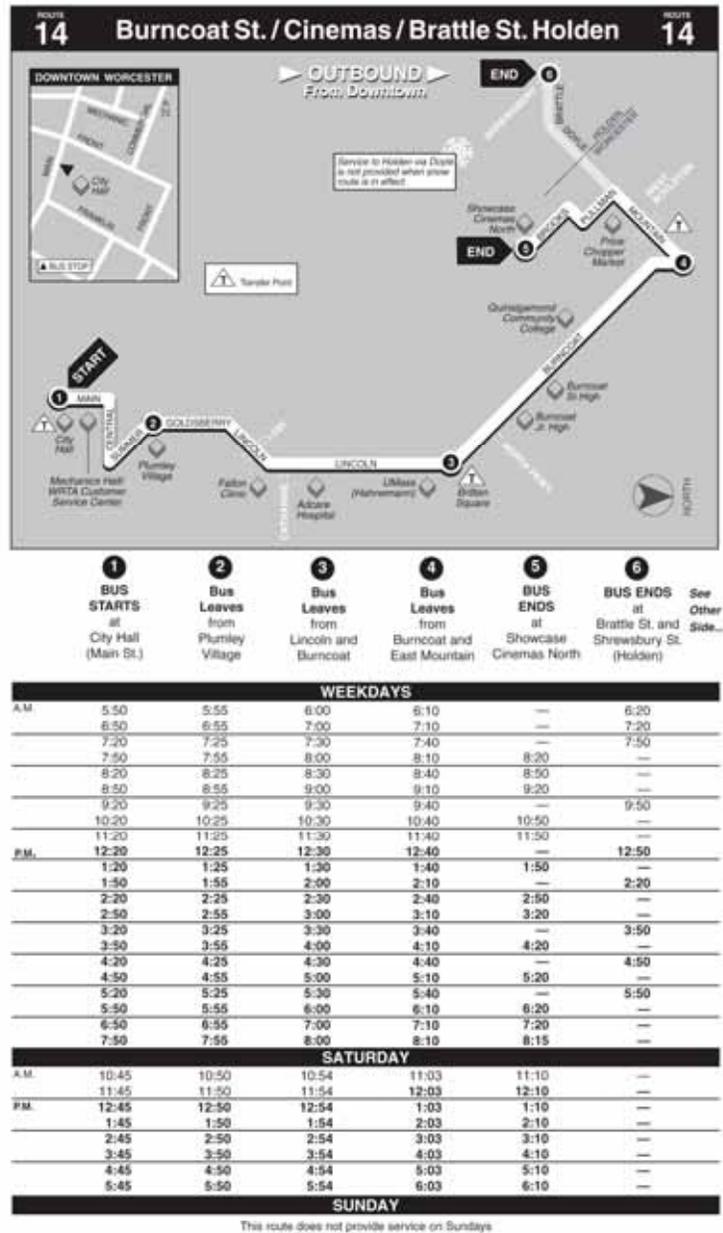
Holden Department of Public Works
Sidewalk Inventory

Street Name	Start	End	Material	Notes
Shoepingtons	Main St to cul-de-sac		E	
Sumac Cr	Entire	48	G	
Sunset Dr	Entire	48	G	
Sycamore Dr	Foothill to Fountain Ln	48	G	
Tanawock Cr	Sycamore to cul-de-sac	48	G	
Tannery Cr	Quinsipont to dead end	48	G	
Tampa Dr	Jennifer to cul-de-sac	48	E	
Terrie Ln	Valley Dr to Greenwood Pkg	38	E	
Thayer Cr	Union St to cul-de-sac	48	E	
Thorny Lea	Entire	38	G	
Timber Ln	Entire	38	G	
Tommy Ln	Hartstone to Colwood	48	G	
Tyler Rd	Red Barn to Shrewsbury	48	G	
Valley Hill Cr	Scenic to Quinsbury	48	E	
Vicouburg Cr	Entire	48	G	
Village Green	Newell Rd to end	48	G	
Walnut St	Main St to Level	48	G	
Wayland Cr	Woodridge Rd to Oak Cr	48	E	
Willie Wilcox	Lincoln Ave to cul-de-sac	48	G	
Willowbrook	Entire	48	G	
Windsor Cr	Quinsipont St to cul-de-sac	48	E	
Windsor Court	Windsor Cr to cul-de-sac	48	E	
Windy Ridge	Quinsipont to cul-de-sac	48	G	
Wintrop Ln	Highland Ave to Highland Ave	48	G	
Woodlawn Dr	Entire	48	G	
Woodland Rd	Prillens Rd to Highland St	48	G	
Woodridge Rd	Wayland Cr to Woodridge Rd	48	G	

plowed

Updated by Richard DeWitt
10/6/2006

Transportation Appendix C: WRTA Fixed Route Bus Service



WELCOME ABOARD THE WRTA! The information on this page is intended to provide you with a general overview of the WRTA bus system. For more information, please visit our website at www.thetra.com.

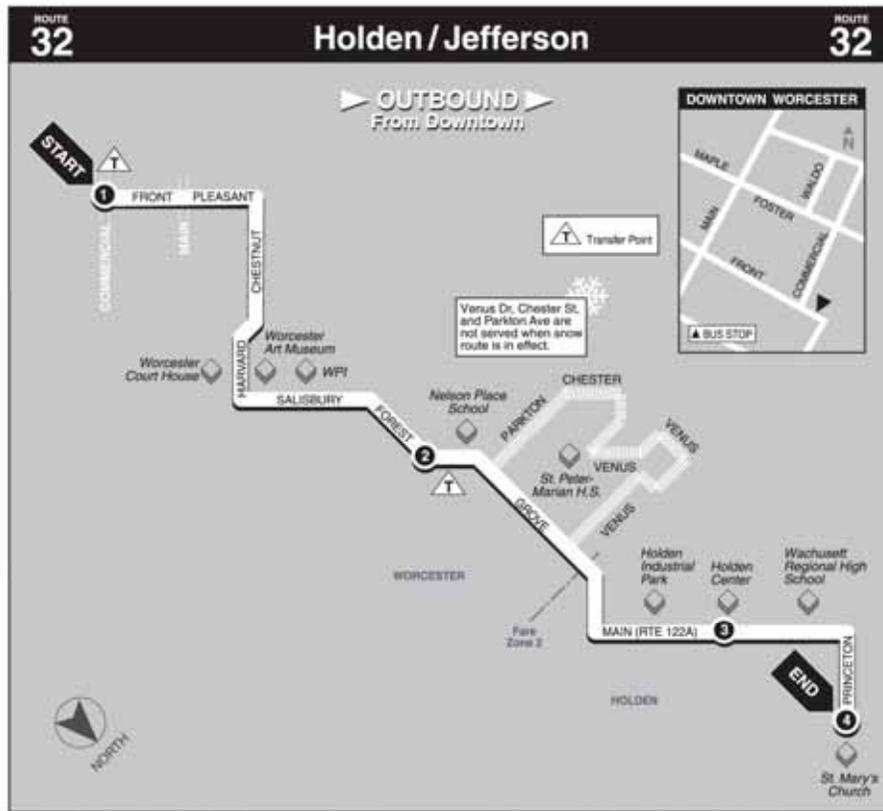
ACCESSIBILITY
All WRTA buses are wheelchair accessible and feature special seats for two bicycles. For TTY services call Massachusetts Relay TTY (800) 439-2372.

WRTA fare information effective November 1, 2002

31 Day Pass	Full Fare	Senior/Student/Disabled	Transfer
Zone 1	\$20.00	\$10.00	\$1.00
Zone 2	\$30.00	\$15.00	\$1.50
Zone 3	\$40.00	\$20.00	\$2.00
Zone 4	\$50.00	\$25.00	\$2.50
Zone 5	\$60.00	\$30.00	\$3.00
Zone 6	\$70.00	\$35.00	\$3.50
Zone 7	\$80.00	\$40.00	\$4.00
Zone 8	\$90.00	\$45.00	\$4.50
Zone 9	\$100.00	\$50.00	\$5.00
Zone 10	\$110.00	\$55.00	\$5.50
Zone 11	\$120.00	\$60.00	\$6.00
Zone 12	\$130.00	\$65.00	\$6.50
Zone 13	\$140.00	\$70.00	\$7.00
Zone 14	\$150.00	\$75.00	\$7.50
Zone 15	\$160.00	\$80.00	\$8.00
Zone 16	\$170.00	\$85.00	\$8.50
Zone 17	\$180.00	\$90.00	\$9.00
Zone 18	\$190.00	\$95.00	\$9.50
Zone 19	\$200.00	\$100.00	\$10.00
Zone 20	\$210.00	\$105.00	\$10.50
Zone 21	\$220.00	\$110.00	\$11.00
Zone 22	\$230.00	\$115.00	\$11.50
Zone 23	\$240.00	\$120.00	\$12.00
Zone 24	\$250.00	\$125.00	\$12.50
Zone 25	\$260.00	\$130.00	\$13.00
Zone 26	\$270.00	\$135.00	\$13.50
Zone 27	\$280.00	\$140.00	\$14.00
Zone 28	\$290.00	\$145.00	\$14.50
Zone 29	\$300.00	\$150.00	\$15.00
Zone 30	\$310.00	\$155.00	\$15.50
Zone 31	\$320.00	\$160.00	\$16.00
Zone 32	\$330.00	\$165.00	\$16.50
Zone 33	\$340.00	\$170.00	\$17.00
Zone 34	\$350.00	\$175.00	\$17.50
Zone 35	\$360.00	\$180.00	\$18.00
Zone 36	\$370.00	\$185.00	\$18.50
Zone 37	\$380.00	\$190.00	\$19.00
Zone 38	\$390.00	\$195.00	\$19.50
Zone 39	\$400.00	\$200.00	\$20.00
Zone 40	\$410.00	\$205.00	\$20.50
Zone 41	\$420.00	\$210.00	\$21.00
Zone 42	\$430.00	\$215.00	\$21.50
Zone 43	\$440.00	\$220.00	\$22.00
Zone 44	\$450.00	\$225.00	\$22.50
Zone 45	\$460.00	\$230.00	\$23.00
Zone 46	\$470.00	\$235.00	\$23.50
Zone 47	\$480.00	\$240.00	\$24.00
Zone 48	\$490.00	\$245.00	\$24.50
Zone 49	\$500.00	\$250.00	\$25.00
Zone 50	\$510.00	\$255.00	\$25.50
Zone 51	\$520.00	\$260.00	\$26.00
Zone 52	\$530.00	\$265.00	\$26.50
Zone 53	\$540.00	\$270.00	\$27.00
Zone 54	\$550.00	\$275.00	\$27.50
Zone 55	\$560.00	\$280.00	\$28.00
Zone 56	\$570.00	\$285.00	\$28.50
Zone 57	\$580.00	\$290.00	\$29.00
Zone 58	\$590.00	\$295.00	\$29.50
Zone 59	\$600.00	\$300.00	\$30.00
Zone 60	\$610.00	\$305.00	\$30.50
Zone 61	\$620.00	\$310.00	\$31.00
Zone 62	\$630.00	\$315.00	\$31.50
Zone 63	\$640.00	\$320.00	\$32.00
Zone 64	\$650.00	\$325.00	\$32.50
Zone 65	\$660.00	\$330.00	\$33.00
Zone 66	\$670.00	\$335.00	\$33.50
Zone 67	\$680.00	\$340.00	\$34.00
Zone 68	\$690.00	\$345.00	\$34.50
Zone 69	\$700.00	\$350.00	\$35.00
Zone 70	\$710.00	\$355.00	\$35.50
Zone 71	\$720.00	\$360.00	\$36.00
Zone 72	\$730.00	\$365.00	\$36.50
Zone 73	\$740.00	\$370.00	\$37.00
Zone 74	\$750.00	\$375.00	\$37.50
Zone 75	\$760.00	\$380.00	\$38.00
Zone 76	\$770.00	\$385.00	\$38.50
Zone 77	\$780.00	\$390.00	\$39.00
Zone 78	\$790.00	\$395.00	\$39.50
Zone 79	\$800.00	\$400.00	\$40.00
Zone 80	\$810.00	\$405.00	\$40.50
Zone 81	\$820.00	\$410.00	\$41.00
Zone 82	\$830.00	\$415.00	\$41.50
Zone 83	\$840.00	\$420.00	\$42.00
Zone 84	\$850.00	\$425.00	\$42.50
Zone 85	\$860.00	\$430.00	\$43.00
Zone 86	\$870.00	\$435.00	\$43.50
Zone 87	\$880.00	\$440.00	\$44.00
Zone 88	\$890.00	\$445.00	\$44.50
Zone 89	\$900.00	\$450.00	\$45.00
Zone 90	\$910.00	\$455.00	\$45.50
Zone 91	\$920.00	\$460.00	\$46.00
Zone 92	\$930.00	\$465.00	\$46.50
Zone 93	\$940.00	\$470.00	\$47.00
Zone 94	\$950.00	\$475.00	\$47.50
Zone 95	\$960.00	\$480.00	\$48.00
Zone 96	\$970.00	\$485.00	\$48.50
Zone 97	\$980.00	\$490.00	\$49.00
Zone 98	\$990.00	\$495.00	\$49.50
Zone 99	\$1000.00	\$500.00	\$50.00

HOLIDAY SERVICE
Holiday service is provided on the following holidays:
New Year's Day, Independence Day, Labor Day, Columbus Day, Thanksgiving Day, and Christmas Day. Holiday service is provided on Martin Luther King, Jr. Day, Presidents' Day, Veterans Day, and the day after Thanksgiving.
Holiday service is provided on Veterans' Day.
* Hours: 6:30 a.m. - 6:00 p.m. on Veterans' Day.
** Hours: 6:30 a.m. - 6:00 p.m. on Presidents' Day.
*** Hours: 6:30 a.m. - 6:00 p.m. on Thanksgiving Day.
**** Hours: 6:30 a.m. - 6:00 p.m. on Christmas Day.
***** Hours: 6:30 a.m. - 6:00 p.m. on Martin Luther King, Jr. Day.
***** Hours: 6:30 a.m. - 6:00 p.m. on Presidents' Day.
***** Hours: 6:30 a.m. - 6:00 p.m. on Veterans' Day.
***** Hours: 6:30 a.m. - 6:00 p.m. on the day after Thanksgiving.

Available at www.thetra.com



- 1** BUS STARTS at Front St. and Commercial St.
- 2** Bus Leaves from Nelson Place
- Does Bus serve Venus Dr. area?
- 3** Bus Leaves from Holden Center
- 4** BUS ENDS at Jefferson
- See Other Side...

WEEKDAYS					
A.M.	6:45	6:55	By Request	7:05	7:18
	7:45	7:55	By Request	8:05	8:18
P.M.	3:10	3:20	By Request	3:30	3:40
	4:10	4:20	By Request	4:30	4:40
	5:10	5:17	By Request	5:24	5:30

WEEKEND
This route does not provide service on Saturday or Sunday.

WELCOME ABOARD THE WRTA!

This route timetable shows the times of departure at major stops along the route and contains route maps and other important information. Additional information can be obtained by calling the WRTA Information Line at (908) 791-WRTA (9782), or visit our website at www.thetra.com.

ACCESSIBILITY

All WRTA buses are wheelchair accessible and feature bicycle racks for two bicycles. For TTY service call Massachusetts Relay TTY (800) 439-2370.

WRTA fare information effective November 1, 2002

31 Day Pass	Full Fare	Senior/Disabled Marked	Proper Identification (see below)
Zone 1	\$38.00	\$19.00	\$25.00
All Zone	\$50.00	N/A	\$5.50
Ten Ride Tickets	\$9.00	N/A	\$0.60
All Zone	\$11.00	N/A	\$0.75
Cash Fares			
Zone 1 (Ride Fare)	\$1.25		\$0.85
Zone 2	\$1.50		\$0.85
Zone 3	\$1.75		\$1.00
Zone 4	\$2.00		\$1.00

Children 5-13 years, any zone accompanied by a Parent.
Transfers: Adult \$0.25
Elderly, Disabled/Child \$0.10

Please have exact fare ready when boarding the bus.
Zone 1 - Travel within 1 town or city border
Zone 2 - Crossing 1 town or city border
Zone 3 - Crossing 2 towns or city borders
Zone 4 - Crossing 3 towns or city borders

Proper Identification: One of the following valid identification cards must be shown for fare: Driver's License (D), State's Questionnaire-Accident-Form (M-3000-M-3000-001) and Photo ID.

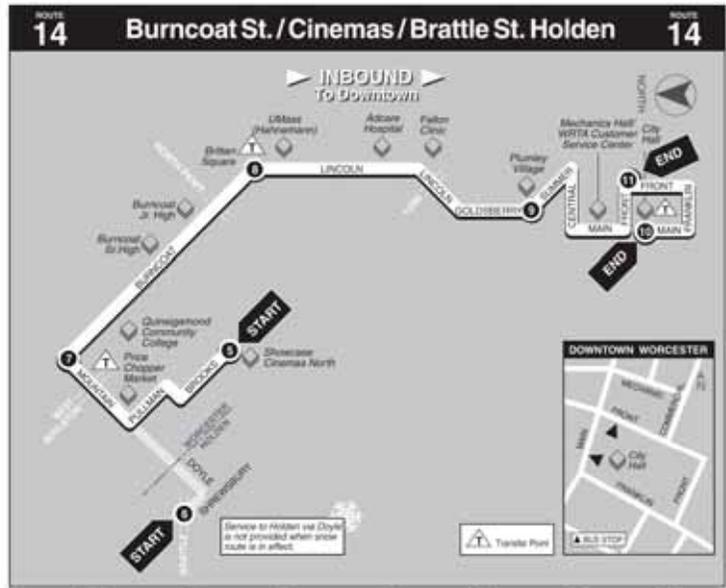
Route schedules and the purchase of 31 day passes, ten-ride tickets are available at the WRTA General Office, 287 Grove Street, Worcester and at the Customer Service Center, 317 Main Street, Worcester.

HOLIDAY SERVICE

Sunday service is provided on the following holidays:
New Year's, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving Day, and Christmas Day.
Saturday service is provided on Martin Luther King, Jr. Day, Presidents Day, Patriots' Day, and the day after Thanksgiving.
Weekday service is provided on Veterans' Day.

* Routes 22, 32, 33, 42 and 110 operate on a weekly schedule on these holidays.
Please...No smoking, eating, drinking or riding.

Available at www.thetra.com



- 5** BUS STARTS at Showcase Cinemas North
- 6** BUS STARTS at Brattle and Shrewsbury (Holden)
- 7** Bus Leaves from Burncoat and East Mountain
- 8** Bus Leaves from Lincoln and Burncoat
- 9** Bus Leaves from Plumley Village
- 10** BUS ENDS at City Hall (Main St.)
- 11** BUS ENDS at City Hall (Front St.)

WEEKDAYS						
A.M.	—	5:20*	5:25	5:35	5:40	5:50
	—	6:20*	6:25	6:35	6:40	6:50
	—	6:50*	6:55	7:05	7:10	7:20
	—	7:20*	7:25	7:35	7:40	7:50
	—	7:50*	7:55	8:05	8:10	8:20
	8:20	—	8:25	8:35	8:40	8:50
	8:50	—	8:55	9:05	9:10	9:20
	—	9:50*	9:55	10:05	10:10	10:20
	10:50	—	10:55	11:05	11:10	11:20
	11:50	—	11:55	12:05	12:10	12:20
P.M.	—	12:50*	12:55	1:05	1:10	1:20
	1:50	—	1:55	2:05	2:10	2:20
	—	2:20*	2:25	2:35	2:40	2:50
	2:50	—	2:55	3:05	3:10	3:20
	3:20	—	3:25	3:35	3:40	3:50
	—	3:50*	3:55	4:05	4:10	4:20
	4:20	—	4:25	4:35	4:40	4:50
	—	4:50*	4:55	5:05	5:10	5:20
	5:20	—	5:25	5:35	5:40	5:50
	6:20	—	6:25	6:35	6:40	6:50
	7:20	—	7:25	7:35	7:40	7:50
	8:15	—	8:20	8:28	8:33	8:40

*Beginning of line for this trip and does not serve Showcase Cinemas.

SATURDAY						
A.M.	11:10	—	11:15	11:22	11:30	11:35
P.M.	12:10	—	12:15	12:22	12:30	12:35
	1:10	—	1:15	1:22	1:30	1:35
	2:10	—	2:15	2:22	2:30	2:35
	3:10	—	3:15	3:22	3:30	3:35
	4:10	—	4:15	4:22	4:30	4:35
	5:10	—	5:15	5:22	5:30	5:35

Saturday buses continue on as Route 16 Shrewsbury Street/UMass/Booth Apts./Lincoln Plaza

This route does not provide service on Sundays

www.thetra.com

Worcester Regional
TRANSIT AUTHORITY

ROUTE 14
BURNCOAT ST. / CINEMAS /
BRATTLE ST. HOLDEN

Serving:

- Downtown Worcester
- UMass Worcester
- Worcester State
- Plumley Village
- Lincoln St.
- UMass Worcester
- Showcase Cinemas
- Burncoat Middle & High School
- Quinsigamond Comm. College
- Mountaineer St.
- Showcase Cinemas North

Effective Date: June 23, 2007

Available at www.thetra.com

Appendix 6 – Public Facilities and Services

Public Schools

The Wachusett Regional School District covers the largest area (square miles) of any other regional school district in the state.

According to the regional agreement: “Payment of all costs shall be apportioned and assessed to a member town based upon the prior October 1 student enrollment percentage of each member town and the requirements of state law.” The Superintendent develops a budget that is then sent to the School Committee. Once approved by the Committee, an assessment letter is sent to each of the five District towns. Each town then votes on its assessment, with a

Wachusett Regional School District Table of Organization

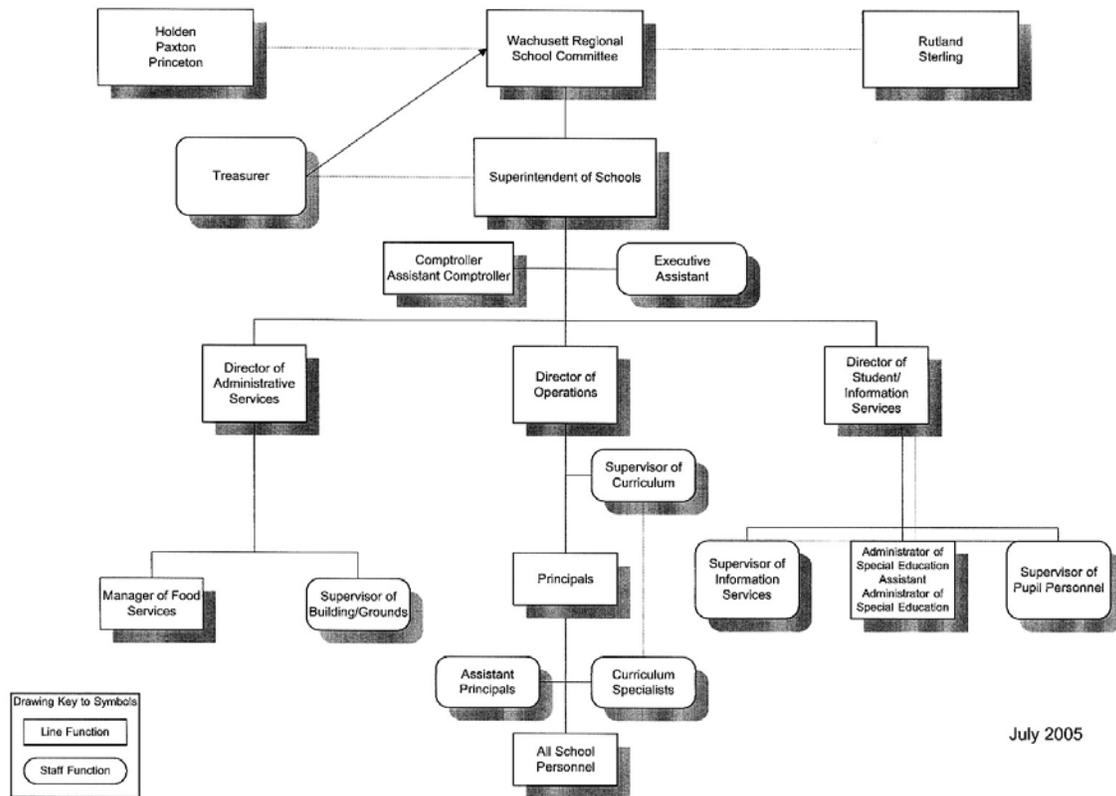


Table 8.2: Wachusett Regional School District - General Operating Funds and Transportation (FY07)

Town	District Funding Percentage
Holden	41.72%
Paxton	10.00%
Princeton	9.35%
Rutland	20.19%
Sterling	18.74%

super majority of four towns needed to pass their assessed amounts in order for the budget to be considered approved. Once the super majority is reached, all five towns are required to pay their assessed amounts, even if the fifth town disagrees.

Holden’s school aged children attend the following public schools:

Davis Hill Elementary School, located at 80 Jamieson Road, is a new building; construction was completed in the year 2000.

Dawson Elementary School, located at 155 Salisbury Street, was originally built in 1956 and renovated in the year 2000.

Leroy E. Mayo Elementary School, located at 351 Bullard Street, is a new building; construction was completed in 1999.

Mountview Middle School, located at 270 Shrewsbury Street, was built in 1967; the building has undergone several renovations, the latest in 1997.

Wachusett Regional High School, located at 1401 Main Street, is undergoing a major renovation/addition. The High School project has created unanticipated challenges – due to unsuitable soil, ledge and erosion control issues – resulting in budget and schedule overruns. The new school is expected to open in September of 2007.



Figure 8.1: The new high school renovation/addition is still under construction

Construction of the new high school has been paid for in the following way:

Table 8.3: Wachusett District High School Project Funding

Town	District Funding Percentage
Holden	47.84%
Paxton	8.89%
Princeton	8.83%
Rutland	18.26%
Sterling	16.18%

Administration: The Wachusett Regional School District is housed in the former Jefferson School located at 1745 Main Street.

Montachusett Regional Vocational School: The Town of Holden joined the Montachusett Regional Vocational School District in the year 2000. The Montachusett Regional Vocational High School (“Monty Tech”) is located at 1050 Westminister Street in Fitchburg, Massachusetts. Monty Tech offers a wide range of vocational training in areas from auto body-collision repair and automotive technology to cabinetmaking and cosmetology to culinary arts and dental assisting.

In the year 2005, Monty Tech’s enrollment included 1,269 students in grades nine through twelve. Of these 42 came from Holden; the remainder came from the other 17 towns in the region. As indicated in the table below, enrollment by Holden residents has been slightly increasing over the last decade, but has remained relatively stable over the last five years.

Table 8.4: Enrollment of Holden Students in Voc-Tech School (1995 to 2005)

Year	Voc-Tech Students from Holden (9-12 Total)
1995-96	18
1996-97	25
1997-98	27
1998-99	31
1999-00	23
2000-01	30
2001-02	35
2002-03	41
2003-04	47
2004-05	42
2005-06	42

Source: Wachusett Regional School District

Enrollment Trends

Current Public School Enrollments: Current public school enrollment of Holden students, including Holden students attending other schools within the district is 3,050. The following table lists the schools and the number of children attending each.

Table 8.5: Current Public School Enrollment

School	Total Number of Students (2006-2007)
Davis Hill	509
Dawson	445

Table 8.5: Current Public School Enrollment (continued)

School	Total Number of Students (2006-2007)
Mayo	475
Mountview	707
Wachusett Reg. HS	838
Early Childhood Center (Jefferson Bldg.)	23
Holden Students Attending other District Schools	26
Holden Students Attending Out –of-District Schools (Special Education)	<u>27</u>
Total	3,050

Source: Wachusett Regional School District, October 1 Reports

Historical Enrollment: As indicated in the following table, enrollment between 1995 and 2005 has gone up by 338 students, an increase of 12.7%.

Table 8.6: Past Enrollment Trends (1995 – 2006)

School Year	Number of Births	Total Enrollment
1995-96	180	2,654
1996-97	162	2,703
1997-98	159	2,712
1998-99	166	2,737
1999-00	188	2,763
2000-01	183	2,629
2001-02	153	2,844
2002-03	170	2,892
2003-04	188	2,986
2004-05	186	2,953
2005-06	187	2,992

Source: Wachusett Regional School District

Enrollment Projections: The following table provides the Wachusett Regional School District’s projections that student enrollment will continue to remain

stable with a slight increase over the next few years (3.8% between 2005 and 2010).

Table 8.7: Future Enrollment Projections (2005 – 2010)

School Year	Number of Births	Total Enrollment
2005-06	167	2,992
2006-07	184	3,020
2007-08	156	3,016
2008-09	196	3,053
2009-10	176 (est.)	3,065
2010-11	178 (est.)	3,107

Source: Wachusett Regional School District

Private Schools

Enrollment in private schools by Holden residents has remained very stable over the last decade. The following table provides historical enrollment figures.

Table 8.8: Enrollment in Private Schools K-12 (1995 – 2005)

Year	K-12 Total Number of Private School Students
1995-96	298
1996-97	331
1997-98	329
1998-99	399
1999-00	336
2000-01	348
2001-02	378
2002-03	353
2003-04	333
2004-05	NA
2005-06	337

Source: Wachusett Regional School District

Public Safety

FIRE DEPARTMENT

Staff

The Fire Department has 10 full time (including one clerical) and 45 part-time employees. More specifically the Department staff is comprised of one fulltime chief, one fulltime fire prevention officer, three fulltime firefighter/EMTs, one three-quarter time senior clerk/secretary, one part-time senior clerk, one half-time mechanic and approximately 45 paid on call fighters.

The number of total incidents has been generally increasing. Because the fire department has some daytime staff, this has allowed the department to respond

to emergency medical calls; these are what make up the bulk of the increase in incidents over the last five years. Medical response by Holden Fire Department is supplemented by a private ambulance contractor.

**Table 8.9: Total Number of Incidents
2000 – 2005**

Year	Total Number of Incidents
2000	897
2001	998
2002	1,097
2003	1,148
2004	1,114
2005	1,301

Table 8.10: Fire & Rescue Incidents 2000 – 2005

Type of Incident*	2000	2001	2002	2003	2004	2005
Fire	49	41	59	58	55	51
Rescue & Medical	529	611	521	687	628	841
Grass & Brush Fire	18	18	14	10	12	8
Building Fire	15	12	15	11	9	7

**Does not include all incidents.*

The Fire Department recently acquired a trailer for hazardous materials responses; it is stocked with supplies to mitigate the damage caused by hazardous materials release.

In addition to fire prevention and fire extinguishing, the Fire Department conducts inspections (smoke detectors, oil burners, LP gas, underground tanks, etc.). The Department also received a grant from the Department of Public Health to provide free smoke detectors to low income and senior residents.

The Department also emphasizes education as a primary means of fire prevention mostly through the S.A.F.E. (Student Awareness Fire Education) program in the public schools.

American Medical Response (AMR)

The garage is only heated by a propane space heater, and has no insulation. This presents a serious problem since the ambulance needs to be warm in the winter and cool in the summer if the medications required to be on board are to be stored in the ambulance. Currently, these medications cannot be kept in the vehicle; they have to be stored elsewhere and carried to the ambulance for each service call.

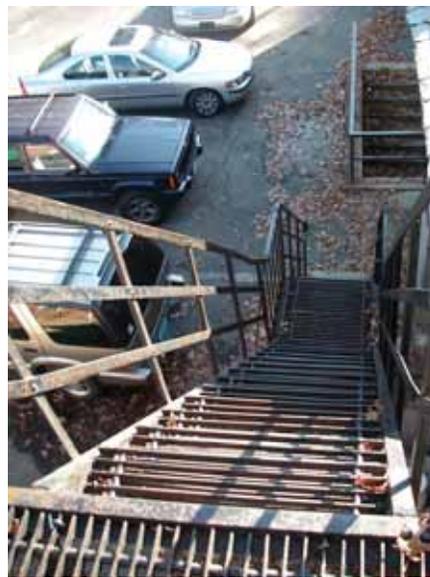


Figure 8.5: Inside floor is deteriorating and roof is leaking. Emergency response team must run down exterior fire escape to garage that is inadequate for properly housing ambulance.

POLICE DEPARTMENT



Figure 8.6: Police Station and Outside Water Spigot.

When police officers wish to have hot water they have to use this outdoor spigot and pour out “old” coffee in the drain in the floor.

The Holden Police Department has 12 vehicles (five patrol cruisers, one Ford Expedition, one Ford F150, four unmarked cruisers, and a motorcycle. The Ford Expedition is used as a mobile command center and a snow vehicle in the winter. The motorcycle is generally used from early spring to late fall. All other vehicles are used on a daily basis. All cruisers are checked weekly for their appearance, maintenance, and equipment (including medical bags, shotguns, ammunition, throw ropes, accident reconstruction tools, etc.).

As is evident in the following police statistics, Holden’s arrest rate has been steadily decreasing over the past four years. The majority of these arrests were in the following categories (these are not broken down in the table below): traffic offenses, drugs, protective custody, assault and breaking and entering.

Table 8.11: Holden Police Department Arrest Statistics 1995 – 2005

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Number of Arrests	180	196	205	235	173	182	338	412	387	281	258

Source: Holden Police Department Website.

The following statistics demonstrate trends in the kinds of crime being reported in Holden. Over the last ten years the incidence of reported crimes has decreased in general and in the areas of larceny, assault, and breaking and entering most significantly. The number of larcenies has remained fairly stable over the last four to five years, however, with most of these occurring over the

Internet. There is an increase in the number of reports of identify theft and larcenies involving Internet transactions.

Table 8.12: Holden Police Department Reported Crimes 1995 – 2005

Crimes	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Reported											
Homicide	1	0	0	0	0	0	0	0	1	0	0
Rape	2	3	0	1	0	2	2	3	0	2	3
Robbery	2	2	0	2	3	0	0	0	0	1	1
Assault	51	50	55	33	33	46	68	50	63	60	42
Breaking & Entering	30	35	31	21	21	25	23	22	10	18	18
Larceny	105	106	78	52	52	46	55	69	73	78	72
Motor Vehicle Theft	6	10	7	7	7	1	2	0	3	5	4

Source: Holden Police Department Website.

As can be seen in the table below, while reported crimes have been decreasing in general, the number of calls for service, citations, accidents and incident reports has been steadily increasing, placing additional pressure on the department. This is due to a combination of factors including an increase in the town’s population as well as the police department’s community policing efforts encouraging residents to call on “small matters.” The increase in medical calls is most likely due to an increase in the elderly population.

Table 8.12: Holden Police Department Miscellaneous Statistics 1995 – 2005

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Citations	2,060	2,600	2,402	2,569	2,948	3,167	3,101	2,784	3,715	4,101	5,195
Accidents	219	213	241	245	198	223	263	240	250	278	288
Calls for Service	7,116	7,873	7,160	7,377	8,217	9,115	10,391	11,002	12,177	11,089	11,953
Incident Report	934	1,030	956	926	814	904	835	950	1,352	1,151	1,013

Source: Holden Police Department Website.

An additional factor accounting for the increase in calls for service is the fact that all the police cars have been outfitted with laptop computers from which officers run license plate numbers from their cars; if they find a prior violation on the computer, this triggers a call for service.

Traffic

A total of 5, 195 traffic citations were issued in the year 2005. This is an approximate increase of 20% over last year’s 4,101 citations. The increase is due in part to stricter enforcement, but the number of vehicles in an accident increased from 278 in 2004 to 283 in 2005, one resulting in a double fatality. According to the Police Department accident statistics, over half of these car

accidents occur on Main Street, Reservoir St. and Shrewsbury St. (See Transportation Section.)

There are about as many people in Holden as there are vehicles. This results in much congestion. In response to the large number of car crashes the Holden Police Department implemented grant money (received by the Governor's Highway Safety Bureau) for specialized traffic patrols. These patrols focused on safety belt and O.U.I. enforcement. Officers are also focusing their attention on dangerous intersections and on detecting motor vehicle law infractions in an attempt to increase travel safety throughout the town.

The Police Department strictly enforces traffic violations (and conducts traffic education) resulting in a low accident rate; this in turn results in low insurance premiums for residents. Holden is in the lowest insurance grouping allowed by the state.

Community Policing

In addition to investigating crime and traffic safety and enforcement, the police department mentors several agencies in Community Policing including the schools. The school program is focused on Internet safety and self defense in the middle schools while in the elementary school the focus is on safety while walking and biking and Halloween and ice safety. The Department also conducts community-policing outreach into the neighborhoods.

Other Municipal Facilities and Services

GALE FREE LIBRARY

The library is open Monday through Saturday, Mondays, Wednesdays and Fridays from 9:30 – 5:30, Tuesdays and Thursdays from 9:30 – 8:00, and Saturdays from 9:00 – 4:00. The library has a small program room that is available for use for community meetings. It must be reserved ahead of time.

Facility

As previously stated the building is in good condition and is comprised of the older, historic portion and the newer construction designed to blend in with the original building. There are currently 24 parking spaces with additional parking available across the street in the municipal lot (approximately 20 spaces), but in the winter this is difficult, also there is no crosswalk. Staff park in the adjacent church lot and library patrons are “unofficially” allowed to park there, but if there is a funeral/wedding or during pre-school hours, there are no available spaces. There is no on-street parking.

Staff

The Library has 11 full-time and 5 part-time staff members. Many of the services provided by the library rely on volunteers (including the shelving of

books, delivery of books to nursing homes, and assisting with library programs). There is no professional librarian in any of the schools in the five town regional school district, except for the high school. Additionally, the Gale Free Library is the only library in the five towns with a professional children's librarian. At least half of the activities in the children room are curriculum related. Teachers come from the surrounding towns for their curriculum needs. The school libraries do not have many of the required books and when they do, not in multiple copies, so the library must fill in and the Gale Free Library runs the middle school summer reading program. This regional role – supplementing the regional school system – seems to be growing.

Collections

The library maintains a collection of nearly three thousand reference books with particular emphasis given to materials in health, literature, and history. The library also owns a current set of Westlaw's Massachusetts General Laws. The library also has a range of magazines, books on tape or CD, music CDs, and videotapes and CD-ROM games.

Circulation

Circulation of materials has increased significantly over the last decade. In the fiscal year 1992, the library circulated 111,592 items (including books, magazines, movies, books on audio, etc.) while in the fiscal year 2006, the number of items circulated almost tripled to 325,789 items.

Electronic Resources

The Gale Free Library belongs to a library computer network (CW/MARS) that serves public, academic and school libraries in Central and Western Massachusetts. The network – which continues to grow – allows members to look up books from their home, renew an item on line and reserve a book. The library's web page (launched in 2002) is also a popular way for residents to obtain information about the library's collection and programs.

- The library has five public Internet workstations with high-speed connections available to the public at no charge.
- The library subscribes to a variety of databases that provide materials for a wide range of fields such as business, health and science.
- The library provides two-word processing stations that can be used for homework, etc.

Library Programs

The library has a number of programs for the public such as a twice-monthly adult book discussion group and a large number of children and youth programs and activities. In cooperation with the Senior Center, the Book Express serves those who are homebound.

The library has a Local History Room for displaying information and material related to Holden’s history. The library also lends space to local artists to exhibit their work.

SENIOR CENTER

During the year 2006, the Senior Center was used by 26 town-based non-profit groups and 12 Town Departments/Committees. The following table is a month-by-month account of how many meetings/functions were held at the Center in 2006. The total, 348 meetings/functions, averages to approximately one per day. These counts do not include the Bandstand Committee usage during the summer concerts.

Table 8.12: Senior Center Use

Month	Number of Meetings/Functions (non-senior) ¹
January	18
February	23
March	23
April	26
May	27
June	20
July	14
August	13
September	18
October	27
November	20
December	19
TOTAL	348

The Senior Center is not fully utilized during weekends. SERVE, a community service organization uses the building one Saturday a month and the Center co-sponsors a bereavement session with a local funeral home three to four Saturdays a year.

Staff

The Senior Center has 4 full time and 7 part-time staff members.

Services

The Senior Center provides the following services:

- Information and referrals
- Lunch every day (25 – 30 persons daily). The facility has a commercial kitchen, but food is catered through Elder Services.

¹ from a review of the scheduling calendar conducted by the Director of the Senior Center.

- A variety of classes are offered including painting, arts and crafts, Spanish, and history as well as a number of exercise classes
- Movies are shown
- Transportation: the Worcester Regional Transit Authority owns the van that is operated by the Holden Council on Aging. The van which has a wheelchair lift, is available Monday through Friday on a first come, first serve basis. Seniors are driven from their home to whatever their destination (e.g. doctor, friend's house, bank, hairdresser) and can be driven to and from bordering towns three days a week.

Facility

The newly constructed facility is in excellent condition and has a number of large, medium and small spaces supporting simultaneous programming of a variety of activities. The building is very pleasant, well maintained and very popular with the seniors and the community at large.

- The exercise room was recently furnished with exercise equipment and can no longer be used as a multi-purpose classroom space.
- The computer room is sometimes utilized as a multi-use space, with tables for card games.
- In addition to an outdoor shed, the nearby Rice School was utilized for off-season storage of outdoor equipment/furnishings. Now that the Rice School will be reused for housing, the Senior Center will have to find another storage space.

RECREATION DEPARTMENT

Facility

The administrative building (Creamer Property) does not comply with ADA codes and therefore, registration, meetings, and small adult activities must be held at the Senior Center.

Staff

The Recreation Department has 2 full time and 1 part-time staff members.

Town-owned Recreation Facilities

The town owns and manages the following recreational facilities:

- Municipal Pool and Dawson Recreation area, located at Salisbury Street
The Town Pool was completely renovated in 2003 resulting in two new pools, one family pool and one 8-lane lap pool.

This popular recreation area was recently expanded and upgraded (2005) to allow three ball games to be played simultaneously (soccer and baseball). There are also tennis and basketball courts. Plans are in place to install a water well to supply the irrigation system.

The Recreation Department constructed a skateboard park at the Dawson Recreation area. However, when a larger such facility opened in nearby

Rutland, usage of the Holden park decreased and it was subsequently converted back to a tennis court.

- Eagle Lake, located off Causeway Street.
This resource provides opportunities for swimming, boating and fishing. When a fire destroyed the bathhouse it was completely re-built in 2005 (and will be ready for the summer 2007). Since the new pools opened, Eagle Lake has seen a decrease in usage. Poor water quality, a high milfoil population and leeches have also affected Lake usage.
- Trout Brook Reservation, located on Manning Street.
This is a 675-acre reservation featuring hiking trails, fields, a pavilion for shade, and a lodge and nature resource center. The lodge is currently being renovated.
- The Recreation Department schedules all Town-owned fields; these are:
Jefferson (recently upgraded) Rice (to be upgraded in 2007)
Davis Hill Mt. View Middle School
Bubar Holden Light Company
Dawson Recreation area Mayo School
- The Recreation Department also provides before and after school programs in the elementary schools and some after school programs in the middle school. Additionally it uses the school buildings in the evening for adult programs including men's basketball, women's volleyball and cardio/exercise classes.
- In the winter, residents can skate on the temporary rink created on the front lawn of the Senior Center.
- The Recreation Department used to run six "Mommy and Me" classes at the Rice School until they had to leave the building in 2003. Currently there is no space available for such classes.

Additional Recreation Facilities

The following are additional recreational facilities available to residents of Holden (although not municipally owned or run):

- Chaffins Recreation Fields located on South Main Street, on Chaffins Pond and managed by the Chaffins Recreation Association. Given that this area has played an important role in the recreational opportunities for residents, the Town needs to work closely with the Association in order to ensure continued success and availability of this area.
- Holden Hills Golf Club located at 1800 Main Street

Utilities and Infrastructure

DPW FACILITIES

DPW Garage

The DPW Garage located at 87 Adams Road is a steel pre-fabricated building put up in the mid-1960s as a “temporary” facility. It is a basic shell, warehouse-type building. The garage functions as the: Garage Division, Highway Division, Equipment Repair Division and Buildings/Grounds Division.

In addition to 6 storage garage bays and 2 mechanic bays for equipment located at grade level, there is a 2-bay fire sub-station located in the basement level. Members of the Highway Department are also members of the Fire Department and staff this sub-station during the day. Smaller trucks and vans are parked outside on Adams Street that has been closed off to traffic.

All the town-owned vehicles are stored and maintained here with the exception of Water and Sewer trucks that are stored in the Jefferson Building because there is no room in the DPW garage. Several trucks and snowplows are stored outdoors because there is no room inside the facility. There is only one salt shed, although reportedly two are needed, however, the storage of salt corrodes the steel structure. Construction materials that should be sheltered are also stored outdoors due to a lack of space.

In addition to garage space there is a small office, combined lunch and sign-making room and one bathroom for 24 staff members. The heat in the building is insufficient.

In addition to the lack of space for vehicles and equipment, there is a lack of storage space there is no lunchroom, showers or locker rooms for staff. The building does not meet EPA requirements for such things as washing equipment, etc. No significant capital improvements have been made to the DPW building in almost 10 years.²

Currently the building is approximately 10,560 square feet of garage bays and 1,080 square feet of office space utilized by DPW (2 additional garage bays in the basement are used by the Fire Department).

In addition to the amount of space being inadequate for current needs, the type of space as well as the fact that the various functions are in different locations are all considered problematic by the Director of the Department of Public Works who estimates a need for almost twice the existing amount of space to fulfill future needs. There is no potential to expand on the existing DPW Garage site, because it is only 1.78 acres.

² Town of Holden Facilities Study, 27 June 2006

Table 8.13: Current DPW Space Utilization

Use	Current Square Footage	Comments
Highway Garage	11,640	Inadequate amount of space for current needs
Water & Sewer Garage	1200	In a separate location
Administration offices	500	Inadequate amount of space and in separate location
Storage garage (former landfill, near River St.)	400	In separate location
Fire sub-station	2 garage bays	Currently in basement of DPW garage, could be in separate location
TOTAL	13,740	Inadequate amount for current needs

Source: DPW Director

HOLDEN MUNICIPAL LIGHT DEPARTMENT Additional Services

The HMLD provides a number of additional services including:

- **Key Accounts System:** Outreach to develop relationships with key accounts (large commercial/industrial customers).
- **Reverse 911:** A computer-based telecommunications system housed at the Light Department that can be accessed by all town departments who can notify targeted areas or all residences.
- **Energy Conservation:** The Light Department offers customers the Residential Conservation Service Program, a statewide energy conservation effort. The Department provides information, support and incentives to residents who wish to conserve energy.
- **Town-wide Billing:** The Light Department also processes consolidated town-wide billing for electricity, water, sewer and solid waste. Additionally, the Light Department provides an online bill payment system so that customers can pay their utility bills on line.

Staff

The Light Department has 20 staff members, including 10 line personnel. The line crews provide maintenance services to the distribution system and customer assistance. The forestry crew removes trees and provides trimming services throughout the Town to help reduce the incidence of power outages. The meter readers read the electric and water meters throughout the Town.

Facility

A new municipal light department building was completed in 2001 on the site of a former school (Chaffins School) that was demolished. The new building is located at 1 Holden Street.

According to the Town Maintenance Plan³, the Light Department building is in excellent condition, in fact, of the buildings studied it is the only one not requiring any repairs of any kind. Additionally “no issues were noted.”

LOCAL FIBER OPTIC NETWORK

In 2002, the Holden Municipal Light Department and the Information Technology (IT) Department completed installation and connections for a local “municipal loop” – a fiber optic line between the Police Department, Fire Department, Starbard Building, and Town Hall. Late in 2005, the Light Department installed extension of this fiber to include the Library, the Senior Center, Adams Road DPW Garage, Fire Station #2 and the Holden Community Television Studio. By 2007, the inter-town system for e-mail, Internet, and data sharing should be complete (including an overhead connection to the Light Department) and will efficiently link all town services and facilities.

Future Plans/Needs:

A plan regarding how to best manage and use this network and connections would help to maximize its use.

There is interest in expanding the role of the HMLD in providing telecommunication services within the Town.

The Town has left a conduit in Main Street for the installation of additional fiber in the future. There are no immediate plans, however, one option for the future is to consider wireless connections to Holden residences.

GAS

NSTAR-service is available in limited areas.

TELEPHONE

Verizon is the primary provider and carrier.

CABLE TV

The local HCTV (Holden Community) publicly-operated cable television station is located at 800 Main Street. In addition to covering Selectman Meetings, town meetings, candidate debates and other such municipal events, the Cable TV station is very active in producing a number of other shows covering a variety of topics of interest to the community.

³ Building Systems, Inc., November 8, 2005

WATER AND SEWER DIVISION

There are 8 full-time and 1 part-time employees in the Water and Sewer Division.

Water System Existing Conditions

The Town's water system can be separated into the following distinct components:

- Sources of Supply
- Storage Tanks
- Distribution System
- Development-based Pressure Zones

Water Storage: Water storage tanks are essential for ensuring adequate service pressures, meeting instantaneous water demands, providing required fire flows, and providing for short-term emergencies when the supply capacity may be out-of-service.

The Town's water system has the following storage tanks:

- Avery Heights Standpipe - capacity 1.0 MG (High Service Zone)
- Chaffin Elevated Tank – capacity 0.25 MG (High Service Zone) - offline
- Chapin Road Reservoir – capacity 2.0 MG (High Service Zone)
- Jefferson Reservoir – capacity 0.75 MG (High Service Zone)
- Highland Street Reservoir – capacity 1.5 MG (Low Service Zone)

Collectively, these water storage tanks provide the following volumes, separated amongst the various “service zones” within the distribution system:

- Three tanks in High Service Zone (3.75 MG)
- Two in High Service Zone (1.75 MG)
- One in Super High Service Zone (2.0 MG)
- One tank in Low Service Zone (1.5 MG)

The Town's water system is divided into two major service zones, to ensure adequate service pressures throughout the water system. These service zones are established by the water elevation in the storage tanks within that particular service zone. Additionally, there are several isolated locations within Town that are considered “super high service zones”, as they are higher in elevation and require supplemental booster pumping to achieve adequate service pressures.

Based upon previous studies, it has been determined that these existing water storage tanks have adequate storage capacity to handle projected water demands through 2030.

Water Distribution System: The Town’s water distribution system consists of approximately 105 miles of water mains, with the following breakdown by type/material:

- 25 miles of cast iron water mains (4 miles cleaned and lined)
- 45 miles of asbestos-cement water mains
- 35 miles of cement lined ductile iron water mains

The ability of the water system to provide adequate service (flow and pressure) throughout the water system depends upon the size and condition of the respective network of water mains to any specific location. In order to assess the ability of the existing water main network to provide the required flows and pressures, a computer model was previously developed and calibrated utilizing field test data.

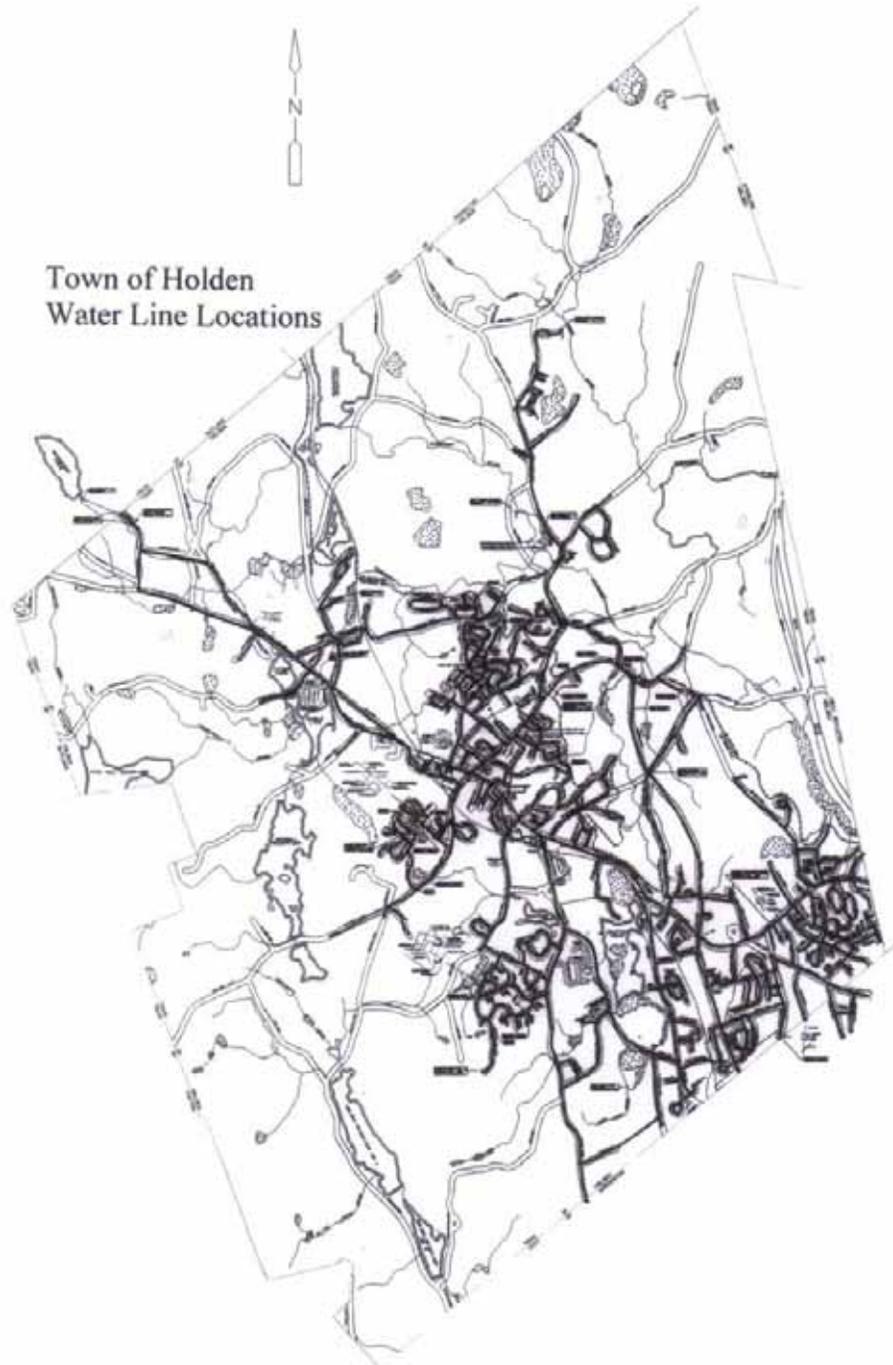
This previous evaluation of the water distribution system established a recommended plan for rehabilitation/replacement of unlined cast iron water mains and other identified problems (hydraulic restrictions, break history, etc.) that need to be addressed.

Development based Pressure Zones: As noted in the Water Storage discussion, there are existing “super high service zones” in the Town water system that are necessary to provide adequate flows/pressures to these selected high elevation areas. The existing development based pressure zones served by localized booster pumping stations are as follows:

- Chapin Road Tank Super High Zone (Chapin Tank Booster Station)
- Morningside Development (Morgan Circle Booster Station)
- Fox Hill Development (Sycamore Drive Booster Station)

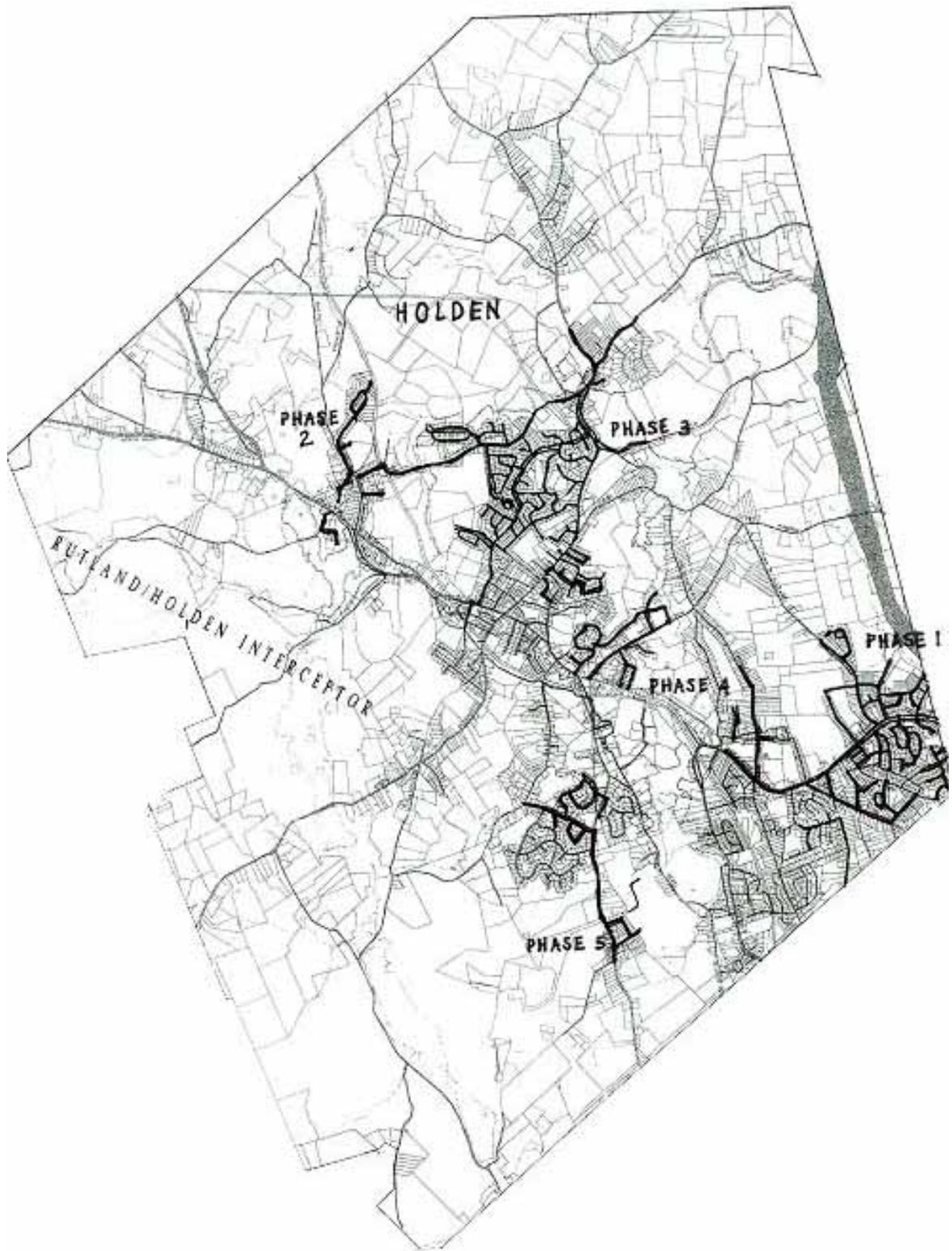
Previous studies have established a recommended plan for improvements for these “super high service zones”, to address existing deficiencies such as limited fire flow capacity in the Fox Hill Development and to optimize pump operations in Morgan Circle Booster Station (Morningside Development).

An additional concern was noted relative to potential development near the existing Jefferson Reservoir, as new homes in his area may not be adequately served by the Jefferson Reservoir and High Service Zone, and may require consideration of an additional “super high service zone”.



Map 8.2: Town of Holden Water Line Locations

Sewer System Existing Conditions



Map 8.3: Town of Holden Sewer Line Locations

Resources

The following documents and contacts were consulted during the preparation of the Public Facilities and Services Section.

Documents

Annual Town Reports

Dept. of Conservation & Recreation sewer installation Study

Town of Holden Building Study, William H. Rowe & Assoc., 1998

Town of Holden Facilities Study, Lamoureux Pagano Architects (LPA) June 2006

Builders Systems, Inc., Building Surveys, November 8, 2005

Weston & Sampson, Sewer Master Plan

Camp Dresser & McKee, Water Supply Studies

Wachusett Reservoir Watershed Land Management Plan: 2001 – 2010

Water Quality Report , DPW (2001)

Water Quality Report 2000 Wachusett Reservoir & Watershed (MDC)

Town of Holden, Open Space & Recreation Plan, 2005

Report from Infrastructure Investment Fund

Solid Waste Committee

The Landmark Town Guide

Contacts

Brian Bullock, Town Manager

508-829-0225

Pam Harding, Town Planner

John Chandler III, Fire Chief

(508)-829-0266

George Sherrill, Chief of Police

(508)-829-4444

Jane Dutton, Library Director

(508)-829-0231

Larry Galkowski, DPW Director

(508) – 829-0249

Rich Dewitt, Highway Department

(508) –829-0258

Randy Swigor, Superintendent of the DPW Water & Sewer Division

(508)-829-0246

Denise Morano, Recreation Director

(508)-829-0261

Tom Pandiscio, Ph.D., Superintendent of Schools

(508)-829-1670

Louise Charbouneau, Senior Center

(508)-829-0270

Brian Bullock, Municipal Light Department

(508)- 829-0276

Appendix 7 – Implementation

Cost Estimates for Capital Items in the Master Plan

<u>Item</u>	<u>Cost</u>	<u>Years</u>
• Acquire property rights for access to water bodies and watershed protection areas	\$0 – \$0.2 million ¹	2008 – 2010
• Seek funding for Holden Common Area (50 acres total, 30 acres of publically owned land)	\$7 – \$8million for 30 acres of public land ²	2008 – 2011
• Water treatment at Eagle Lake to eliminate weeds	\$50,000 – \$60,000 ³	2008 – 2009
• Seek grants for preliminary exploration and mapping of important open space linkages	\$35,000 – \$40,000 ⁴	2008 – 2010
• Apply for funding for designing and constructing a pathway system	\$0.5 – \$1.0 million per mile of pathway/trail ⁵	2010 – 2015
• Schedule and fund improvements for traffic safety and operations and sidewalks	\$0.5 – \$1.0 ⁶ million	2009 – 2014
• Continue sewer expansion studies and possible new sewer lines and facilities	No projects identified yet, expansion depends on studies and contract negotiations.	2008 and ongoing
• Construct new public safety building and facilities	\$13 – \$14 ⁷ million	2009 – 2010
• Fire Sub-Stations for northeast and southeast areas of Holden	\$2.0 – \$2.5million each \$4 – \$5million for both ⁸	2012 – 2017
• Replace existing DPW Garage/Fire Sub-Station	\$18 – \$19million ⁹	2013 – 2014
• Replace the Town Administrative Offices	\$3.0 – \$3.5million ¹⁰	2010 – 2012
• Construct a Youth Skate Park	\$0.1 – \$0.2million ¹¹	2009

¹ No costs may be necessary. Access rights could be negotiated with the City of Worcester. DCR already allows access on its property.

² @ \$250,000 per acre of landscape and streetscape improvements (including parking, walks, planting, lighting and other site amenities). Seek possible grant for design and preliminary engineering work.

³ A feasibility study and lake management plan should be done to determine which of three treatment options would be best. The Town may be eligible for grant funding for a portion of the cost.

⁴ This might be better done as part of a comprehensive town-wide trails and corridors plan.

⁵ Extent and type of pathways to be determined in a design study. Range of costs set by amount of grading, earthmoving and paving required. Current bikepath costs in MA are \$1 million/mile for conversion from a rail line to a multi-use paved bikepath.

⁶ Represents cost for capital improvements only. General sidewalk and roadway installation and maintenance are assumed to be funded through the Department of Public Works (DPW) annual budget.

⁷ Latest estimate of the Public Safety Building Committee for a joint police/fire building.

⁸ Based on recent similar projects in Franklin and Arlington, MA.

⁹ October 23, 2007 estimate prepared by Weston & Sampson, consultants to the Holden DPW.

¹⁰ Recommended option cost estimates of Rowe & Associates, Architects, prepared in 1998 and projected to 2007 using Reed Construction Data, Inc. construction materials annual cost index.

¹¹ Skate Park Association of the United State of America, <http://www.spausa.org>

Timing of Actions

HOUSING	Phase 1			Phase 2			Phase 3				
<i>1st Priority Housing Implementation Actions</i> <i>Years</i>	1	3	5	6	8	10	12	14	16	18	20
Create a standing housing committee: expand charge of existing Affordable Housing Partnerships Committee, or form a new committee. The standing committee would be responsible for dealing with the full range of housing issues facing the Town..											
<i>2nd Priority Housing Implementation Actions</i>											
Continue with the Town's commitment to produce 44 affordable housing units per year											
Increase the Town's affordable housing stock to achieve statutory requirements.											
Increase senior housing options.											
Rezone more land in the Main Street Corridor for multi-family housing and 15,000 sq. ft. lots.											
Create Village Zoning in selected areas on Main Street to allow for housing in mixed-use commercial/residential development.											
Encourage use of cluster zoning to save open space in low-density areas outside the Main Street Corridor.											
Provide a variety of housing options recognizing there is a projected decrease in need for large single-family homes.											
Pass an inclusionary affordable housing requirement for new multi-family projects of over 10 units.											
NATURAL RESOURCES											
<i>1st Priority Natural Resources Implementation Actions</i> <i>Years</i>	1	3	5	6	8	10	12	14	16	18	20
Create and fund a Conservation Commission Agent position.											
Protect important and scenic agricultural resources and views.											
Complete and adopt stormwater regulations.											
<i>2nd Priority Natural Resources Implementation Actions</i>											
Identify and protect critical wildlife resources and corridors, including vernal pools.											
Inventory and document currently unprotected land and establish priority list.											
Protect large forested areas to avoid forest fragmentation.											
Increase public access to ponds and streams for recreational uses											
Increase appropriate public access to watershed protection areas.											
Provide special protection for forested slopes to preserve views and to reduce erosion and stormwater runoff.											

HISTORIC & CULTURAL RESOURCES	Phase 1			Phase 2			Phase 3				
<i>1st Priority Historic & Cultural Resources Implementation Actions</i> <i>Years</i>	1	3	5	6	8	10	12	14	16	18	20
Preserve and maintain existing Town-owned historic resources.											
Develop a plan to preserve privately owned historic assets and encourage knowledge of Holden’s history.											
<i>2nd Priority Historic & Cultural Resource Implementation Actions</i>											
Investigate the creation of historic districts at Jefferson, Quinapoxet and Chaffinville											
Protect cultural landscapes around the Red Barn, Alden Laboratories and historic farms.											
Expand and enhance the Holden Common area.											

OPEN SPACE & RECREATION	Phase 1			Phase 2			Phase 3				
<i>1st Priority Open Space Implementation Actions</i> <i>Years</i>	1	3	5	6	8	10	12	14	16	18	20
Create a standing Open Space Committee. Complete Open Space and Recreation Plan											
Protect land in open space opportunity areas to help preserve town’s character.											
Encourage additional use of tax incentives for private open space.											
Expand Trail Systems with a vision of creating an interconnected town-wide system.											
Pursue adoption of conservation related bylaws and policies, e.g., create zoning incentives for the preservation of open space.											
Recreation Department to investigate the possibility of additional recreational facilities and services.											
Protect agricultural areas to help maintain town’s rural character and views.											
<i>2nd Priority Open Space & Recreation Implementation Actions</i>											
Explore Creating Skate Park/Ice Skating Rink.											
Increase utilization of Eagle Lake.											
Seek permanent protection of CRA Field.											
Develop an Indoor Recreation Facility for Winter Use.											
Designate funds in an IIF sub-account for the preservation of open space.											
<i>3rd Priority Open Space & Recreation Implementation Actions</i>											
Create linkages between already protected areas.											
Seek to permanently protect the Fox and Coon Club property.											
Protect important habitat areas.											
Urge Open Space Residential Development in open space opportunity areas.											

ECONOMIC DEVELOPMENT	Phase 1			Phase 2			Phase 3				
<i>1st Priority Economic Development Implementation Actions</i> Years	1	3	5	6	8	10	12	14	16	18	20
Allow service oriented commercial uses in the industrial zone on Industrial Drive, while preventing “big box” retail uses.											
Rezone selected lands behind existing commercial development on Main Street from residential to commercial.											
In some selected land along Main Street rezone both commercial and residential to “village” which permits mixed use.											
Amend the zoning bylaw to eliminate undesirable commercial uses such as “big box” retail.											
<i>2nd Priority Economic Development Implementation Actions</i>											
Encourage development of small office space with business support services to attract some existing home occupations into commercial space.											
Use design review of commercial and mixed-use projects to better assure quality development.											
<i>3rd Priority Economic Development Implementation Actions</i>											
Implement a business recruitment program to get the types of businesses Holden residents want on Main Street.											
Conduct a storefront improvement program to upgrade the appearance of existing businesses.											

TRANSPORTATION	Phase 1			Phase 2			Phase 3				
<i>1st Priority Transportation Implementation Actions</i>	1	3	5	6	8	10	12	14	16	18	20
Implement safety and operations improvements at critical intersections.											
Implement a sidewalk program to install new sidewalks and maintain existing sidewalks at critical locations such as elementary schools.											
Connect existing neighborhoods to each other and to commercial areas and schools with a system of pathways.											
<i>2nd Priority Transportation Implementation Actions</i>											
Develop and implement a Pavement Management System for town roadways.											
Coordinate with the Worcester Regional Transit Authority as to the potential demand and feasibility for improved bus service and a local shuttle.											
<i>3rd Priority Transportation Implementation Actions</i>											
Reduce student traffic into/out of Wachusett Regional High School.											
<i>Long-term Considerations</i>											
Evaluate feasibility and impacts of new I-190 interchange in the vicinity of Malden Street.											

PUBLIC SERVICES & FACILITIES	Phase 1			Phase 2			Phase 3				
<i>General Administrative Recommendation</i>	1	3	5	6	8	10	12	14	16	18	20
Establish a committee for long-range capital planning of municipal facilities.											
<i>1st Priority Public Services & Facilities Implementation Actions</i>											
Continue to monitor and evaluate committed reserved wastewater flow, evaluating capacity deficits and surpluses.											
Discuss with City of Worcester regarding the potential for additional capacity.											
Continue with explorations to provide fire sub-stations to cover northeast and southeast quadrants.											
Explore automatic mutual aid agreements with adjacent towns (e.g., Paxton and Rutland).											
Continue evaluating plan to have Fire Department take over ambulance duties.											
Replace the DPW Garage/Fire Department Sub-Station.											
<i>2nd Priority Public Services & Facilities Implementation Actions</i>											
Replace the Town Administration Offices.											
<i>Longer-term Considerations</i>											
General needs for youth and seniors, including new/expanded programs for seniors and a possible youth center.											
Schools, Mt. View Middle School will require renovations, mainly because it is the oldest.											
Confirm and update population and water demand projections over time to confirm adequacy of water supply and distribution system											

LAND USE	Phase 1			Phase 2			Phase 3				
<i>1st Priority Land Use Implementation Actions</i> <i>Years</i>	1	3	5	6	8	10	12	14	16	18	20
Establish design guidelines to help assure quality of new development, infill, and adaptive reuse of historic buildings.											
Establish design guidelines to help assure quality of new development, infill, and adaptive reuse of historic buildings.											
Consider inclusion of “green building” principles and low impact development principles in town's zoning bylaws.											
<i>2nd Priority land Use Implementation Actions</i>											
Focus a diversity of future development along the Main Street Corridor.											
Create mixed-use nodes at the historic villages of Jefferson, Holden Center, Dawson and Chaffinville.											
Infill areas between and around villages with a diversity of housing with one to three bedrooms and home offices.											

LAND USE (continued)	Phase 1			Phase 2			Phase 3				
	1	3	5	6	8	10	12	14	16	18	20
<i>2nd Priority land Use Implementation Actions</i>											
Encourage accessory apartments in Main Street corridor.											
Use cluster design principles to preserve some open space in areas outside the Main Street Corridor.											
Offer a small density bonus of up to 17% to encourage use of the cluster provision.											
Encourage use of Open Space Residential Development in open space opportunity areas.											
<i>3rd Priority land Use Implementation Actions</i>											
Offer and apply incentives for maintaining open/agricultural/forest land in its present open space use.											
<i>Longer-term Considerations</i>											
Work out a plan for long-term maintenance of the retention/detention ponds and stormwater pumping stations that are required in Holden's zoning bylaws.											
Explore establishment of a recreational/institutional zoning district category that requires town review of any proposals for reuse of recreational/open lands (e.g., golf courses) if they are sold.											

 Indicates activity on this topic during year/phase

Indicates steering committee priority implementation action items.