# BUCKLAND - SHELBURNE
# MASTER PLAN
# MAY 1999

**A joint project of the**

**TOWN OF BUCKLAND**
**and the**
**TOWN OF SHELBURNE**

**Prepared by the**

**BUCKLAND-SHELBURNE MASTER PLANNING COMMITTEE**

**Scott Sylvester, Co-Chair**
**Brock Cutting, Co-Chair**

**and the**

**FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS**
**PLANNING DEPARTMENT**

*This project was funded by the Executive Office of Environmental Affairs*
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# CHAPTER i

# INTRODUCTION

A Master Plan is a long range plan that guides development in a town towards a vision of what residents would like the future to be. It is a comprehensive document that looks at all aspects of a community including Natural Resources, Historic Resources, Transportation, Public Infrastructure & Municipal Services, Economic Development, and Land Use and Zoning. This includes mapping, inventory, analysis, and recommended strategies for accomplishing the objectives of the town. It may also include a Capital Improvement Program to coordinate large-scale expenditures with the goals of the Master Plan. Most importantly, it is a plan created by and for the citizens of a community.

The Towns of Buckland and Shelburne began their Master Planning process with an extensive community survey, Buckland in 1996 and Shelburne in 1997. These surveys are an integral part of the Master Plan (See Appendix I) and provided guidance and a framework for the completion of this document. Over 32% of households in each community responded to the survey providing an excellent sample of the residents' vision for the future of their communities. The survey process was funded by two Municipal Incentive Grants provided by the Massachusetts Department of Housing & Community Development.

The catalyst for both communities to undertake this major project is reflected in the responses to the community surveys. Threats to prime farmland, rural character, environmental resources, and historic features, which make both communities such wonderful places to live, are increasing. The Planning Boards in Buckland and Shelburne decided to take a proactive stance and complete a Master Plan. The Master Plan identifies changes needed in the land use regulations to protect community character and environmental resources. It will guide development if those changes are implemented. It also provides information to help municipal officials make decisions on topics ranging from open space to economic development. The completion of a joint Master Plan for Buckland and Shelburne was funded by a grant provided by the Executive Office of Environmental Affairs' Planning for Growth Program.

The Franklin Regional Council of Governments Planning Department was hired to conduct all the Master Planning work including the survey, mapping, inventory, and analysis. Their work was overseen by an approximately 70 member Master Planning Committee with municipal officials from both towns as well as interested residents. Members of the Master Planning Committee also signed up for subcommittees to work on specific topics of interest such as natural resources, land use, or economic development. The result of all this hard work is this document. It is filled with information and maps about the towns of Buckland and Shelburne and guidance about how to grow wisely in the future. Our next challenge will be to implement the recommendations this Master Plan contains.

# CHAPTER 1

# NATURAL RESOURCES, OPEN SPACE, AND FARMLAND

The towns of Buckland and Shelburne lie west of Greenfield, in the foothills of the Berkshire Mountains. Both Buckland and Shelburne are fortunate to have rich and abundant natural resources including prime forest and farmland soils, clean air and water, diverse wildlife and vegetation, and beautiful mountains and river valleys. The Deerfield River forms the boundary between the two towns and also the northern boundary of the town of Buckland. The foothills of the Berkshire Range make the area hilly and full of forested ridges and valleys. They provide varied habitat for many species of plants and animals, as well as timber resources. The valleys of the Deerfield River and the Clesson Brook provide flat land and fertile soils which are ideal for agriculture. Dairy farming and crop production have long been an important part of the local economy. The Deerfield River served as the focus for early development of the local industrial base and continues to provide jobs to this day. It also continues to provide power to generate electricity. Table 1-1 provides acreages of the natural and agricultural land in Buckland and Shelburne.

The towns provide centralized wastewater disposal in the village of Shelburne Falls. Residents, businesses, and industries outside the village rely on on-site wastewater disposal. Similarly, municipal water is also available in the village of Shelburne Falls. Outside the village, private homes and small public water suppliers such as restaurants and campsites rely on the availability of clean groundwater for drinking.

**Table 1-1: Natural Resources and Agricultural Land**

| | Buckland | Shelburne |
|---|---|---|
| **Total Area** | 12,676 acres | 14,977 acres |
| Surface Water | 114 acres | 140 acres |
| Wetlands | 235 acres | 412 acres |
| Forest | 10,043 acres | 10,185 acres |
| Cropland | 752 acres | 1,395 acres |
| Pasture | 638 acres | 1,315 acres |
| Orchard, Nursery, etc. | 145 acres | 522 acres |

Protection of natural resources is a critical part of a Master Plan. As Buckland and Shelburne work to determine the direction of their future growth it is important to identify the natural resources and implement strategies for their protection. Both communities conducted public surveys over the past two years. The responses were used to develop goals and objectives for the Master Plan. These goals and objectives were approved at the Buckland Town Meeting in 1996 and Shelburne Town Meeting in 1997, and serve as the framework for this Master Planning process. Not surprisingly, 87% of survey respondents in Buckland and 83% in Shelburne felt

that natural resources are an important resource to be addressed by the Master Plan. Copies of the survey results from the two town surveys are attached in Appendix I. A twelve person subcommittee was formed from the Master Plan Committee to study the natural resource issues that face Buckland and Shelburne, to devise goals and strategies to address them, and to come up with recommendations for the full Master Plan Committee and the Land Use subcommittee. Members of the Natural Resource subcommittee included persons with expertise in forestry, entomology, natural resource management, wildlife conservation, land conservation, and agricultural preservation, and members from the Planning Boards and Conservation Commissions. The Natural Resources subcommittee was guided in its work by the results of the public surveys.

In Shelburne, 97% of the survey respondents cited rural character as an important consideration in their decision to live in Shelburne and 86% identified open space as important. In addition, 91% considered air and water quality an important criterion in their decision to live in Shelburne. Overall, 30% of the respondents felt that the rural character had declined in the time they have been in Shelburne. In fact, when asked to identify the five biggest problems facing Shelburne today, 25% of the survey respondents picked loss of rural character as a major problem.

In Buckland, 89% of the residents that responded to the survey indicated that preservation of farmland is an important goal for the town and 31% of survey respondents felt that the town should spend additional tax dollars to ensure preservation of agricultural land. In addition, 87% of Buckland respondents and 92% of Shelburne respondents felt that efforts should be made to keep working farms in the towns. Only 9% in Buckland and 6% in Shelburne were opposed to the idea. Also, 92% of survey respondents from Buckland and 86% of survey respondents from Shelburne support additional agricultural operations (dairy farming, truck farming, nurseries, aquaculture) in their town.

For both communities, the surveys also asked town residents for their opinion on land protection. In Buckland, 90% of the survey respondents, and in Shelburne, 87% of the survey respondents indicated that protection of open spaces to meet water and conservation needs is important for their town. In addition, 77% of the respondents from both Buckland and Shelburne felt that protection of open spaces to meet recreational needs is important. Finally, 81% of Buckland respondents and 90% from Shelburne considered the preservation of scenic landscapes as important. The current status of protected land in the two communities is tabulated in Table 1-2.

**Table 1-2: Protected Open Space**

| | Buckland | Shelburne |
|---|---|---|
| **Total Area** | 12,676 acres | 14,977 acres |
| Permanently Protected Land | 169.5 acres | 1,602 acres |
| APR* Land | 15.5 acres | 646 acres |
| Chapter 61 – Forestry | 2,338 acres | 463 acres |
| Chapter 61A – Agriculture | 1,758 acres | 3,613 acres |
| Chapter 61 – Recreation | 379 acres | 172 acres |

* Agricultural Preservation Restriction Program land is included in Permanently Protected Land amounts

Only 1% of Buckland's Total Area is permanently protected. Shelburne has more land protected, approximately 11% of the Total Area. However, both towns need to protect additional open space to protect the forestry and agricultural resources identified by the various Chapter 61 designations. The various Chapter 61 designations do not provide any long term permanent protection, only a right of first refusal for towns.

Residents who responded to the survey prioritized the preservation of natural resources very highly. Overall, 91% of the respondents from each of the towns indicated that it is important to preserve the rivers and streams in town. In both towns, 85% of the respondents considered the preservation of ponds and lakes to be important. Wetlands were identified as important by 75% of Buckland respondents and 81% of Shelburne respondents. With respect to forest resources, 87% of both Buckland and Shelburne respondents consider the preservation of the towns' forest land to be important. Public water supplies were selected as important resources that needed protection by 89% of Buckland respondents and 90% of the respondents from Shelburne. Additionally, 73% of Shelburne residents identified the preservation of private well water quality as important. Finally, 69% of the survey respondents in Buckland, and 80% of those in Shelburne, felt that it is important to protect the ridges and 73% of the respondents from Buckland also considered the protection of the scenic landscape, including views and vistas to be important.

The following natural resource goals and strategies were devised by each town based on the results of the Community Surveys (conducted by Buckland in 1996 and Shelburne in 1997). They were adopted by the towns at their respective Town Meetings. They have been refined by the Natural Resources subcommittee and submitted to the Master Planning Committee for their approval.

## Goals

- To maintain and protect natural resources, including rivers and streams, public water supplies, wetlands, wildlife and their habitat areas, farmland, forests and ponds.
- To preserve the rural character by protecting and supporting the towns' rich farming heritage and ongoing agricultural activity.

## Strategies

- Identify and protect aquifers for public drinking water supplies and protect private well water quality.
- Maintain and preserve the water quality and related environmental resources of the Deerfield River and its tributaries.
- Restrict development in floodplains and direct development away from environmentally sensitive areas.

- Identify and protect important ridgelines and viewsheds. Implement measures to direct telecommunications towers away from highly visible ridges in town.
- Identify and promote the protection of vernal pools and critical wildlife habitat areas identified by the Massachusetts Natural Heritage and Endangered Species Program.
- Identify measures to protect environmentally sensitive areas and resources including wetlands, woodland, rare and endangered species habitats, vernal pools, deer wintering areas, heron rookeries, etc.
- Actively pursue gifts and bequests of open space and other natural resources to the towns.
- Pursue grants and other forms of technical assistance for farmers to improve the financial viability of their farm operations.
- Advocate the use of sustainable forestry techniques including Best Management Practices for timber harvesting advocated by the Massachusetts Department of Environmental Protection.
- Encourage the use of cluster development and development of houses in the back of a property when appropriate so that acreage along roads may be protected as agricultural land, forest or open space.
- Support public and private initiatives to protect open space, natural resources and agricultural land including the use of conservation restrictions.

## Water Resources

### Surface Water

The towns of Buckland and Shelburne are criss-crossed with a multitude of streams. According to land use data generated by the University of Massachusetts using aerial photographs from 1995 and 1997, 114 acres in Buckland and 140 acres in Shelburne are covered by surface water. Additionally, 235 acres in Buckland and 412 acres in Shelburne are classified as wetlands according to the National Wetlands Inventory of the United States Fish and Wildlife Service. The water resources of the two towns are identified on the Water Resources and Wildlife Habitat map. The major water bodies are identified below.

Deerfield River – The Deerfield River runs from West to East. It starts from the Berkshire mountains and is a tributary of the Connecticut River. In this section it runs from West to East along the Northern edge of Buckland and then turns southeast, forming the border between Buckland and Shelburne. The Deerfield River is a major recreational resource in the area. It is used for white water rafting and canoeing in the upstream reaches and becomes wider and slower once it reaches Shelburne. This section of the river is used for canoeing.

Clesson Brook – The Clesson Brook is a tributary of the Deerfield River. The headwaters of the Clesson Brook are in Hawley. It enters Buckland from the west, flows down to the southern boundary of the town where it makes a tight turn and flows North through Buckland towards the

Deerfield River. Some of the most fertile agricultural land in the area is found in the Clesson Brook valley.

Surface water quality in Buckland and Shelburne is generally good. Most surface waters meet their designated standards as either Class B (fishable / swimmable) or, in some cases, Class A (drinking water quality / outstanding resource water). In 1994, the only water body in the towns that was not in compliance with Massachusetts Water Quality Standards was the North River in Shelburne. The water of the river was polluted with pathogens visible through changes in the taste, odor, and color of the water. In the 1998 listing of impaired waters, Goodnow Road Pond in Buckland was added to the list due to the presence of noxious aquatic plants.

### Aquifers and Ground Water

There are two public water supply wells in Buckland and eleven in Shelburne. Public water supplies are classified as Community or Non-Community water sources. All the wells in Buckland and Shelburne are classified as Public Non-Community water sources. The towns contain no wells that serve as Public Community water supplies. A Non-Community source is one that serves 25 or more persons, such as a school, factory, campsite, or restaurant. This may be Transient or Non-Transient, depending upon the usage period. Sources that are in use for less than six months are considered Transient.

The issue of water supply is very important to the two towns. Currently the Shelburne Falls village area is served by public water. The water source is not located in either Buckland or Shelburne, but in Colrain. This raises the issue of ensuring protection of the water supply. Unless the towns have ownership of their water supply, they must depend on another town for the protection of their water quality. The two ways the towns can protect an external water source is by purchasing the land around it, or purchasing conservation easements to it and restricting development, both of which are expensive prospects. The Shelburne Falls Fire District has already begun on this course by purchasing some land adjacent to the water supply well in Colrain (See the Open Space Map).

An additional method for the towns to ensure future water supply to their residents is by investigating the aquifer potential of lands within their municipal limits and initiating protective measures for areas that exhibit high potential for serving as future public water sources for the towns. Upon investigation of the aquifer data from United States Geological Survey (USGS), a single area was found with a potential yield of 51 - 200 gallons per minute. Ironically, this lies right below Shelburne Falls Village Center where dense development already exists making it an unsuitable location for a public water supply well. The next yield category of 0-50 gallons per minute runs along the Deerfield river on both the Buckland and the Shelburne banks, and along the Clesson Brook and Clark Brook in Buckland. These are shown on the Water Resources and Wildlife Habitat Map.

## Wildlife Habitat

The diverse landscape of the two towns includes hills, valleys, forests, farm fields, rivers, streams, ponds, and wetlands, providing excellent habitats for a large number of plant and animal species. The important wildlife habitats are identified on the Water Resources and Wildlife Habitat map. These include Estimated Habitats of Rare and Endangered Species and Priority Habitats and Exemplary Natural Communities.

### Estimated Habitats of Rare and Endangered Species

These areas are the estimated habitats of rare wetlands wildlife and certified vernal pools. They are identified by the Natural Heritage and Endangered Species Program (NHESP) and are meant for use with the regulations of the State Wetlands Protection Act. The NHESP atlas identifies Estimated Habitats of Rare and Endangered Species in Buckland all along the Clesson Brook and in the southwestern part of town along the Upper Branch. There is an isolated area in the eastern part of Shelburne classified as Estimated Habitat of Rare and Endangered Species.

### Priority Habitats

These have been identified by the NHESP as the approximate extents of the most important sites for rare species in Massachusetts. These areas include both wetland and upland habitats for recent occurrence of rare plants and animals and significant natural resources. The criteria used to determine the priority habitats are:

- rarity of the species occurring in the area;
- the number of co-occurring rare species; and
- the size and health of those communities.

Priority Habitats have been identified by the NHESP atlas in Buckland in sections along the Deerfield River and in a large area adjacent to Clark Brook near the junction of East Buckland Road and Hog Hollow Road. In Shelburne, the Priority Habitat areas run along the Deerfield River. The NHESP atlas also identifies Priority Habitats in the north western part of town in, and adjacent to, High Ledges and in the eastern part of town between Route 2 and Zerah Fiske Road.

## Mapping Products

The Natural Resources subcommittee decided that the creation of maps of the towns' natural resources was important to provide a visual picture of the spatial relationships of the various areas to each other and to development in the town. This was an essential step to be able to prioritize areas that were important to protect. Maps of Water Resources and Wildlife Habitat,

Open Space, and Agricultural and Forest Lands were created to inventory and study the current conditions in the towns. Maps of Steep Slopes and Topography were also created as part of the analysis to identify potential ridge protection areas. A Composite Environmental Assessment Map shows the culmination of the spatial analysis conducted by the Natural Resource subcommittee.

**Water Resources and Wildlife Habitat Map** – This map synthesizes information about the locations of significant water and wetland resources with information about significant wildlife habitats. MassGIS data was used to show the surface water (rivers, lakes, and streams), certified vernal pools, public water supplies, DEP approved Zone IIs, interim wellhead protection areas, aquifers, and outstanding resource waters in Buckland and Shelburne. Wetland information for the towns was obtained from the National Wetlands Inventory generated by the United States Fish and Wildlife Service. Aquifer Potential is determined and mapped by the United States Geological Survey (USGS) based on an analysis of an area's surficial geology. The MassGIS Surficial Geology data was used in conjunction with the USGS map to identify aquifer potential in Buckland and Shelburne. The map identifies aquifers with potential yields greater than 200 gallons per minute (gpm), aquifers with a potential yield of 50-200 gpm, and aquifers with potential yield less than 50 gpm. The Natural Heritage and Endangered Species Program (NHESP) has estimated habitats of rare wildlife in wetlands and identified priority habitats for rare species, which include both wetland and upland habitats. This information on important wildlife habitats was combined with the knowledge of the Natural Resource subcommittee to identify potential wildlife habitat corridors shown on the Composite Environmental Assessment Map.

**Open Space Map** – This map shows permanently protected open space as contained in the MassGIS data. This data was supplemented with some parcel level verification done by the Natural Resource subcommittee members. Lands enrolled in the State Department of Food and Agriculture's Agricultural Preservation Restriction (APR) Program, and those under Chapter 61, Chapter 61A, and Chapter 61B have also been shown.

**Agricultural and Forest Lands Map** – This map shows land in the two towns currently under agricultural, pasture, and forest land. In addition, it also identifies prime and unique farmland, and other farmland of statewide importance, as well as prime forestland in the two towns. APR lands are shown on this map to provide a picture of agricultural land that is permanently protected.

**Slope** – The slope map identifies areas with slopes greater than 25%, which are virtually unbuildable, and areas with slopes between 15 and 25%, which form constraints on industrial and commercial development.

**Topography** – This is a map of the topography of the two towns showing contour lines at every ten feet rise in elevation. This map was used in conjunction with the slope map to identify the highly visible ridges in the towns. This information was field verified by FRCOG planning staff and Natural Resource subcommittee members before being incorporated into the Composite Environmental Assessment Map.

**Composite Environmental Assessment Map** – This is an analysis map. It shows the areas in town that are unbuildable due to various environmental constraints such as their proximity to a river or wetland, slopes too steep to be built upon, and areas that are already developed. Using this information, and that inventoried and identified in the previous maps, the Natural Resource subcommittee identified three sets of significant resource areas in the towns. These are potential aquifer protection areas, potential ridge protection areas, and potential wildlife corridors. These are discussed in greater detail in the Recommendations section later in this chapter.

**Table 1-3: Potentially Unbuildable Land Areas**

| | Buckland | Shelburne |
|---|---|---|
| **Environmental Constraints** | | |
| **Surface Water** | 114 acres | 140 acres |
| **NWI* Wetlands** | 235 acres | 412 acres |
| **Title 5 Buffer Around Water Bodies & Wetlands** | 600 acres | 992 acres |
| **Public Water Supply Well Head Protection Areas** | 96 acres | 150 acres |
| **Slopes > 25%** | 2,280 acres | 2,559 acres |
| **Slopes 15% to 25%** | 3,811 acres | 3,985 acres |
| **NHESP Wetland Habitat** | 1,061 acres | 27 acres |
| **Permanently Protected Land** | 169.5 acres | 1,602 acres |

*NWI - National Wetlands Inventory

## Recommendations

### Zoning Recommendations

- Consider the adoption of Aquifer Protection Overlay Districts and associated zoning bylaws for the protection of surface and ground water quality in those areas that have the potential to serve as future public water supplies for the towns.

  Potential Aquifer Protection Areas have been identified on the Composite Environmental Assessment Map. Based on potential ground water yield identified by the United States Geological Survey, the Natural Resource subcommittee has selected three areas with potential yields of 50 gallons or less per minute. These are:

  - along Clesson Brook in Buckland;
  - along Clark Brook in Buckland; and

- along the Deerfield River in Shelburne.

Given that the water supply for Shelburne Falls is located in Colrain, outside the town limits of Buckland and Shelburne, the Natural Resource subcommittee found the protection of aquifers within the towns to be an area of prime concern. Adoption of Aquifer Protection Overlay Districts would allow the towns to limit activities that use chemicals or generate hazardous wastes in excess of household quantities that may seep into the groundwater and cause contamination, such as gas stations, auto repair shops, dry cleaners, and salvage yards. Existing land uses such as gas stations or auto repair shops in an Aquifer Protection Overlay District would be grandfathered under such a bylaw, but future additions would be prevented.

- Consider the adoption of Ridge Protection Overlay Districts and associated zoning measures to direct telecommunications and other towers away from highly visible ridges in town, to protect important scenic and natural resources and to prevent erosion.

  Potential Ridge Protection Districts Areas have been identified on the Composite Environmental Assessment Map. These include high peaks and ridges, particularly those that constitute important viewsheds and are visible from the major roads and high-density areas like the Shelburne Falls village center. Protection of these ridges is particularly important for maintaining the visual and scenic quality in the towns, and also to prevent soil erosion.

- Consider the adoption of a Wetlands Bylaw to protect vernal pools and other critical wetland areas.

  Creating a Wetlands Bylaw will afford the towns the opportunity to tailor their wetlands regulation to cater to their specific needs in addition to the State Wetlands Protection Act. This could include addressing issues such as greater protection of vernal pools and other isolated wetlands. A large percentage of the fees currently levied by the Conservation Commissions are not available for use by the Commission since it is returned to the state. A town bylaw could facilitate additional funding sources for natural resources protection.

- Consider improving the existing Floodplain Bylaw to provide protection for these areas and to comply with the National Flood Insurance Program for flood insurance purposes.

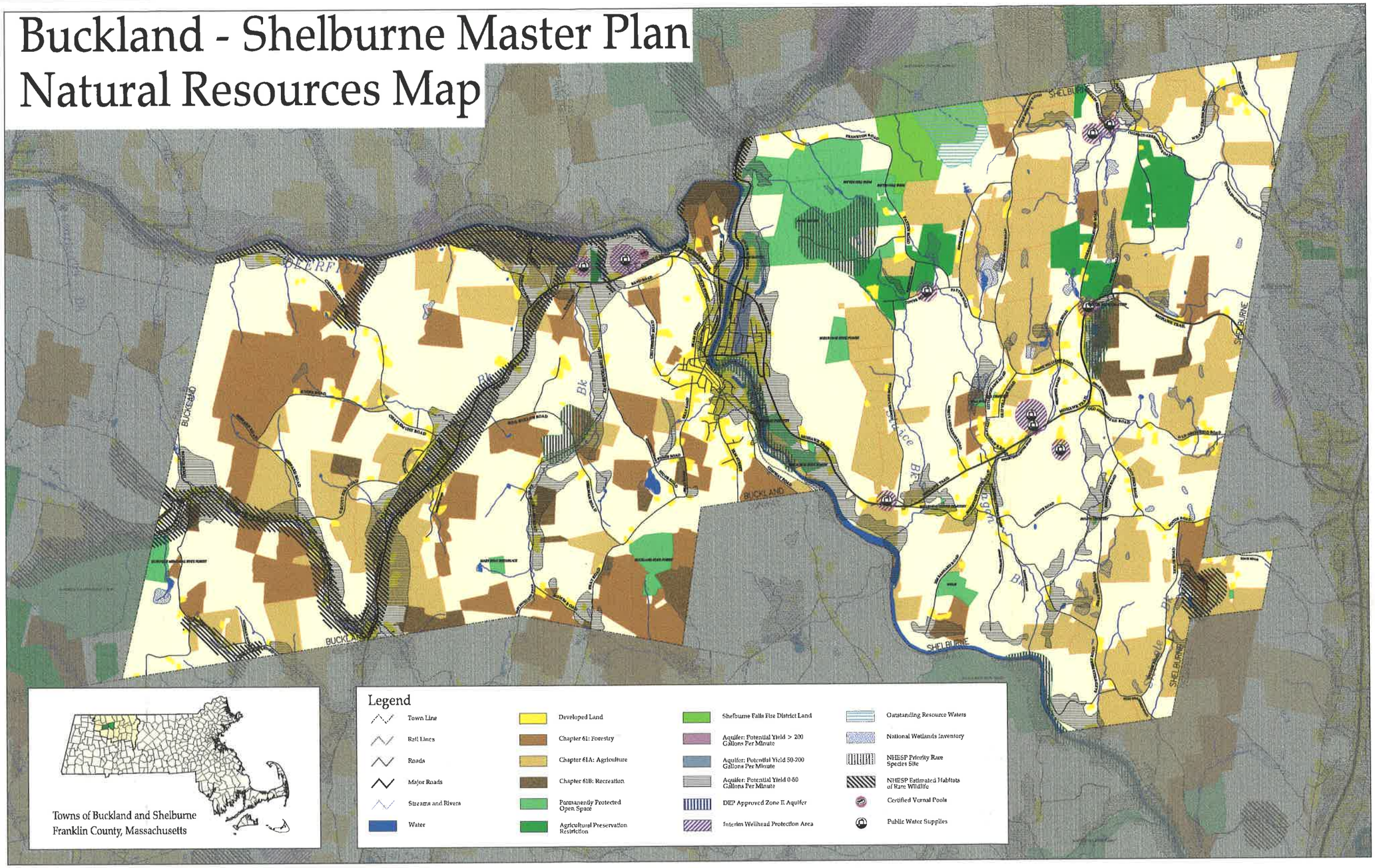
**Non - Zoning Recommendation**

- Give highest priority to open space protection and land conservation efforts in Wildlife Habitat Corridors to protect important habitat areas and facilitate the movement of species between them.

  Important Wildlife Habitat Corridors have been identified on the Composite Environmental Assessment Map. These areas have been derived using habitat area delineations from the Natural Heritage and Endangered Species Program, local knowledge of the Natural Resource subcommittee members, and establishing connections to existing protected open space typically along steep slopes or river valleys where topography and flooding already present constraints to development. Resources available for land conservation are limited. The identification of these areas helps to direct land conservation efforts to parts of town that would produce the most benefit in terms of protection of valuable wildlife habitat areas.

Landowners who are willing to permanently protect their acreage by participating in the APR program, or by placing a conservation restriction on their land would be given priority for any grant funding if their sites were located in the wildlife corridors. This data will also serve as a guide to town committees like the Planning Boards and the Conservation Commission in their day to day functioning. For example, if the Planning Board is reviewing a major residential subdivision which proposes to cluster homes, development could be sited outside of the wildlife habitat corridors and aquifer protection areas, wherever possible. This information can also be used by landowners to help guide site planning on their properties.

# Buckland - Shelburne Master Plan
# Natural Resources Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Water
- Developed Land
- Chapter 61: Forestry
- Chapter 61A: Agriculture
- Chapter 61B: Recreation
- Permanently Protected Open Space
- Agricultural Preservation Restriction
- Shelburne Falls Fire District Land
- Aquifer: Potential Yield > 200 Gallons Per Minute
- Aquifer: Potential Yield 50-200 Gallons Per Minute
- Aquifer: Potential Yield 0-50 Gallons Per Minute
- DEP Approved Zone II Aquifer
- Interim Wellhead Protection Area
- Outstanding Resource Waters
- National Wetlands Inventory
- NHESP Priority Rare Species Site
- NHESP Estimated Habitats of Rare Wildlife
- Certified Vernal Pools
- Public Water Supplies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### Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

### Map Sources:

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

Roads **data provided by Massachusetts Highway Department**
**Town lines, rail lines, streams, and lakes data provided by MassGIS.**
**Potential Protection areas drawn by FRCOG planning staff.**
The environmental constraints **data layer was produced as part of a build-out model for a growth management study of Franklin County.**
**The data used to create the environmental constraints data layer consisted of the following:**
**Steep slopes data developed for the FRCOG Planning Department by a contractor.**
**National Wetlands Inventory Data from the United States Fish and Wildlife Service.**
**Title 5 surface water buffers from Massachusetts Department** of Environmental Protection
Protected **Wetland Habitat from the Massachusetts Natural Heritage** Program
**Zone II and Interim Wellhead protection Areas from MassGIS**

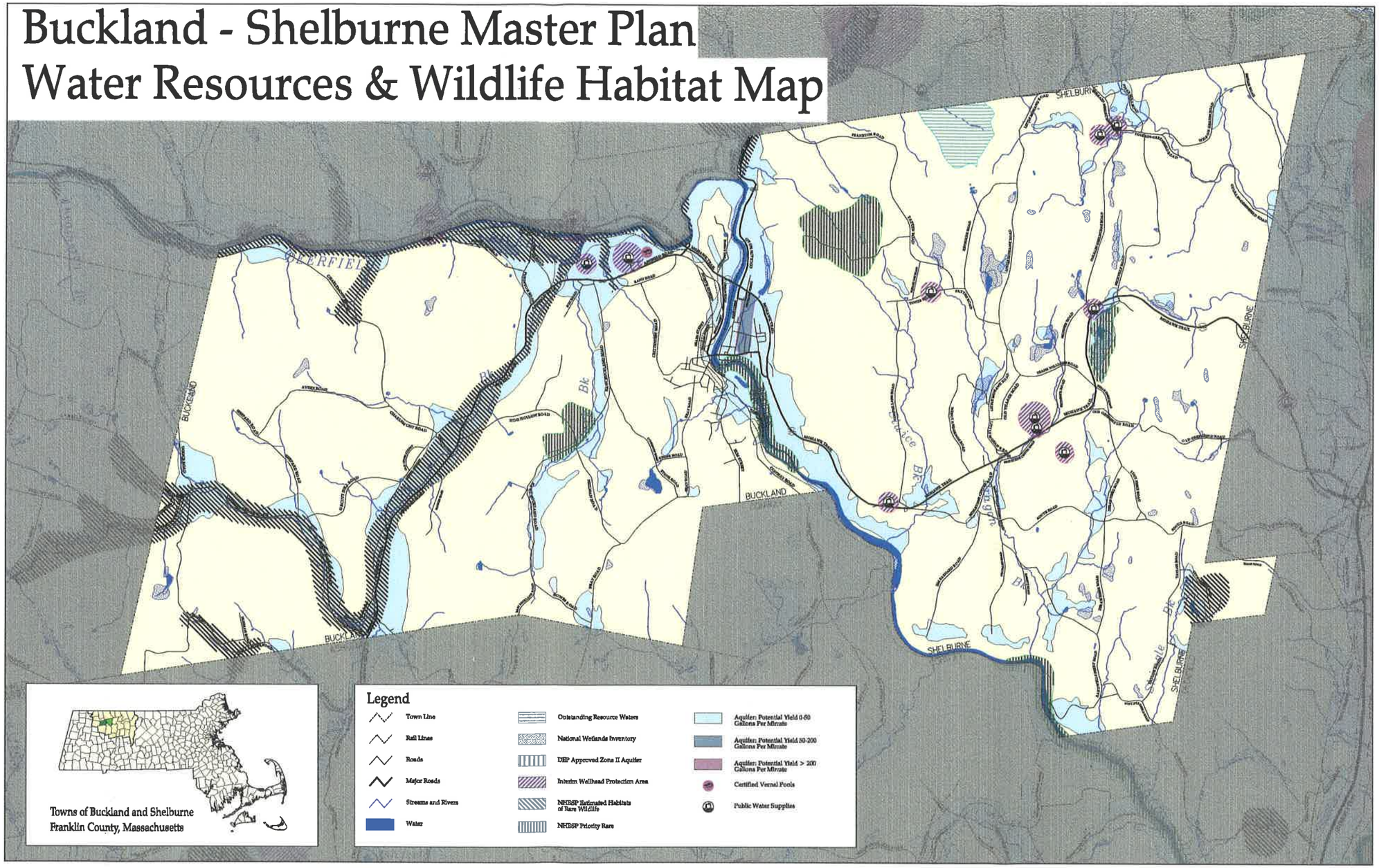
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

April 1999

NORTH

# Buckland - Shelburne Master Plan
# Water Resources & Wildlife Habitat Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
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- Outstanding Resource Waters
- National Wetlands Inventory
- DEP Approved Zone II Aquifer
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Executive Office of Environmental Affairs, MassGIS EOEA Data

Roads data provided by Massachusetts Highway Department
Town lines, rail lines, zone II and interim wellhead protection areas, public water supplies, aquifers, outstanding resource waters, surficial geology, streams, and lakes data provided by MassGIS.
National Wetlands Inventory data from the United States Fish and Wildlife Service.
Title 5 surface water buffers from Massachusetts Department of Environmental Protection
Vernal pools, estimated habitats of rare wildlife, and priority sites of rare species habitat provided by the Massachusetts Natural Heritage and Endangered Species Program.

Note:
Depicted boundaries are approximate and are intended for planning purposes only.

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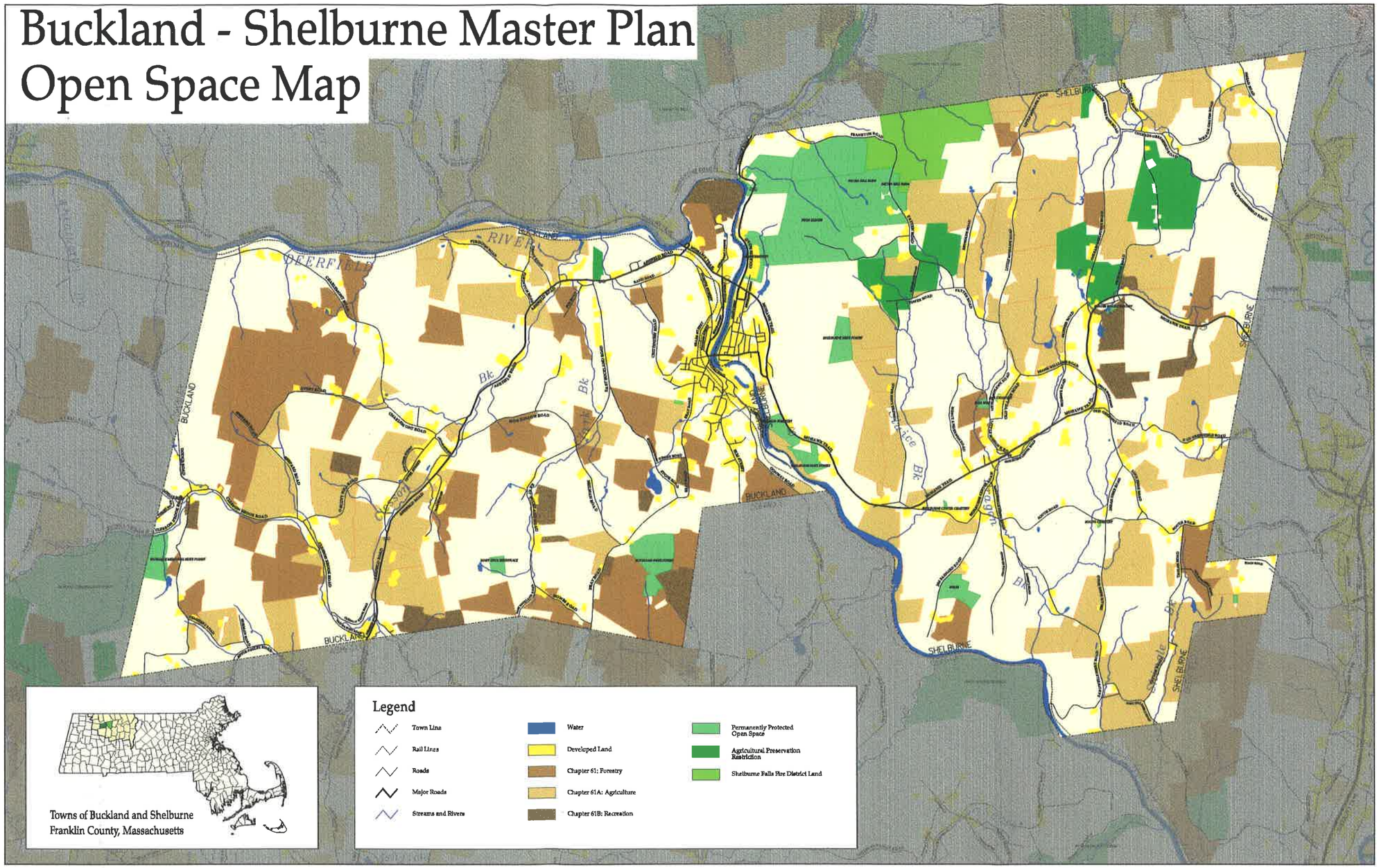
September 1999

NORTH

# Buckland - Shelburne Master Plan
# Open Space Map

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Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

Map Sources:

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

Roads data provided by Massachusetts Highway Department
Land use data created by UMASS Department of Forestry and Wildlife Management under contract of FRCOG Planning Department.
APR (Agricultural Preservation Restriction) data provided by the Massachusetts Department of Food and Agriculture.
Town lines, rail lines, open space(Chapter 61 & Protected Open Space), streams,

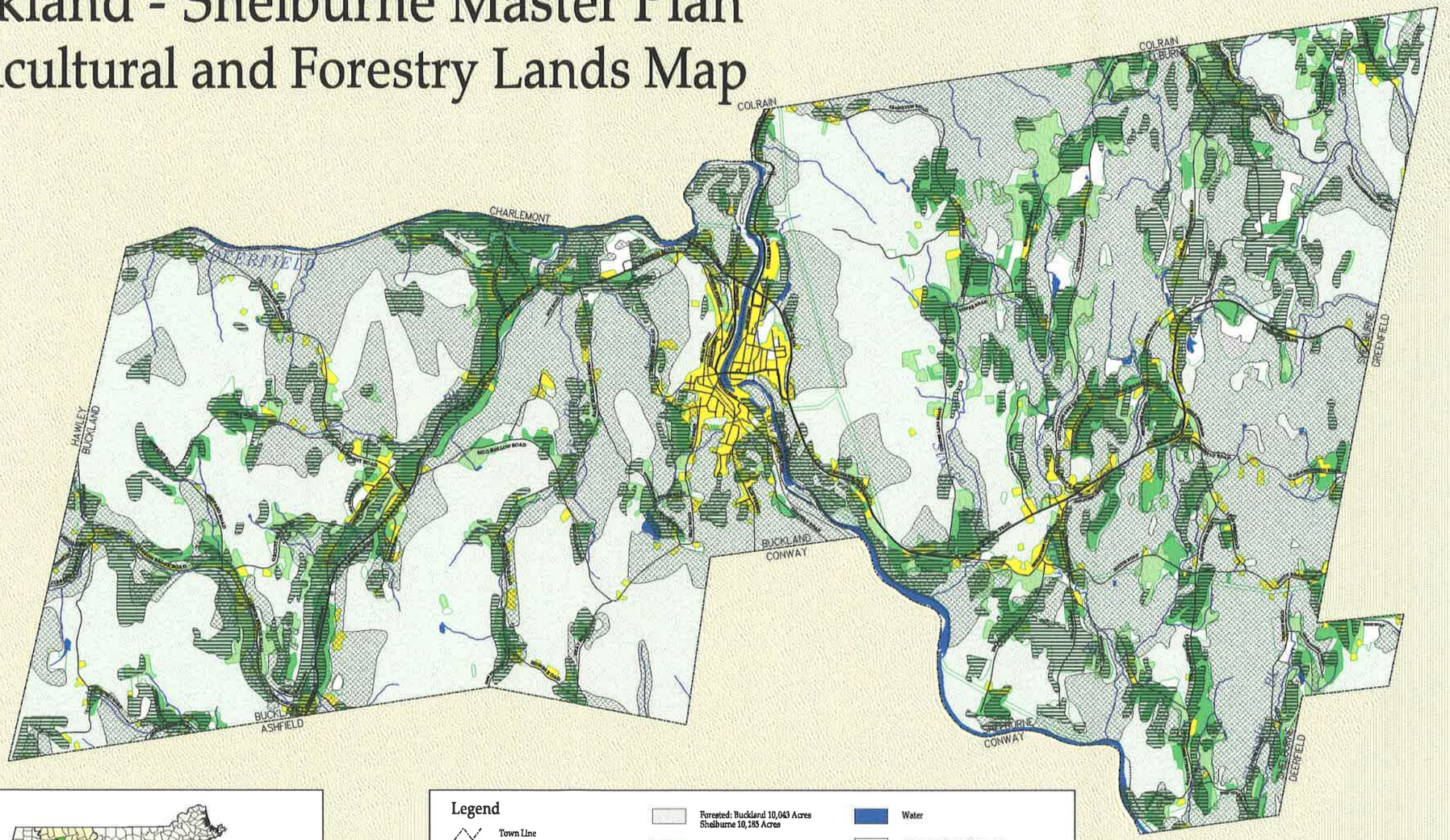
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

April 1999

NORTH

# Buckland - Shelburne Master Plan
## Agricultural and Forestry Lands Map




Towns of Buckland and Shelburne
Franklin County, Massachusetts

**Legend**

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Forested: Buckland 10,043 Acres; Shelburne 10,185 Acres
- Pasture: Buckland 638 Acres; Shelburne 1315 Acres
- Cropland: Buckland 752 Acres; Shelburne 1,395 Acres
- Developed Land: Buckland 805 Acres; Shelburne 724 Acres
- Undeveloped Land: Not in Agricultural Use or Forested
- Water
- Farmland: Prime, Unique, and of Statewide Importance
- Prime Forestland
- Land in Agricultural Preservation Restriction (APR) Program; Buckland: 15.5 Acres; Shelburne 646 Acres


FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS
Main Office: 413-774-3187
425 Main Street
Greenfield, Massachusetts 01301


Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

Map Sources:

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

Farmland area digitized by FRCOG planning department staff from 1979 U.S. Soil Conservation Service Map "Important Farmlands of Franklin County" Prime Forest Lands Data created by Resource Mapping, Forestry and Wildlife Department, UMASS, Amherst under contract of FRCOG planning Department. Roads data provided by Massachusetts Highway Department Land use data created by UMASS Department of Forestry and Wildlife Management under contract of FRCOG Planning Department. APR (Agricultural Preservation Restriction) data provided by the Massachusetts Department of Food and Agriculture.

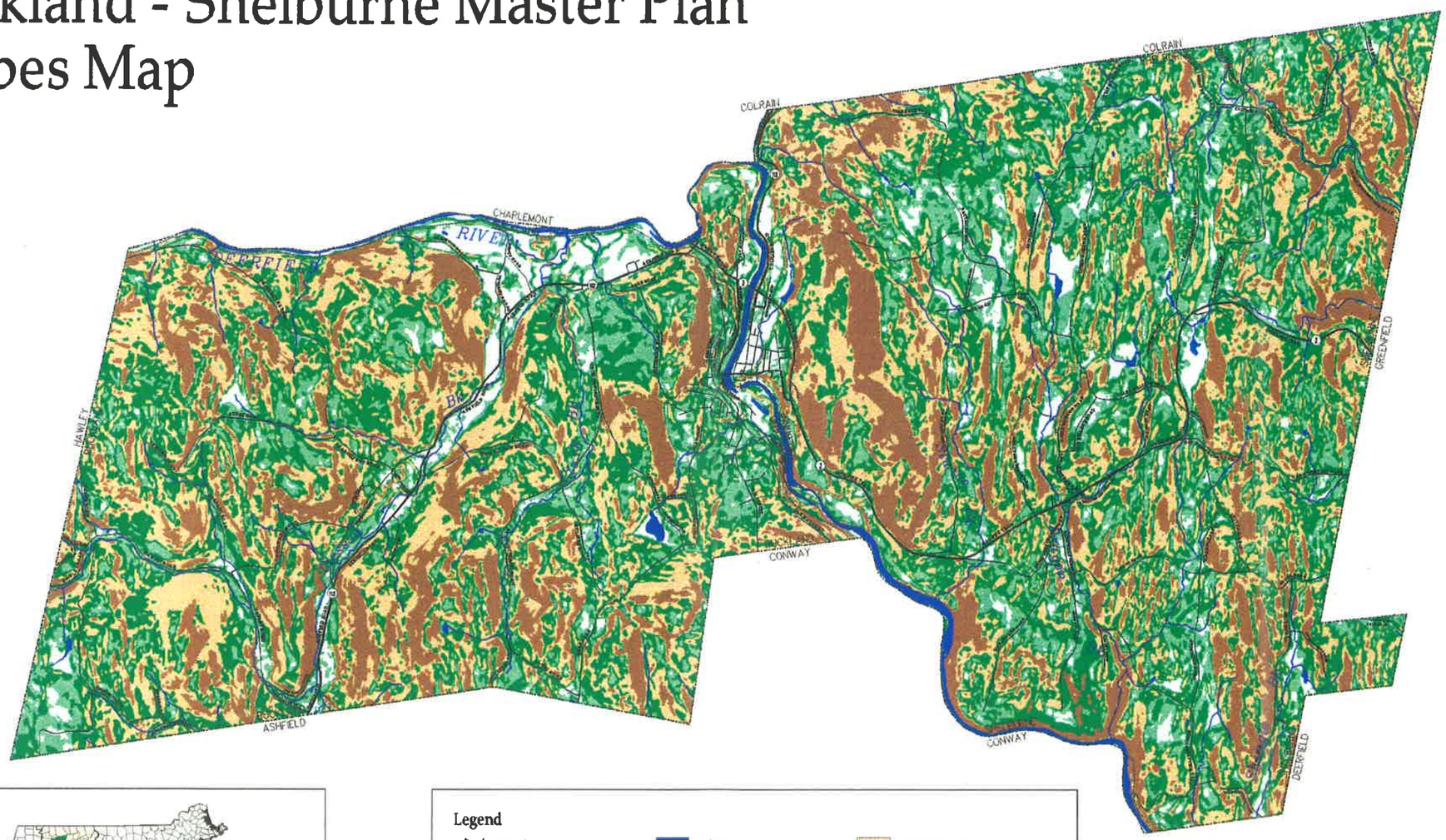
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

July 1998

NORTH

# Buckland - Shelburne Master Plan
# Slopes Map




Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Water
- 0 - 3 Percent Slopes
- 3 - 8 Percent Slopes
- 8 - 15 Percent Slopes
- 15 - 25 Percent Slopes
- Greater Than 25 Percent Slopes

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## Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

## Map Sources:

Map produced by Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, The Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEA maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEA makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEA maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEA Data Center, 20 Somerset Street, 3rd Floor, Boston, MA. 617-727-5227

Slope data developed for the FRCOG Planning Department by a private contractor. The slope data was derived from scanning USGS 10 foot contour lines and processing this data with a computer to create the slopes polygons.

Roads data provided by Massachusetts Highway Department

Town lines, rail lines, streams, and lakes data provided by MassGIS.

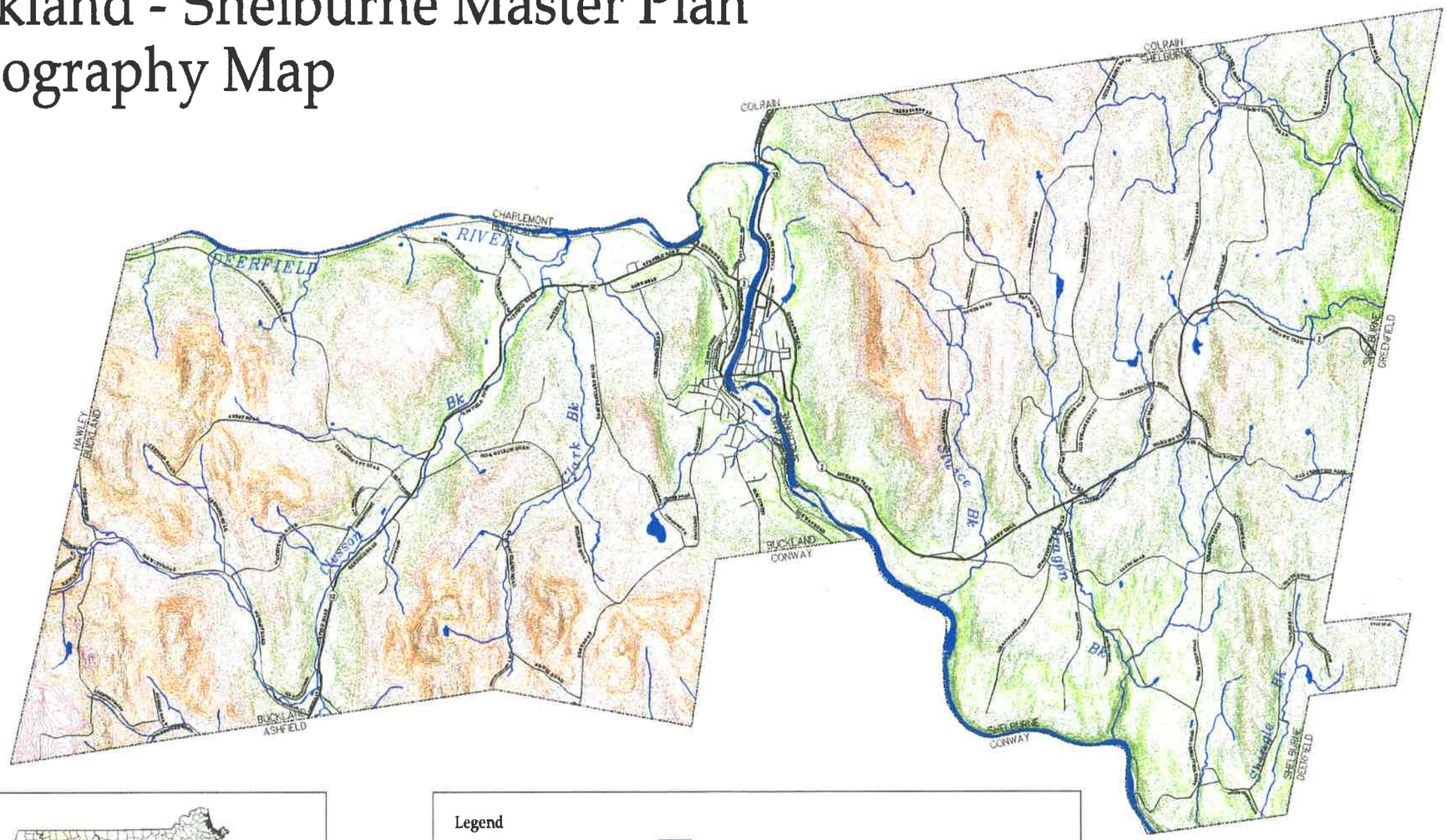
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

June 1998

NORTH

# Buckland - Shelburne Master Plan
# Topography Map




Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Water
- Elevation 180 - 400 Feet
- Elevation 410 - 600 Feet
- Elevation 610 - 800 Feet
- Elevation 810 - 1,000 Feet
- Elevation 1,010 - 1,200 Feet
- Elevation 1,210 - 1,400 Feet
- Elevation 1,410 - 1,600 Feet
- Elevation 1,610 - 1,800 Feet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## Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

## Map Sources:

Map produced by Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, The Massachusetts Highway Department and MassGIS. Digital data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Environmental Affairs and its agencies to record information from the sources cited in the associated documentation. EOEA maintains an ongoing program to record and correct errors in the GIS data that are brought to its attention. EOEA makes no claims as to the reliability of the GIS data or as to the implied validity of any uses of the GIS data. EOEA maintains records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Environmental Affairs, MassGIS EOEA Data Center, 20 Somerset Street, 3rd Floor, Boston, MA. 617-727-5227

Roads data provided by Massachusetts Highway Department
Town lines, rail lines, streams, and lakes data provided by MassGIS.
Topography data developed for the FRCOG Planning Department by a contractor.
The topography lines were scanned from 7.5 minute series (10 foot contour interval)
USGS topographic maps and converted to GIS data layers.

Note:
Depicted boundaries are approximate and are intended for planning purposes only.

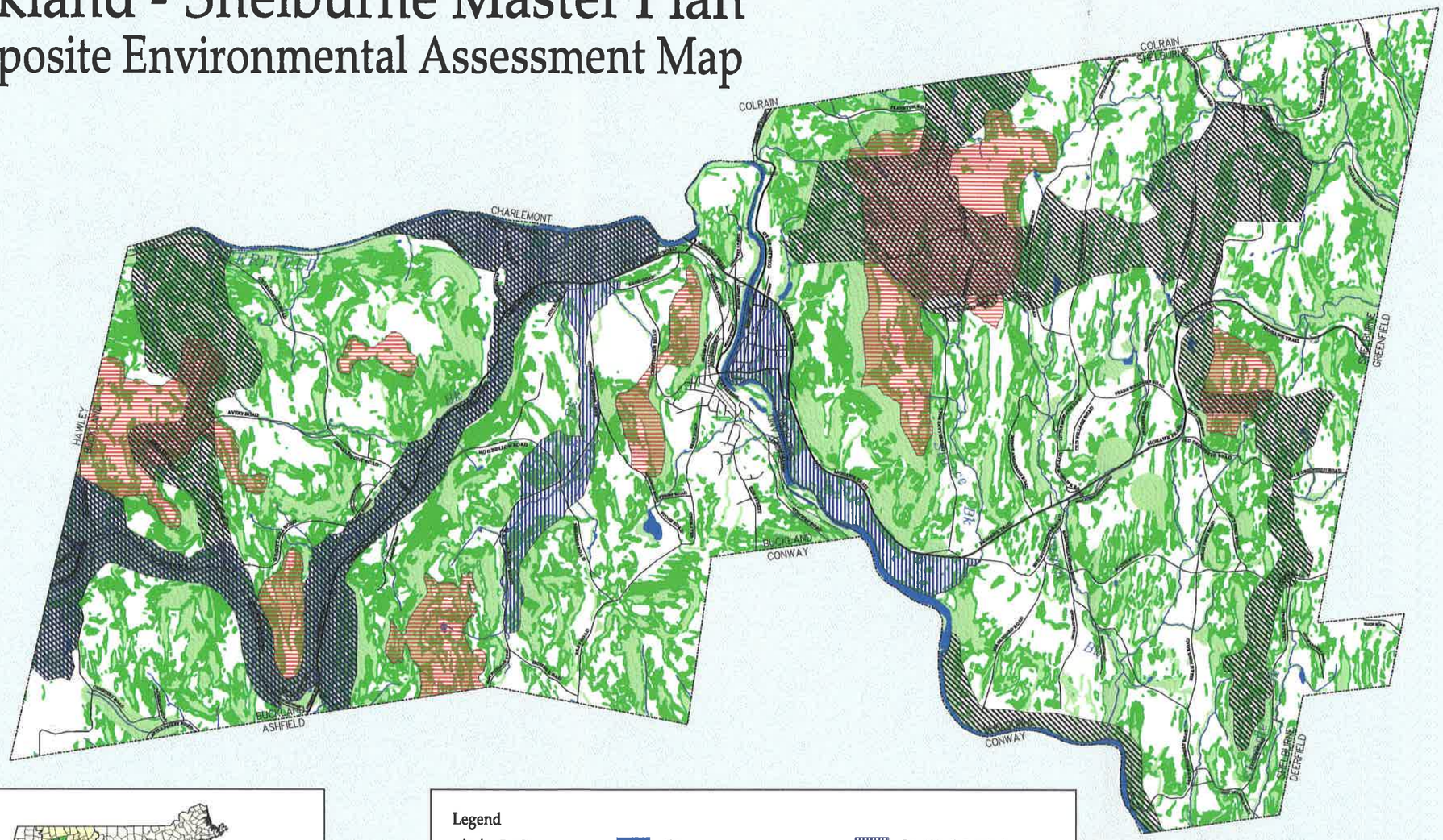
Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

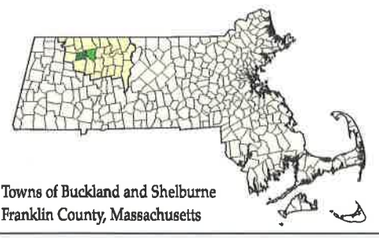
June 1998

NORTH

# Buckland - Shelburne Master Plan

## Composite Environmental Assessment Map



Towns of Buckland and Shelburne
Franklin County, Massachusetts

### Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Water
- Slopes 15-25%, Constraint on Industrial and Commercial Development
- Areas with Environmental Constraints: Areas bordering streams and lakes, wetlands, protected wetlands habitat, slopes greater than 25%, and wellhead protection areas.
- Potential Aquifer Protection Areas
- Potential Wildlife Habitat Corridors
- Potential Ridge Protection Areas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### Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

### Map Sources:

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

Roads data provided by Massachusetts Highway Department
Town lines, rail lines, streams, and lakes data provided by MassGIS.
Potential Protection areas drawn by FRCOG planning staff.
The environmental constraints data layer was produced as part of a build-out model for a growth management study of Franklin County. The data used to create the environmental constraints data layer consisted of the following:
Steep slopes data developed for the FRCOG Planning Department by a contractor.
National Wetlands Inventory Data from the United States Fish and Wildlife Service.
Title 5 surface water buffers from Massachusetts Department of Environmental Protection
Protected Wetland Habitat from the Massachusetts Natural Heritage Program
Zone II and Interim Wellhead protection Areas from MassGIS

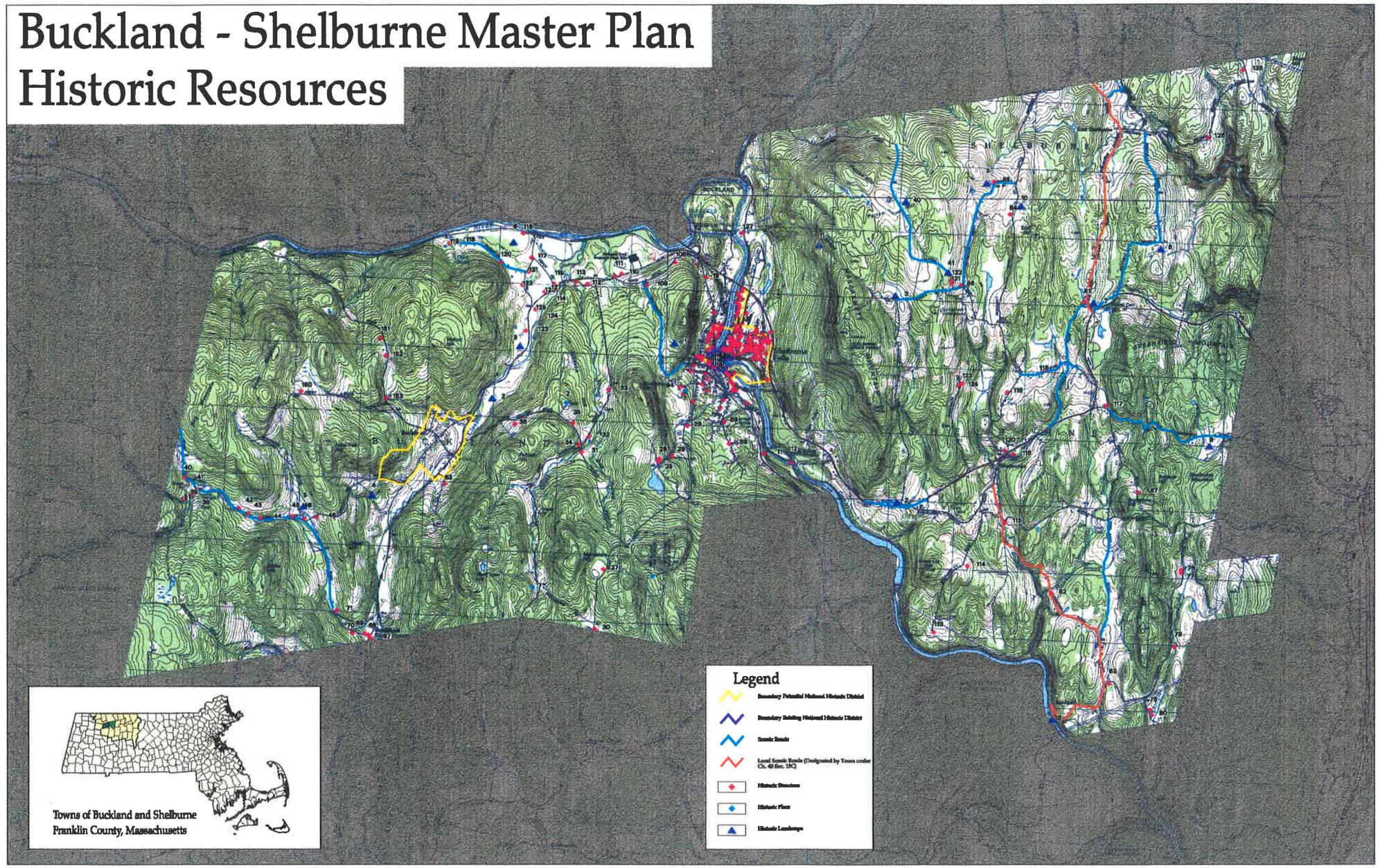
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

June 1998

NORTH

# Buckland - Shelburne Master Plan
# Historic Resources

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Map Scale

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Scale in Miles

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Scale in Feet

Map Sources:

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Executive Office of Environmental Affairs, MassGIS EOEA Data

This map is made from scanned images of the 7.5 minute United States Geological Survey (USGS) topographic maps for the area.

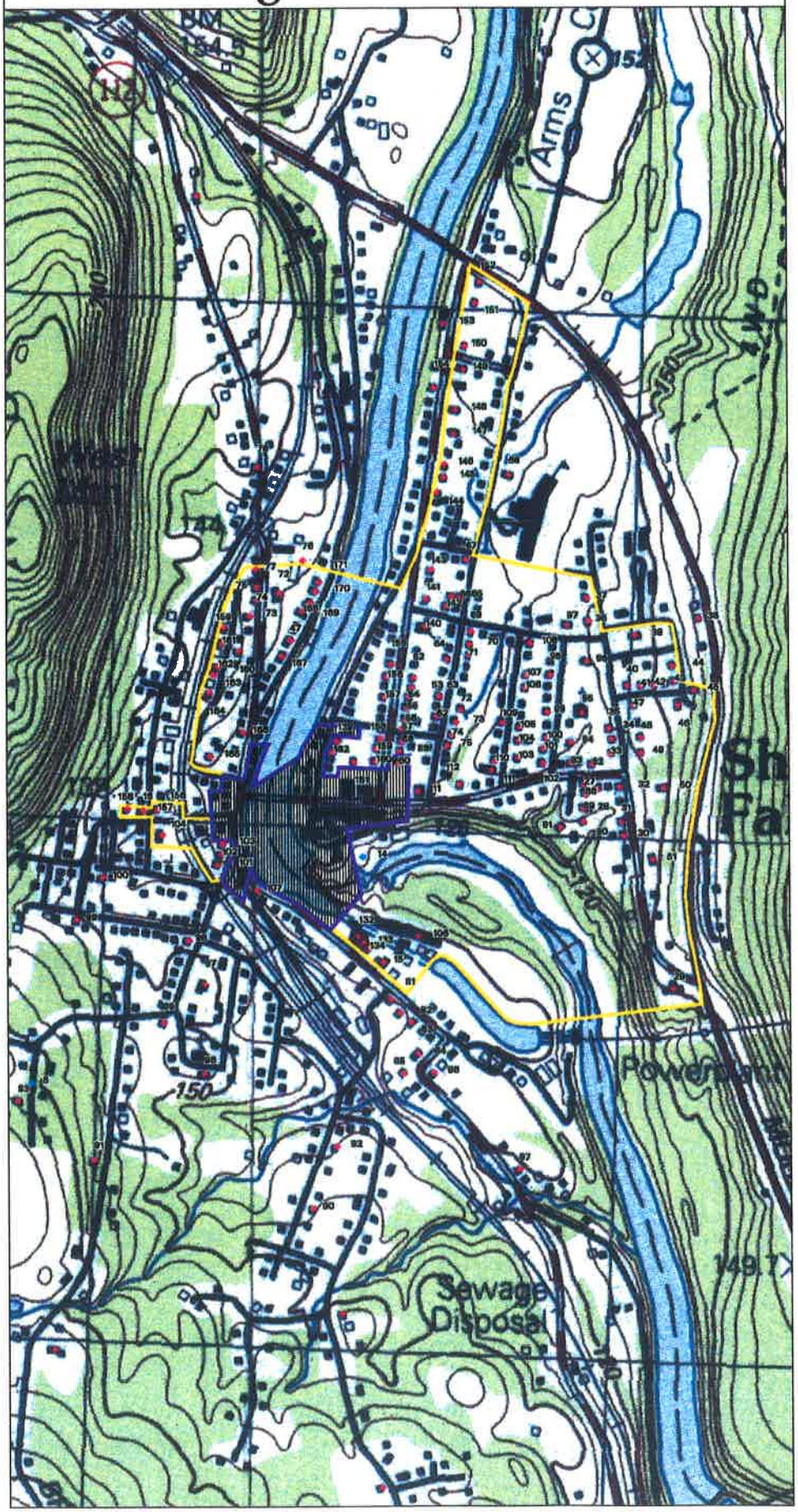
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

May 1999

NORTH

# Village of Shelburne Falls



# CHAPTER 2

# HISTORIC & SCENIC RESOURCES

Traveling through the towns of Buckland and Shelburne, a person interested in the area's local history would be well satisfied by the visible richness in historic structures and landscapes. These views of Buckland's and Shelburne's local heritage can be seen by traveling over the many scenic roads that connect homes to farms, to old field forests and village centers. Someone visiting Shelburne could travel over many scenic roads to see over 160 different structures centered on 10 historic and cultural landscapes. Traveling across the bridge into Buckland would bring our sightseer over more scenic roads, to view approximately 170 structures and 2 special historical and cultural landscapes. To have so much of each community's history and scenic resources conserved is one of the reasons people choose to live in Buckland and Shelburne. According to the Shelburne Community Survey, over 80% of survey respondents felt rural character and scenic views were important in deciding to live in Shelburne. In Buckland over 80% of the survey respondents felt it was important to preserve scenic and important landscapes.

This section inventories the various historic and scenic resources of Shelburne and Buckland, their historical context, and the manner in which they are located within specific districts. First though, the goals and strategies focusing on the conservation of historic and scenic resources are summarized. Then, a brief history of Buckland and Shelburne lends the context necessary so that the following section, the inventory of historical structures and landscapes, and scenic roads, can be pictured. Each community is flush with precious examples of period architecture and settlement and farming patterns from as early as the 1760s.

Residents of Shelburne and Buckland understand the connection between community character and the protection of historic resources including structures and landscapes. Over 80% of the respondents to Buckland's Community Survey felt it was either important, or very important, to preserve historic buildings, places of historic value, and farmland and historic landscapes. In Shelburne, over 85% of the respondents to the Community Survey felt it was either important, or very important, to preserve historic buildings, districts and lands. Based on the community surveys completed in 1996 and 1997, each town's Master Planning Committee prepared Goals and Objectives for a Master Plan. These Goals and Strategies have been consolidated and are presented below.

## Goals

- To identify and protect historic resources including buildings, sites, and landscapes.
- To preserve the natural rural beauty by protecting and supporting the rich farming heritage and ongoing agricultural activity.

**Strategies**

- Update the existing Massachusetts Historical Commission forms to create a more complete and accurate inventory of all historic buildings, sites and landscapes.
- Explore the feasibility of expanding the National Historic District in Shelburne Falls to include areas surrounding the commercial district.
- Explore the feasibility of establishing Shelburne Center and Buckland Center as National Historic Districts.
- Create voluntary architectural guidelines for the Shelburne Falls Business District that would support the protection of the historic character of the district.
- Create voluntary design guidelines for the Mohawk Trail and Route 112 that would support the protection of historic landscapes along these Scenic Byways.
- Explore the feasibility of establishing local historic districts in the old town centers and adopting bylaws designed to help preserve historic structures, sites and landscapes.
- Identify and pursue federal and state grants in support of historic resource protection.
- Identify and protect historic and scenic landscapes especially agricultural landscapes.
- Explore the feasibility of adopting special bylaws which help protect agricultural lands and scenic resources.
- Establish a local scenic roads program to help protect the quality of the towns' most important scenic roads.

## Historical Perspective

The Village of Shelburne Falls is especially notable, according to the Massachusetts Historical Commission, for the fact that much of its original commercial blocks and residential neighborhoods are intact. These historical and cultural resources are icons representing various stages of population growth linked to agriculture and industrial development, which occurred over the past three hundred years. The information in this section has been obtained from the Massachusetts Historical Commission's 1982 Reconnaissance Survey Reports for Buckland and Shelburne.

The Contact Period of initial European settlement is considered by the Massachusetts Historical Commission (MHC) to be between the years 1500 and 1620. Although there are no native-period sites known, Shelburne Falls was very productive for salmon fishing and was probably used as a resource area by the Deerfield Pocumtucks.

Shelburne was settled in the early 1760's. Buckland did not have a colonial population until 1769. In 1760, Shelburne contained 5 families, in 1762, 14. Only a few structures remain from the Colonial Period (1675 – 1775). One is a portion of the 1842 Archibald Lawson House; the other two are taverns. The Clark Tavern was built in 1762, the Stebbin's Tavern, in 1770. During this same time period, the MHC estimates that there may have been 10 families living in Buckland. Residential structures in Buckland built during this time period were cottages with center chimney plans and included the Samuel Taylor (1770), Nathaniel Coleman (1774) and Wilder (1775) houses. Agriculture was the primary focus of local residents for both communities. Given the lack of industry in Buckland at the time, Deerfield was probably looked to for its commercial resources.

During the Federal Period (1775 – 1830) sawmills and gristmills took advantage of the waterfalls but, agriculture was still the number one commercial activity. Between 1760 and 1790 Shelburne's population expanded 105.3%. About two dozen houses of the Federalist style have survived in Shelburne from this period. Although there was considerable construction of libraries, banks, and schools, no buildings of this type survived. Buckland's population increased by 44.7% between 1790 and 1830, although the majority of that growth occurred in the 1790's. Federal style houses were built in Buckland Center, at Buckland Four Corners, and on Ashfield, and Conway Streets. Also, in Buckland, there were many institutional buildings constructed during this period. The survivors include the Grange Hall and a school at Four Corners (1829). Finally, two of the four taverns that were operating from that time period have survived. They are the Zenas Graham Tavern (1797) and the Freighters Inn (1827).

During the Early Industrial Period (1830 – 1870), the population in Shelburne grew by 58.9%, reaching 1,582 by 1870. This increase occurred mostly in the 1840's with the establishment of the cutlery company, Lamson and Goodnow in 1835, and the formation of a local church in 1851. Soon after, a commercial district was established in Shelburne on Bridge Street and a residential district along Water Street. Production of butter and cheese, small farming tools manufacturing, maple syrup, and apples for export produced prosperity in Shelburne and resulted in an expansion of the residential district. The residential structures built during this period include examples of the Greek Revival, Gothic Revival, and Italianate styles. Only two

institutional buildings survived from this period. These are the First Congregational Church, built in 1845 and the First Universalist Church, built in 1870. The commercial blocks along Bridge Street were all constructed during this period: the Thayer Block (1837), the Swan Block (1847), the Hotel Block (1852), the Baker Block (1853), and the Bank-Hillier Block (1858).

In Buckland, during the same period, the population was almost unchanged. It took the expansion of the Lamson Goodnow Company in Buckland in 1851 for the settlement patterns to shift. Also, small woodworking shops and cheese and butter producers helped to make Buckland prosperous. Most residential construction during this time period occurred in the Shelburne Falls section of the town and at Buckland Four Corners with Greek and Gothic Revival cottages. Institutional buildings built during this period include the Shelburne Falls Methodist (1842), Second Methodist (1850), and Saint Joseph's (1858) churches. Most of Buckland's commercial buildings of the time were located in Shelburne Falls and fell victim to fire in 1836. Lastly, the industrial buildings of the time were the Townsley Cobbler Shop, the Newton Griswold sash and blind factory (1836), the Hubbard and Hitchcock Clock Shop (1836), and the Lamson and Goodnow Cutlery Factory (1851 – 1870).

The Late Industrial Period (1870 – 1915) saw the construction of the Victorian iron truss bridge in 1896 and the concrete trolley bridge in 1908 (now the Bridge of Flowers) connecting Buckland with Shelburne. Both Shelburne's and Buckland's populations steadily decreased over this period but industrial activity in Shelburne Falls increased as a result of the arrival of the Troy & Greenfield Railroad in 1867 and the construction of two hydro-electric plants in Buckland.

In Shelburne, residential construction ceased outside of Shelburne Falls, but within the village both workers' cottages of the Queen Anne and Stick style designs and stylish 2 ½ story houses of the Queen Anne, Stick style and Craftsman types were built. It was also during this period that most of Shelburne's institutional buildings were built. These include the early Italianate schools, the Fox Town and Skinner Schools (1871), Victorian Gothic Arms Academy (1880), the granite Gothic Revival Trinity Church (1884), Neoclassical brick Town Hall (1897), Shelburne Free Public Library (1898), a fieldstone Tudor/Craftsman building at Shelburne Center (1905), and an Eastlake/Italianate Chapel (1875).

Shelburne's commercial district along Bridge Street also expanded during the Late Industrial period, mostly during the 1870's. Almost all represent a style called Romanesque Revival with period storefronts. These well-preserved blocks are mostly made of brick: the Brick Bank Block (1871), the Merrill-Richardson building (1871), the second Swan block (1871), the Couillard Block (1876), the Wood Block (1879), the Stebbins Block (1880), and the Vice Block (1893).

In Buckland, during the Late Industrial Period, residential construction occurred mostly in Shelburne Falls as 1 ½ and 2 story Stick Style or Queen Anne style houses. At the same time institutional buildings were mostly located in Shelburne Falls. These include the Methodist Episcopal Church (1877) which is now used as the Buckland Town Hall, St. Joseph Catholic Church (1888), the Methodist church (1906), and the Romanesque Revival library in Buckland Center. Commercial construction included the Queen Anne/Colonial Revival Odd Fellows Hall (1877) and the 2-story brick Aubuchon Hardware block.

During the Early Modern Period (1915-1940) Shelburne's population declined initially until 1920 and then increased 10% over the next twenty years. Buckland's population remained relatively stagnant. The trolley line closed in 1927, yet Shelburne Falls remained a center of both commercial and industrial activity. A little residential development occurred in both towns. In Shelburne, most were cottages of the Colonial Revivalist style. Also, Route 2 saw auto related development and a few buildings were built in and around the Falls, including the Schack Block (1922) and Blassberg's Garage (1925). In Buckland, most construction happened in the Shelburne Falls area in the form of cottages (some of block concrete), small commercial buildings, and a two-story concrete block garage.

Many of the buildings discussed above still remain. In all, the inventories of both towns together contain over three hundred documented historic structures, evidence of the rich history of Buckland and Shelburne.

## Inventory of Historic Resources

### Introduction

The following inventories for historic structures, landscapes and scenic roads were constructed using information from the Massachusetts Historical Commission (MHC), the 1992 Franklin County Rural Historic Landscape Preservation Plan, and field surveys conducted by FRCOG Planning Staff. The MHC has a Statewide Inventory of Historic and Archaeological Resources of the Commonwealth. Structures are included in this inventory if an Historical Commission submits a completed inventory form for the structure to the MHC. The individual forms were filled out by various individuals and organizations, from members of the town's Beautification Associations to Historical Commission. These structures and sites were then tabulated based on their location within an expected 'district.' The location of each structure and site was then identified on the town's assessor's maps using the sketch maps and text descriptions provided on the MHC forms. The various districts were then mapped based on a process that sought to include as many significant historic structures while minimizing the inclusion of non-contributing structures (see Historic Resources Map). The tables of historic structures and sites included in this section contain the results of this inventory work.

The status of historical landscapes and scenic roads in Franklin County, was reported in the 1992 Franklin County Rural Historic Landscape Preservation Plan created by the Franklin County Commission (now FRCOG). In the Fall of 1998, FRCOG Planning staff conducted several field surveys to determine if development, or any other changes, may have compromised the quality of the landscapes selected for preservation in the 1992 plan.

The 1992 Franklin County Rural Historic Landscape Preservation Plan describes the status of historic landscapes in the region, the historic context that was used in its determination, and the methodology used in rural historic landscape reconnaissance. It distinguishes between the types of landscapes assessed (*agricultural, community development, recreation/conservation,*

*industrial, transportation, scientific, religious, and engineering*), identifies in general terms the locations of rural historic landscapes in each town, and provides examples of direct and indirect preservation strategies.

This methodology for identifying significant historical landscapes was based on the National Park Service criteria including area of significance, period of significance, and historical integrity. The National Park Service classifies landscapes into four different categories: landscapes that reflect major patterns of a region's history, i.e. agricultural landscapes; landscapes that are associated with historically significant individuals, i.e. institutional grounds and buildings; landscapes that are important due to their design or physical characteristics, i.e. an 18th century Colonial Period Connecticut Valley rural farm; and landscapes that yield or have the potential of yielding significant information on pre-history or history, i.e. a native American encampment site.

The significance of a rural historic landscape is that aspect of historical development that contributes to one of the above criterion where the "use, occupation, physical character or association, influenced the development or identity of its community or region" (U. S. Department of the Interior, 1990). The period of significance is the time span in which a property or area has attained its significance related to the National Park Service Criteria. The historic integrity and soundness of a landscape provides a sense of time and place and reflects significant aspects of use, design, association and information.

The purpose of the 1998 field surveys was to ascertain the current integrity of the rural historic landscapes identified in the 1992 Franklin County Rural Historic Landscape Preservation Plan. Planning Department staff utilized the same methodology used to assess the historical landscapes in 1992. The structure and site locations are estimated based on available information. The separate historic landscapes identified in the 1992 Franklin County Rural Historic Landscape Preservation Plan were often identified as "multiple properties along: (a particular road)." FRCOG Planning Staff have identified the approximate locations of these landscapes on the Historic Resources Map.

## Shelburne Falls National Historic District

The Shelburne Falls National Historic District (NHD) encompasses 26 acres in the village center business district spanning both towns (see Historic Resources Map). The commercial core of the Shelburne Falls NHD, located ½ mile from Route 2, contains many contributing commercial, civic, and religious buildings located primarily to the north and south of Bridge Street in Shelburne and on State Street in Buckland. Within the NHD are the glacial potholes located in the Deerfield River, just south of the dam and falls.

The various historic structures and sites within the NHD have been compiled from the Massachusetts Historical Commission (MHC) inventory. The table includes the name of the feature, the date of origin, and its location. The tables also include a form number, assigned by the MHC and a feature number for most entries. The feature number refers to the location of a structure on the Historic Resources Map created by the FRCOG to illustrate historic resources. The form numbers were recorded from the individual MHC historical inventories. The structures and sites of the Shelburne Falls National Historic District are organized into two tables, one for Buckland and one for Shelburne (see Tables 2-1 and 2-2).

**Table 2-1: Significant Structures and Sites within the NHD, Buckland**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| Bridge of Flowers (1929 Flowers added) | 1908 Const. | Across Deerfield River, State - Water Streets | 9 | 903 |
| B-28-22, Double Intersect. Through Warren Truss Bridge | 1890 | Bridge Street/Route 112 | 10 | 904 |
| Potter Grain Company | 1894 | Off of Ashfield Street, west of Shelburne Falls | 18 | 150 |
| Engine House, Old Fire Station | 1869 | #4 and # 6 State Street | 24 | |
| Sash, door, and blind factory | 1863 | State Street, east of split with North St. | 23 | 156 |
| Methodist Episcopal Church | 1877 | Now Buckland Town Hall | 22 | 28 |
| Newell Block | 1895 | On State Street, opposite the Truss Bridge | 21 | 27 |
| Odd Fellows Building | 1877 | On corner of State and Clement Streets | 20 | 32 |
| Methodist Episcopal Church | 1906 | On corner of State and Clement Streets | 19 | 31 |
| Shelburne Falls Business District | Late 1860's to early 1900's | Ashfield Street and State Street | 105 | 31-37 +903 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

**Table 2-2: Significant Structures and Sites within the NHD, Shelburne**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| Bowling Alley | early 1900's | Memorial Drive | 1 | 25 |
| Residence | 1940 | 12 Water Street | 2 | 24 |
| Veterans Club of Shelburne Falls-George G. Merrill | 1905 | 10 Water Street | 3 | 23 |
| The Mowery House, Federal | before 1840 | 8 Water Street | 4 | 22 |
| Schack Block | 1922 | 4 Bridge Street | 5 | 21 |
| Knowlton Block | 1871 | 10 Bridge Street | 6 | 20 |
| Couillard Block | 1876 | 20 Bridge Street, on corner of Water Street | 7 | 19 |
| Brick Bank Block | 1871 | 22-26 Bridge Street | 8 | 16 |
| Merrill-Richardson Block | 1871 | 28 Bridge Street | 9 | 17 |
| Shelburne Falls Bank-Hillier "Bank Block" | 1858 | 30 Bridge Street | 10 | 16 |
| "Hotel Block" | 1852 | 44 Bridge Street | 11 | 15 |
| Baker Block | 1853 | 52-56 Bridge Street | 12 | 14 |
| Shelburne Falls National Bank - Country Bank | 1954 | 58 Bridge Street, between Baker and Main Streets | 13 | 13 |
| Niagra Engine House and Lock-Out | 6 | Bridge Street, opposite Main Street | 14 | 10 |
| Blassberg-Shelburne Falls Garage | 1925 | 90 Bridge Street | 15 | 11 |
| Chapman-Wilcox | 1835 | Bridge Street, opposite Main Street | 16 | 10 |
| Swan Block | 1847-71 | 69 and 73 Bridge Street | 17 | 9 |
| Thayer Block | 1837 | 9 and 15-17 Bridge Street | 18 | 2 |
| Schmidt Block | 1907 | 3-7 Bridge Street | 19 | 1 |
| Wood/Nilman | 1879 | Bridge Street next to Town Hall | 20 | 8 |
| Shelburne Town Hall | 1897 | Bridge Street | 21 | 7 |
| Vice Block | 1893 | 43 Bridge Street | 22 | 6 |
| Stebbins Block | 1880 | 33-41 Bridge Street | 23 | 5 |
| Spencer Block | 1856 | 19-23 Bridge Street | 24 | 3B |
| Ott-Hosley Block | 1870 | 25-31 Bridge Street | 25 | 4 |
| Haller Block | Pre-1837 | 19-23 Bridge Street | 26 | 3A |
| Masonic Lodge | 1870 | Main Street | 61 | 165 |
| Pratt Memorial Library | 1914 | Bridge and Main Streets | 128 | 30 |
| Odd Fellows Building | 1877 | State Street | 129 | 26 |
| Residence/Gift Shop | 1864 | 20 Water Street | 135 | 205 |
| The Frost Mill | 1830 | Deerfield Avenue | 136 | 204 |
| The Band Hall | 1904-07 | Memorial Drive | 137 | 203 |
| Fiske House | 1814 | 31 Water Street | 139 | 201 |
| Merrill Tenements, 2 Story Federal | 1858 | 26 Water Street | 165 | 199 |
| Totman Creamery | 1907 | 30-32 Water Street | 164 | 200 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

In addition to the structures and sites within the Shelburne Falls National Historic District, there is an historically significant landscape. This landscape includes the Deerfield River Mill (Frost Mill) and the Glacial Potholes at the bottom of Salmon Falls on the Deerfield River. The Glacial Potholes were formed as glaciers receded and meltwater caused smaller rocks to spin thus carving out these irregular holes. In their responses to the Community Surveys, 91% of Shelburne respondents classified the Glacial Potholes as their most favorite natural resource in Shelburne. The Deerfield River Mill, or Frost Mill, is located off Deerfield Avenue just north of the Glacial Potholes and is currently occupied by a retail store, which makes and sells candles among other items. The historic use of this land has been for industrial purposes. Although the mill is currently used largely for commercial purposes, much of the landscape appears to be unchanged since the 1992 Franklin County Rural Historic Landscape Preservation Plan with the exception of the new viewing deck added to overlook the Glacial Potholes.

**Shelburne Falls Residential & Industrial Districts**

Immediately adjacent to the Shelburne Falls National Historic District are historically significant residential areas, civic buildings and on the Buckland side an historically significant manufacturing site, the Lamson & Goodnow complex (see Historic Resources Map). The residential areas in Buckland are located along Williams, State, and North Streets, and contain twenty-seven buildings, only one of which would be non-contributing. In Shelburne, historically significant residential and civic structures are located to the south of Route 2 and include the Sweetheart Restaurant, an example of Federal Revival architecture, on South Maple Street near the intersection of Route 2.

Overall there are over 95 significant structures in Shelburne representing a variety of architectural periods that are integral to the historic character of Shelburne Falls including the Arms Academy (1880), Trinity Church (1884), and the Shelburne-Buckland Community Center (1928) (see Historic Resources Map). In Buckland, the National Historic District could be expanded to include over 40 additional structures that occur in clusters within the central village district. The expansion would be northward and include portions of State Street, North Street, and Williams Street; westward to include 4 structures off of Clement Street; and southward along the Deerfield to capture buildings off of Ashfield, Conway, and Summer Streets. Included in this expanded district would be the Lamson and Goodnow complex on Conway Street. Tables 2-3 and 2-4 list these structures currently located outside of the existing NHD.

**Table 2-3: Significant Structures and Sites Adjacent to the NHD in Buckland**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| Lamson & Goodnow Mfg. Co. buildings | 1850 | Conway Street on Deerfield River | 15 | 162 |
| First house built by Nathaniel and Gershom Coleman | 1774 | At corner of Clement and Sears Streets | 16 | 161 |
| Residence | 1800 | 67 State Street | 47 | 128 |
| Residence | 1800 | 46 North Street | 72 | 8 |
| Residence | 1875 | 41 North Street | 73 | 7 |
| Residence | 1865 | 45 North Street | 74 | 6 |
| Residence | 1870 | 49 North Street | 75 | 5 |
| Residence | 1882 | 62 North Street | 76 | 4 |
| Residence | 1800 | 53 North Street | 77 | 3 |
| Residence | 1775 | 56 Conway Street, between Summer and Elm Street | 81 | 49 |
| Residence | 1770 | 62 Conway Street, " " " " " " | 82 | 48 |
| J. S. Halligan House | c. 1880 | 64 Conway Street, " " " " " " | 83 | 47 |
| Residence | 1850 | 20-22 Summer Street, on corner of South Street | 84 | 46 |
| Residence | 1830 | 26 Summer Street, on corner of South Street | 85 | 45 |
| Residence, Greek Revival | 1820 | 9 Summer Street | 86 | 44 |
| Cobb House | 1800 | 18 Ashfield Street, on corner of Green Street | 101 | 29 |
| J. W. Gardiner House | 1775 | 14 Ashfield Street, near intersection w/ Conway Street | 102 | 28 |
| G. W. Ornaby House | 1875 | 10 Ashfield Street, near church on Clement Street | 103 | 27 |
| The Clement House | 1840 | 4 Clement Street | 104 | 26 |
| Lamson & Goodnow Mfg. Co. building | 1846 - 1880's | Between Conway Road and the Deerfield River | 106 | 50 |
| Maintenance Building | c. 1920 | Conway Road | 132 | 208 |
| Carpentry Shop/ Electricity Building | c. 1941 | Conway Road | 133 | 207 |
| Office Building | 1940 | Conway Road | 134 | 206 |

| | | | | |
|---|---|---|---|---|
| Residence | 1850 | 8 Conway Road on corner of Ashfield Road | 107 | 51 |
| Jesse Thayer House | 1874 | 19 Clement Street | 156 | 25 |
| Albert Pelton's Place | 1880 | 23 Clement Street | 157 | 24 |
| The servant's quarters | 1790 | 31 Clement Street | 158 | 23 |
| Residence | 1835 | Williams Street | 159 | 21 |
| The Richmond Place | 1850 | 44 Williams Street | 160 | 20 |
| Residence | 1850 | 39 Williams Street | 161 | 19 |
| Residence | 1850 | 35 Williams Street | 162 | 18 |
| Residence | 1850 | 33 Williams Street | 163 | 17 |
| Residence | 1850 | 27 Williams Street | 164 | 16 |
| Residence | 1850 | 8 Williams Street | 165 | 15 |
| Residence | 1886 | 49-51 State Street | 166 | 14 |
| Residence | 1875 | 63-65 State Street | 167 | 13 |
| Residence | 1890 | 75 State Street | 168 | 12 |
| Residence | 1875 | 79 State Street | 169 | 11 |
| Residence | 1900 | 87 State Street | 170 | 10 |
| Residence | 1880 | 89 State Street | 171 | 9 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

**Table 2-4: Significant Structures and Sites Adjacent to the NHD in Shelburne**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| Residence, Victorian | unknown | 3 Masonic Street, on corner of Bridge Street | 27 | 125 |
| Residence, Victorian | unknown | 135 Bridge Street | 28 | 124 |
| Sweetheart Restaurant, Federal Revival | unknown | So. Maple Street | 29 | 123 |
| Residence | unknown | So. Maple Street | 30 | 122 |
| Residence, Greek Revival | unknown | 8 So. Maple Street | 31 | 121 |
| Residence, Victorian | unknown | 139 Bridge Street | 32 | 120 |
| Severance House | 1784 | Bridge and Maple Streets | 33 | 119 |
| Residence, Federal Revival | unknown | 10 Maple Street, near corner of Bridge Street | 34 | 118 |
| Residence, Victorian | unknown | 16 Maple Street | 35 | 117 |
| Residence, Federal Revival | unknown | 42 Maple Street | 36 | 116 |
| Residence, Greek Revival | unknown | 52 Maple Street | 37 | 115 |
| Residence, Italianate | unknown | Pleasant Street | 38 | 113 |
| Residence, Italianate | unknown | 31 Maple Street | 39 | 114 |
| Residence, Victorian | unknown | 23 Maple Street | 40 | 112 |
| Residence, Italianate | unknown | 4 Warren Avenue | 41 | 111 |
| Residence, Italianate | unknown | 6 Warren Avenue | 42 | 110 |
| Residence, Stick Style | unknown | Warren Avenue | 43 | 109 |
| Residence | unknown | Gardner Avenue | 44 | 108 |
| Residence, Italianate | 1885 | 3 Pleasant Street | 45 | 107 |
| Residence | unknown | 11 Warren Avenue | 46 | 106 |
| Residence, Stick Style | unknown | 21 Maple Street, on corner of Maple Street | 47 | 105 |
| Residence, Victorian | unknown | 11 Maple Street | 48 | 104 |
| Residence, Italianate | unknown | 5-7 Maple Street | 49 | 103 |
| Woods House, Gothic Revival | 1869 | 3 South Maple Street | 50 | 102 |
| Residence, Federal Revival | unknown | 19 So. Maple Street | 51 | 101 |
| Residence, Victorian | unknown | 35 Main Street, near Church Street | 52 | 174 |
| Residence, Greek Revival | unknown | Main Street | 53 | 173 |
| Residence, Greek Revival | unknown | 31-33 Main Street | 54 | 172 |
| Residence, Greek Revival | unknown | 29 Main Street | 55 | 171 |
| Residence, Victorian | unknown | 25 Main Street | 56 | 170 |
| Residence, rural farm | unknown | 21 Main Street | 57 | 169 |
| Residence, Victorian | unknown | 15-17 Main Street | 58 | 168 |
| Residence, Victorian | unknown | 11 Main Street | 59 | 167 |
| Residence | 1835 | 9 Main Street | 60 | 166 |
| Residence, Victorian | unknown | 22 Mechanic Street, near Cross Street | 62 | 164 |
| Residence, Greek Revival | unknown | Mechanic Street | 63 | 163 |
| Residence, Greek Revival | unknown | 38 Mechanic Street | 64 | 162 |
| Residence, Colonial Revival | unknown | Adams Court | 65 | 160 |

| | | | | |
|---|---|---|---|---|
| Residence, Victorian | unknown | 50 Mechanic Street | 66 | 161 |
| Residence, rural farm | unknown | Mechanic Street | 67 | 159 |
| Residence, Greek Revival | unknown | 79-81 Mechanic Street | 68 | 158 |
| Residence, Greek Revival | unknown | 45 Mechanic Street | 69 | 157 |
| Residence, rural farm | 1800 | 41 Mechanic Street | 70 | 156 |
| Residence, Victorian | unknown | 37/39 Mechanic Street | 71 | 155 |
| Residence, Victorian | unknown | 25/27 Mechanic Street | 72 | 154 |
| Residence, Greek Revival | unknown | 23 Mechanic Street | 73 | 153 |
| Residence, Italianate | unknown | 19 Mechanic Street | 74 | 152 |
| Residence, Greek Revival | unknown | 17 Mechanic Street | 75 | 151 |
| Residence, Victorian | unknown | 5 Masonic Ave. | 88 | 126 |
| Residence, Victorian | unknown | 7 Masonic Ave. | 89 | 127 |
| Residence, Victorian | unknown | 11 Masonic Ave. | 90 | 128 |
| Residence, Victorian | unknown | 12 Masonic Ave. | 91 | 129 |
| Residence, Victorian | unknown | 132 Bridge Street, near corner of Maple Street | 92 | 130 |
| Residence, rural farm | unknown | 124-126 Bridge Street | 93 | 131 |
| Residence, Victorian | unknown | 11 Severance Street | 94 | 132 |
| Trinity Church | 1884 | Severance Street | 95 | 133 |
| Arms Academy | 1880 | Severance Street | 96 | 134 |
| Residence, Victorian | unknown | Church Street | 97 | 135 |
| Residence, Victorian | unknown | 28 Severance Street | 98 | 136 |
| Residence, Greek Revival | unknown | 18-20 Severance Street | 99 | 137 |
| Residence, Victorian | unknown | Severance Street | 100 | 138 |
| Residence, Greek Revival | unknown | 4-6 Severance Street | 101 | 139 |
| Residence, rural farm with Greek Revival features | unknown | Bridge Street, on corner of Severance Street | 102 | 140 |
| Residence, Queen Anne style | unknown | 5 High Street | 103 | 141 |
| Residence, Italianate | unknown | 9 High Street | 104 | 142 |
| Residence, Italianate | unknown | 11 High Street | 105 | 143 |
| Residence, Italianate | unknown | 21 High Street | 106 | 144 |
| Residence, Italianate | unknown | 23 High Street | 107 | 145 |
| Residence, Italianate | unknown | 31 High Street | 108 | 146 |
| Residence, Victorian | unknown | 14 High Street | 109 | 147 |
| Residence, Victorian | unknown | 4 High Street | 110 | 148 |
| Residence, Victorian | unknown | High Street | 111 | 149 |
| Residence, Victorian | unknown | 96 Bridge Street | 112 | 150 |
| Building | unknown | Deerfield Avenue | 138 | 202 |
| Shelburne-Buckland Community Center | 1928 | Main Street | 140 | 175 |
| Residence, Rural Farm | Unknown | 55 Main Street | 141 | 176 |
| Residence, Victorian | unknown | 8 Church Street | 142 | 177 |
| Residence, 2 1/2 Story Rural Farm | unknown | 61-63 Main Street | 143 | 178 |
| First Shelburne High School (boarding) | unknown | 77 Main Street | 144 | 179 |
| Residence, 2 1/2 Story Victorian | unknown | 87-89 Main Street | 145 | 180 |

| | | | | |
|---|---|---|---|---|
| Residence, 2 Story Greek Revival | unknown | 93 Main Street | 146 | 181 |
| Residence, 2 1/2 Story Federal | unknown | 99-101 Main Street | 147 | 182 |
| Residence, 2 1/2 Story Federal | unknown | 105 Main Street | 148 | 183 |
| Residence, 2 1/2 Story Greek Revival | unknown | 111 Main Street | 149 | 184 |
| Residence, 2 Story Italianate | unknown | 119 Main Street | 150 | 185 |
| Residence, 2 1/2 Story Victorian | unknown | Main Street | 151 | 186 |
| Residence, 2 1/2 Story Victorian | unknown | 127 Main Street | 152 | 187 |
| Residence, 2 1/2 Story Rural Farm | unknown | 118 Main Street | 153 | 188 |
| Residence, 1 1/2 Story Greek Revival Bungalow | unknown | 98 Main Street | 154 | 189 |
| Residence, 2 1/2 Story Victorian w/ Greek Revival features | unknown | 36 Main Street | 155 | 190 |
| Residence, 2 1/2 Story Victorian | unknown | 34 Main Street | 156 | 191 |
| Residence, 2 1/2 Story Victorian | unknown | 24 Main Street | 157 | 192 |
| Residence, 3 Story Victorian | 1850 | 16 Main Street | 158 | 193 |
| Residence, 2 Story Octagon | unknown | 14 Main Street | 159 | 194 |
| Residence | 1815-20 | 12 Main Street | 160 | 195 |
| Residence, 2 1/2 Story Federal | unknown | 18-20 Baker Ave. | 161 | 196 |
| American Legion Post 135 | unknown | Water Street | 162 | 197 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

## Buckland Center

Buckland Center (see Historic Resources Map and Table 2-5) has a wealth of historic resources. This area includes historic structures and sites located on Ashfield Road (Route 112), Upper Street, Maynard Hill Road, Charlemont Road, and Cross Street. Within this area there are 45 contributing structures, most of which are located on Upper Street between Orcutt Hill Road and Ashfield Road.

It is important to note that there are 5 or 6 structures that are in the surrounding area, close to Buckland Center but seemingly scattered amongst many non-contributing structures. Typically districts are mapped with the minimum number of non-contributing structures. Also, Buckland Center has been mapped based upon information taken from individual MHC forms. Numerous individuals, as stated before, have completed the forms, and the sketch maps included were often difficult to translate. Additional fieldwork will be needed prior to any district nomination of Buckland Center to the National Register.

**Table 2-5: Significant Structures within Buckland Center**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| No. 4 Taylor Cemetery | 1850 - Present | Charlemont Road | 3 | 803 |
| No. 1 First Cemetery | 1777- Present | East and North of the Congregational Church | 5 | 805 |
| Josiah Spaulding, Jr. Gravestone | 1968 | First Cemetery | 6 | 806 |
| Home of Robert Strong Woodward, the artist | mid 19th century | Upper Street | 50 | 101 |
| The Gould Place | early 19th century | Upper Street | 51 | 102 |
| The George Tower Place | 1850's | Upper Street | 52 | 103 |
| Jabez Brooks House | pre-1800 | Upper Street | 53 | 104 |
| Home of Colonel John Ames | 1800 | Upper Street | 54 | 105 |
| Buckland Grange Hall | 1850 | Upper Street | 55 | 107 |
| The Charly Shed Place | early 1900's | Rt. 112 | 56 | 108 |
| Residence, 2 1/2 Greek Revival | 1840 | Cross Street | 57 | 110 |
| Josiah Spaulding, Jr. Place | 1700's | Cross Street | 58 | 111 |
| Elmer House | 1820 | Cross Street | 59 | 112 |
| Residence, 1 1/2 Story Greek Revival | 1850 | Cross Street | 60 | 113 |
| Dan Townsley's Cobble Shop | unknown | Cross Street | 61 | 114 |
| The Lily Place | 1830 | Martin Road | 62 | 115 |
| Farm | 1812 | Ashfield Road | 63 | 116 |
| Residence | 1790 | Ashfield Road (Vight) | 64 | 118 |
| Residence | 1875 | Ashfield Road (Willis) | 65 | 119 |
| Residence | 1825 | Ashfield Road (Holmes) | 66 | 120 |
| Wilder Homestead | 1775 | Ashfield Road, just north of intersection with Upper Street | 128 | 72 |
| Parsonage | unknown | Upper Street, just north of Charlemont Road | 129 | 74 |
| The Forbes Place | 1844 | Ashfield Road | 130 | 73 |
| Graham Hall | pre-1800 | Corner of Upper Street and Charlemont Road | 131 | 12 |
| Greek Revival | 1850's | Upper Street | 132 | 100 |
| Sash and Blind Shop | 1836 | Corner of Cross Street and Rt. 112 | 133 | 99 |
| Residence | 1832 | Ashfield Road (Mattie Wiley) | 134 | 94 |
| Purinton's House | Unknown | Ashfield Road | 135 | 95 |
| Daniel's General Store | 1875 | Ashfield Road (Lower Street) | 136 | 96 |
| Bronson Place | mid 19th century | Rt. 112, near intersection with Cross Street | 137 | 97 |
| The F. Ballard estate | 1850's | Rt. 112, near intersection with Cross Street | 138 | 98 |

| | | | | |
|---|---|---|---|---|
| Rural Farm | unknown | Upper Street | 139 | 93 |
| Edmond Smith Place | 1797 | Upper Street | 140 | 92 |
| Alpheus - Brooks House | Sometime after 1790 | Upper Street | 141 | 91 |
| Griswold Place / Mary Lyon House | 1818 | Upper Street | 142 | 13 |
| The "Red House" overflow of Griswold Homestead | unknown | Upper Street | 143 | 89 |
| Residence, Greek Revival | 1830's | Upper Street | 144 | 88 |
| Buckland Library | mid 19th century | Upper Street | 145 | 87 |
| Residence (Currently Post Office) | 1700's | Upper Street | 146 | 86 |
| The Trow House | 1870 | Upper Street | 147 | 85 |
| District No. 1 Schoolhouse | 1860 | Upper Street | 148 | 84 |
| The Temple Cottage | unknown | Charlemont Road | 149 | 83 |
| Samuel Taylor Place | 1770 | Charlemont Road | 154 | 78 |
| Sherwin's Clocks | 1830 | Clock Hollow Road | 155 | 77 |
| Mary Lyon Church | 1793 | Cross and Upper Streets | 172 | 106 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

### Shelburne Center

Unlike Buckland Center, the five buildings listed below in Table 2-6 are spread out with only the Kingsbury House and the building called the Four Chimneys located on the same road. It is unlikely that with only these five structures involved, a National Historic District could be established. However, if and when a more complete inventory of historic structures and sites is completed in the environs of Shelburne Center, it might be found that there are enough significant structures clustered in the same area. In that case, establishing a National or Local Historic District would be the best strategy for their long-term preservation.

**Table 2-6: Significant Structures within Shelburne Center**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| Kingsbury House | 1775 | Barnard Road | 113 | 48 |
| Four Chimneys | 1812 | Barnard Road | 114 | 47 |
| First Congregational Church | 1845 | Mohawk trail | 120 | 41 |
| Elihu Smead House | 1812 | Bardwell's Ferry Road | 115 | 46 |
| Shelburne Free Public Library | 1898 | Shelburne Center Road | 116 | 45 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

## Other Historic Resources

*Shelburne*

There are a number of significant historic structures in Shelburne that are located outside of Shelburne Falls and Shelburne Center. These are scattered throughout the town from the Deerfield Town Line North to Smead Road on the Colrain border. The only visible pattern to these structures is their association with both historic landscapes and scenic roads that connect the structures to Shelburne's expansive natural and pastoral beauty. These structures are listed in Table 2-7 and their approximate locations are identified on the Historic Resources Map.

**Table 2-7: Other Significant Structures and Sites – Shelburne**

| Name of Feature | Date | Location | Feature Number | MHC Form Number |
|---|---|---|---|---|
| The Taylor House | 1845 | Taylor Road | 76 | 56 |
| Wood Barn | early 1860's | Taylor Road | 77 | 57 |
| Dairy Barn | 1815-1818 | Hawks Road | 78 | 59 |
| The John Joseph House | 1775-1777 | Taylor Road | 79 | 58 |
| The Herron Home | 1815-1818 | Hawks Road | 80 | 60 |
| The Tractor House | 1871 | Colrain Road | 81 | 63 |
| The Joseph Torras House | 1780-1790 | Bardwell's Ferry Road, @ Hawks Brook | 82 | 61 |
| Foxtown District School | 1871 | Bardwell's Ferry Road and Taylor Road | 83 | 62 |
| The Long House | 1784 | Little Mohawk Road | 84 | 64 |
| Archibald Lawson House | 1760 - 1842 | Reynolds Road | 85 | 65 |
| The New Patten School House | 1902 | Patten Road | 86 | 66 |
| Richard Phelp's Place | 1778 | Lucy Fiske Road | 87 | 55 |
| The Wells Tavern | 1790 | Old Greenfield Road | 117 | 44 |
| Theophilus Packard House | 1802 | Frank Williams Road | 118 | 43 |
| The Parson Hubbard House | 1778 | Old Village Road | 119 | 42 |
| First Congregational Church | 1845 | Mohawk trail | 120 | 41 |
| Mountain View Farm Cow Barn | 1850 | Patten Hill Road | 121 | 38 |
| Mountain View Farm House | 1850 | Patten Hill Road | 122 | 37 |
| The Anderson Farmstead Barn | 1859 | Anderson Road | 123 | 36 |
| The Anderson Farm House | 1858 | Anderson Road | 124 | 35 |
| Stebbins Tavern | 1770 | Smead Road | 125 | 33 |
| Clark Tavern | 1762 | Wilson Graves Road | 126 | 32 |
| Ira Arms House | 1811 | Colrain Road | 127 | 31 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

*Buckland*

Unlike Shelburne, the historically significant structures and sites that exist in Buckland outside of Shelburne Falls or Buckland Center do occur in clusters of their own. The clusters of historic structures include those found on, or in: Clesson Brook Road, west of Shepherd Road; the triangular grouping of Ashfield, Purinton, and Depot Roads; the Goodnow and Stone Road cluster; and the area known as Buckland Four Corners. The approximate locations of these structures and sites have been identified on the Historic Resources Map. These locations are not exact given the fact that the forms and associated sketch maps locating these structures and sites were often vaguely rendered. The structures and sites are listed below in Table 2-8.

**Table 2-8: Other Significant Structures and Sites - Buckland**

| Name of Feature | Date | Location | Feature Number | MHC Form # |
|---|---|---|---|---|
| No. 2 East Buckland, Cemetery | 1804 - 1876 | Old County Rd. (abandoned) | 1 | 801 |
| East Buckland Cemetery | 1849 - Present | East Buckland | 2 | 802 |
| Upper City Cemetery | 1841 | Old Apple Valley Rd. | 4 | 804 |
| Mary Lyon birth place, bronze plaque on a rock | 1887 | East Buckland Rd. | 7 | 901 |
| Mary Lyon's first school, bronze plaque on quartz boulder | 1968 | Walker Road | 8 | 902 |
| Boston and Maine Railroad Trestle | Circa 1867 - 1900 | Approx. 300 meters northwest of Gardner Falls Hydro Facility | 11 | 905 |
| Gardiner Falls Station Power House, Canal and Dam | 1904 | Gardner Falls Station Road | 12 | 159, 906, 907 |
| Glacial Pothole | unknown | Near feature # 13 | 14 | 904 |
| Residence | 1800 | South Street | 17 | 160 |
| Home of Lois Buell | pre 1800 | Off of Old Goodnough Rd. | 25 | 151 |
| Salt Box Home | 1880 | Off of Stone Rd | 26 | 150 |
| FR Bray Farm | early 1800's | On West side of Bray Rd | 27 | 148 |
| Residence | 1840 | Stone Rd. | 28 | 149 |
| The Elmer Place | 1876 | Off of Bray Rd, north of Stone Rd. | 29 | 147 |
| The Drake Place | 1780 | On Bray Rd. 100 yards north of Ashfield | 30 | 146 |
| The Nilman House | 1846 (probably earlier 1800) | Off of Neilman Rd | 31 | 145 |
| The Johnson House | 1907 | East Buckland Rd. | 32 | 144 |
| The Bellows Place | 1810 | East Buckland Rd. | 33 | 143 |
| Hog Hollow Schoolhouse | before 1850 | Hog Hollow Road | 34 | 142 |
| Purinton House | 1852 | Hog Hollow Road | 35 | 141 |

| | | | | |
|---|---|---|---|---|
| Goddard Place | 1812 | Hog Hollow Road | 36 | 140 |
| The Hartwell House | not available | Hawley Road | 37 | 138 |
| The Rood Place | c.1830 | Hawley Road | 38 | 137 |
| The Cranson Place | c.1700 | Hawley Road | 39 | 136 |
| The Sanderson Ruddock Place | c.1800 | Dodge Road | 40 | 135 |
| The Dodge Place | 1805 | Dodge Road | 41 | 134 |
| The Orta Kenney Place | 1750 | Hawley Road | 42 | 133 |
| Residence | 1780 | Hawley Road | 43 | 132 |
| The Ward Place | 1790 | Hawley Road | 44 | 131 |
| High Street School House | after 1850 | Hawley Road | 45 | 130 |
| Auge Place | 1880 | Hawley Road | 46 | 129 |
| Scott House | 1830 | Hawley Road | 48 | 127 |
| The Hartwell House | 1790 | Hawley Road | 49 | 126 |
| The Lily Place | 1830 | Martin Road | 62 | 115 |
| The Wood House | 1810 | Ashfield Road | 67 | 121 |
| Hathaway Place | 1750 | Hawley Road | 68 | 122 |
| District No. 5 Schoolhouse | 1829 | Hawley Road, Buckland Four Corners | 69 | 123 |
| The Kenney Place | 1750 | Hawley Road | 70 | 124 |
| Enoch Wells Place | 1814 | Hawley Road | 71 | 125 |
| Residence | 1788 and 1871 | 85 North Street | 78 | 2 |
| Freighter's Inn | c. 1800 | 124 North Street | 79 | 1 |
| Residence | 1800 | South Street | 87 | 43 |
| ' raehead Farm | 1795 | 88 Elm Street, near intersection of Homestead Ave. | 88 | 42 |
| Residence, Salt Box | 1795 | 65 Elm Street, near intersection of Laurel Road | 89 | 41 |
| Residence, Greek Revival | 1830 | 41 Elm Street | 90 | 40 |
| Residence | 1850 | Bray Road, just south of Ashfield Street | 91 | 38 |
| Residence | 1815 | Elm Street, on corner of Birch Road | 92 | 39 |
| The Lanfair Estate | 1830 | 26 Walker Road | 93 | 37 |
| Residence | 1850 | 9 Kendrick Road | 94 | 36 |
| Residence, Cape | 1875 | 79 Ashfield Street | 95 | 35 |
| Parsonage for Catholic Church | unknown | Monroe Ave. on corner of Ashfield Street | 96 | 34 |
| Crittenden School | after Dec. 6, 1919 | Ashfield Street, near intersection with Franklin Street | 97 | 33 |
| E. B. Sherwin House | 1830 | 50 - 52 Ashfield Street, on corner of School Street | 98 | 32 |
| Slattery House | 1830 | 49 School Street | 99 | 31 |
| Nathaniel Lamson House | 1850 | 39 Green Street | 100 | 30 |
| The Spencer- Woodsome House | 1790 | Rand Road, opposite the high | 108 | 52 |

| | | | | |
|---|---|---|---|---|
| | | school | | |
| Patch Farm | 1785 - 1790 | Crittenden Hill Road, near intersection with Rand Road | 109 | 53 |
| The Luther Dunnell House | 1840 | Ashfield Road | 110 | 54 |
| Pine Brook Farm | 1809 | Ashfield Road, near intersection with Rand Road | 111 | 55 |
| The Gould Place | 1875 | Woodward Road, near intersection with Ashfield Road | 112 | 56 |
| Boehmer's Mill | 1810 | Rt. 112 and Woodward Road | 113 | 57 |
| The Lightning Splitter | 1900 | Ashfield Road, on corner of Depot Road | 114 | 58 |
| Bert Shaw's House | 1830 | Depot Road, near corner of Ashfield Road | 115 | 59 |
| William Taylor House | Pre - 1800's | End of Depot Road | 116 | 60 |
| Dunbar House | 1776, 1821 | Dunbar Road | 117 | 61 |
| Burdick Place | 1796 | Purinton Road | 118 | 62 |
| The Otis Field House | 1790 | Purinton Road | 119 | 63 |
| The Sweet Place | 1890 | Purinton Road | 120 | 64 |
| Residence | 1850 | Purinton Road (Mowry's) | 121 | 65 |
| Goodnow Farm | 1860 | Purinton Road | 122 | 66 |
| Scott's Dairy | 1780 | Ashfield Road | 123 | 67 |
| Cooper's Shop | Pre - 1800 | Ashfield Road, opposite Purinton Road | 124 | 68 |
| The Silas Trowbridge Place | 1829 | Ashfield Road, opposite Purinton Road | 125 | 69 |
| Enos Taylor House | Pre - 1800's | Ashfield Road, just north of intersection with Purinton Road | 126 | 3 |
| The Buckland Post Office | 1819 | Intersection of Depot Road and Rt. 112 | 127 | 6 |
| Koonchaug Farm | 1800 | Avery Road | 150 | 82 |
| Keach Place | pre - 1793 | Charlemont Road | 151 | 81 |
| The Ward Place | 1858 | Charlemont Road | 152 | 80 |
| The Manard Place | 1812 | Charlemont Road | 153 | 79 |

Source: Compiled from Massachusetts Historical Commission Inventory forms.

## Historically Significant Landscapes

Another category of historic resources is landscapes. A listing and description of each of these landscapes are provided below and are summarized in Tables 2-9 and 2-10. The approximate locations of these landscapes are identified on the Historic Resources Map. Many of these landscapes are tied to the agricultural history of both towns and remain largely intact, but are most at risk from Approval Not Required (ANR) development.

**Table 2-9: Historically Significant Landscapes in Buckland**

| |
|---|
| Early Industrial Areas along the Deerfield River and Related Neighborhoods |
| Buckland Center, Charlemont Road and Cross Street |
| Numerous Properties along Route 112 |
| Orcutt Hill Road |
| The Guilford homestead |

**Table 2-10: Historically Significant Landscapes in Shelburne**

| |
|---|
| O. Long and I. Cole Properties |
| Davenport Farm |
| Patten Road Properties |
| "Wheel View" Property |
| The Peck Property |
| Mohawk Orchards along Route 2 |
| Bardwell's Ferry Bridge |
| Wells Property, c. 1871 |
| High Ledges Viewshed |

*Early Industrial Areas along the Deerfield River*

The 19th Century Lamson Goodnow Manufacturing complex remains largely intact and provides a rare example of an historic manufacturing landscape. Located on the Deerfield River there are excellent views, of this "landscape" from the end of Deerfield Avenue in Shelburne.

*Buckland Center, Charlemont Road and Cross Street (Buckland)*

In the 1992 Rural Historic Landscape Preservation Plan, Buckland Center is considered a scenic and historic landscape of the type, *community development*. As the old village center it contains over forty historic features (see Table 2-5), Charlemont, Cross, and Upper Streets included. In addition, there are significant scenic and historic landscapes to the southwest of Cross Street and to the northeast of Upper Street including old pastures and apple trees which surround the historic structures of the old town center mostly built in the early to mid-1800's.

*Patten Road Properties (Shelburne)*

According to the 1992 Franklin County Rural Historic Landscape Preservation Plan, there are multiple properties along Patten Road which are considered to have, or contain, significant historic *agricultural* landscapes. The 1998 field survey identified two areas of considerable historic and scenic value. The first begins soon after the road's intersection with Tower Road. The viewshed is to the north and northeast and includes rolling wooded hills in the foreground, and in the distance, patches of orchards and cornfields. A mile up, just opposite a residence, #3604 Patten Road, the second historic and scenic landscape includes pastures, cultivated fields, spruce hedgerows, high stone walls, antique rustic homes, barns and a view to the northeast, into Colrain.

*"Wheel View" Property (Shelburne)*

This historic *agricultural* landscape includes viewsheds of 270 degrees of long rectangular shaped fields, hedgerows, stone walls, a Christmas tree farm, flower gardens and rolling, wooded hills.

*The Peck Property (Shelburne)*

The Peck Property is currently owned by Dole and Apex Orchards and is located at the top of the hill on Peckville Road. This historic *agricultural* landscape includes homesteads, orchards, and rolling hills in the distance.

*Mohawk Orchards along Route 2 (Shelburne)*

At the intersection of Colrain/Shelburne Road and Route 2, Mohawk Orchards is a significant historic *agricultural* landscape that depicts a traditional use of the region's land.

*Bardwell's Ferry Bridge (Shelburne)*

Bardwell's Ferry Bridge provides views of an historic *transportation* landscape, including the Deerfield River, its steep rock banks and of the iron suspension bridge itself.

*Wells Property, c. 1871 (Shelburne)*

Located on Old Greenfield Road, the Wells Property is considered to be an historic *agricultural* landscape with farmland that is also considered to be of statewide importance. The Wells homestead is a well maintained complex on the southern side of Old Greenfield Road. Opposite the farmstead is a large sloping open field fringed in the distance by hardwood forests.

*High Ledges Viewshed*

High Ledges is a Massachusetts Audubon Sanctuary located high above the Deerfield River in the Northwest corner of Shelburne. There are dramatic views of the Deerfield River Valley from pedestrian trails.

## Scenic Roads in Shelburne and Buckland

In many parts of Shelburne and Buckland, especially in those areas outside of the old town centers, historic landscapes blend with scenic viewsheds. Scenic roads, which access these special places overlap both. It is for this reason that we list the scenic roads for each Town here. There is some overlap with historic landscapes, but the intent is to identify and characterize those scenic roads that contain the most important historic and scenic resources. In a few cases the only way to identify the location of an historic landscape that did not include a structure, was to identify it by the road which accesses it. For this reason, some of the historically significant landscapes are listed in this section.

**Table 2-11: Scenic Roads in Buckland**

| |
|---|
| Dodge Road |
| Clesson Brook Road |
| Purinton Road |
| Crittendon Road |

*Dodge Road (Buckland)*

Dodge Road is a dirt road that offers access to long stretches of woodland, large diameter maple trees, stone walls, and open pastures.

*Clesson Brook Road (Buckland)*

Clesson Brook Road, south of its intersection with Orcutt Hill Road, is bordered to the east by the wooded slopes of Orcutt Hill, and to the west by Shepherd/Clesson Brook. Old pastures can be seen between the trunks of large maples and other species. Most of the land viewed is either farm or forest. One scenic viewshed to the east encompasses nearly 180 degrees.

*Purinton Road (Buckland)*

The scenic portion of Purinton Road begins as you travel northwest from its intersection with Dunbar Road, in the northern part of Buckland, less than a mile from the Deerfield River. Here to the northeast are active cornfields, and to the southwest more cornfields backed up by open pastureland and tree-covered Walnut Hill. The landscape abruptly changes to residential

development of the ANR type (Approval Not Required) where homes of different styles are scattered close to the road. However after descending the hill, the viewshed is spectacular with open pastures to the southwest, a lone maple tree in one field, white pine forests, farms, and only a few houses dotting the scenic view of the hillside.

*Crittendon Road (Buckland)*

Located above the Shelburne Falls Village Center there is a spectacular view from the North end of the road across the Clesson Brook Valley.

**Table 2-12: Scenic Roads in Shelburne**

| |
|---|
| Route 2 and Cooper Lane Road |
| Tower Road |
| Patten Road |
| Reynolds Road |
| Old Greenfield Road |
| Carpenter Road and Peckville Road |
| Colrain/Shelburne Road |
| Skinner and Williams Roads |
| Zerah Fiske Road and Bardwell's Ferry Road |

*Route 2 and Cooper Lane Road (Shelburne)*

A significant scenic and historic viewshed exists south of Route 2 with old apple orchards and views of distant hills. Off of Cooper Lane Road at its intersection with Cooper Lane Ave., farm fields occur on both the eastern and western sides of the road. Farther north on Cooper Lane Road are two viewsheds of scenic landscapes to the northeast. The first, located ½ mile north of Cooper Lane Ave., includes views of distant, rolling and wooded hills, pastures, riparian woodlands, hedgerows, and small patches of woodlands. Another ½ mile and a similar view is to the northeast while a small apple orchard is on the left.

*Tower Road (Shelburne)*

At the intersection of Cooper Land Road and Tower Road wide-open views of cultivated fields and hillsides spread out from this intersection to the north. To the northeast, high atop a hill, there is a dramatic view of a well-thinned hedgerow back lit by open sky. Farther east along Tower Road, at its intersection with Patten Road, this agricultural landscape is as scenic as it is historic with views of farms and wooded hills to the northeast and east.

*Patten Road (Shelburne)*

As mentioned in the inventory of historic landscapes, the 1992 Franklin County Rural Historic Landscape Preservation Plan identifies multiple properties on Patten Road that contain historically significant *agricultural* landscapes. The 1998 field survey identified two areas of considerable scenic value along this road (see Historically Significant Landscapes section).

*Reynolds Road (Shelburne)*

From its intersection with Tower Road in north central Shelburne, Reynolds Road runs north atop highlands until its intersection with Little Mohawk Rd. This scenic road connects the historic *agricultural* landscape of the "Wheel View" property with other scenic landscapes in a viewshed of long rectangular shaped fields, hedgerows, stone walls, distant farms, and rolling hills.

*Old Greenfield Road (Shelburne)*

Starting at the Greenfield-Shelburne town line, there are a series of beautiful farms and pastures. This changes to forest as the road winds it way among ledge and streams. Of interest are the low stone bridges which mark the location of stream crossings. Spectacular views of mountain ridges to the West can be glimpsed through the trees as Old Greenfield Road approaches its intersection with the Mohawk Trail.

*Carpenter Road (Shelburne)*

In the 1992 Franklin County Rural Historic Landscape Preservation Plan, Carpenter Road is not listed as having any significant historic landscapes and instead named Fisk Mill Road as containing multiple *agriculturally* historic landscapes. The 1998 field survey found the opposite to be true. Carpenter Road provides access to views of open fields, on both sides, stretches of undeveloped woodlands, and distant farmhouses, orchards, and winding roads.

*Peckville Road (Shelburne)*

Peckville Road provides views of the Peck Property, an historic agricultural landscape with farm homesteads, orchards, and hardwood covered hills in the distance to the northwest, northeast, and to the south. It appears as if there has been some recent residential, Approval Not Required (ANR) development in the area.

*Colrain/Shelburne Road (Shelburne)*

There are two ½ mile sections of the Colrain/Shelburne Road which, to the east and west, provide views of historical *agricultural* landscapes that are primarily extensive orchards. This road has been designated by the Town of Shelburne as a Local Scenic Road pursuant to Chapter 40 Sec. 15C.

*Skinner and Frank Williams Roads (Shelburne)*

The 1992 Franklin County Rural Historic Landscape Preservation Plan indicated that there were several historic *agricultural* landscapes along both of these roads, although they were not specific about exact locations. At the intersection of Skinner and Frank Williams Roads is a little village center with fields and woodlands to the east and west of Skinner Road. Frank Williams Road contains historic *agricultural* landscapes including working farms with hayfields, farmhouses, barns, and hedgerows, old maple trees along the roadside, and creeping juniper on hillsides in the distance that indicate abandoned pastures.

*Zerah Fiske Road and Bardwell's Ferry Road (Shelburne)*

South of its intersection with Shelburne Road, Zerah Fiske Road provides access to scenic landscapes including Shingle Hill to the east and Buckland's hills to the west. In the foreground are long hay fields and a large barn with a weather vane on top of a cupola. Farther down this road and on Bardwell's Ferry Road are historic red brick homes, barns, fields, hedgerows and stone walls. Bardwell's Ferry Road has been designated by the Town of Shelburne as a Local Scenic Road pursuant to Chapter 40 Sec. 15C.

## Historic Issues

### Incomplete Inventories

The historic inventories that this plan contains are from detailed Massachusetts Historical Commission forms of existing historic resources. They have been costly to analyze and no doubt, they were time intensive in their creation. As part of any future effort to expand or establish new historic districts, additional work by an historic preservation expert will be needed to confirm the inclusiveness of the inventory and completeness of the forms for both towns.

### Deterioration of Historic Structures

Without due attention, neglect and deterioration may threaten significant structures in both towns. Demolition by neglect of farm buildings is one of the most pervasive threats to historic

rural resources. If structures deteriorate too far, restoration becomes cost prohibitive, resulting in the eventual loss of the structures. In order to preserve historic resources it is necessary that a preservation and protection plan be devised before structures deteriorate too far. Additionally, tools like a Demolition Delay Bylaw or Farm Structure Reuse Bylaw may offer communities the opportunity to find alternative uses for unused historic properties.

### Loss of Historic Elements

Historic details on many houses may be potentially lost, such as door and window moldings, porch supports, eaves brackets, etc. In some cases they are replaced by cheaper or mass-produced versions that lack the character of the original. Similarly, alterations to windows such as the insertion of stock bay windows can occur. This change in the details and patterns of facades is very detrimental.

The use of vinyl siding and the use of vinyl replacement windows with fake muntins are a double threat to the appearance of the historic properties in both towns. An education program for property owners to illustrate the negative impacts to historic clapboard buildings caused by siding and replacement windows would be valuable. The Historical Commissions could sponsor workshops in each town.

### Incentives and Financing for Historic Resource Preservation

Preservation and restoration of historic structures can often be a prohibitively expensive prospect for landowners. A 20% Investment Tax Credit is currently available for rehabilitation of commercial properties on the National Register of Historic Places. At present, there is no parallel program that helps to allay the cost for restoration of residential properties. Such legislation does have support both at Federal and State levels. It is hoped that a tax credit program for residential structures will be passed in the next few years. Private funding initiatives may offer another avenue for financing restoration. Some of the successful strategies that have been used in other parts of the country are revolving funds, facade easement donations held by land trusts, and loans by local banking institutions interested in the long term economic effects of historic preservation.

### Integration of Land Conservation and Historic Preservation

Buckland and Shelburne both contain cultural resources that include historical structures, sites, and landscapes. Traditionally, land conservation and historic preservation have been treated as separate issues. The close link between these two areas calls for an integrated strategy. For example, Sunderland's Historical Commission is integrating the town's recent cultural resource inventory with information on farms in the APR program. They are including barns and other outbuildings in their historic structure inventory. Buckland and Shelburne should consider a similar integrated approach to land conservation and historic preservation.

### Accessibility

Most historic buildings were not built to be wheelchair accessible. It is important to carefully design the access to historic buildings as required by the American with Disabilities Act. This may include moving the ramps to a side entrance, and reducing ramp widths, as appropriate.

## Recommendations

*Short Term*

### Expand the Existing Shelburne Falls National Historic District

Expand the existing Shelburne Falls National Historic District to include the residential, civic and industrial structures and sites adjacent to the current district. This would encompass the structures and sites listed in Tables 2-3 and 2-4. The potential expansion of the boundary is shown on the Historic Resources Map. The steps required would be a review of the existing inventory, editing of existing forms, preparation of new forms for missing structures and sites, determination of exact boundary lines, and research and preparation of a National Historic District nomination package by an Historic Preservation Planner.

### Establish Buckland Center as a National Historic District

Create a new National Historic District in Buckland Center. The steps required would be a review of the existing inventory, editing of existing forms, preparation of new forms for missing structures and sites, and research and preparation of a National Historic District nomination package by an Historic Preservation Planner. The potential boundary is shown on the Historic Resources Map.

### Complete a Planning Survey and Inventory for Shelburne Center

Given the limited number of structures currently listed on the State Register of the Massachusetts Historical Commission for Shelburne Center, completing a Planning Survey and Inventory would be the next step. Massachusetts Historical Commission provides grant funds for this activity to help communities document historic structures and sites although a cash match is required.

### New nominations to the National Historic Register

As an area with historically significant, predominantly *agricultural* landscapes, Buckland and Shelburne's historic resources are both its buildings and its cultivated landscapes. This close link between land and buildings poses a double challenge to historic preservation of the area. Traditionally, land protection and historic preservation have been treated separately and the advantages of placing restrictions or covenants on farm buildings have often been overlooked when a farm enters the APR program.

As new nominations to the National Register are made for individual farms or for extended districts, the relationship between the cultural landscape, buildings and structures should be thoroughly documented and established to facilitate the integration of these two strategies. Further, to reinforce the importance of preserving the farm buildings as well as the farmland, it is recommended that Historical Commissions identify farms in the APR program and their associated farm buildings. Preservation restrictions should then be considered for those farm buildings of historical and architectural significance. Taken together, the Agricultural Preservation Restrictions and building preservation restrictions would act in concert to protect an entire farm.

### Use Investment Tax Credits for Historic Preservation

A 20% Investment Tax Credit is currently offered for rehabilitation of commercial properties on the National Register. Traditionally used for urban commercial and rental properties, this program should be promoted for use in the rehabilitation of barns and other significant outbuildings and structures. There are few sources of support for the preservation of barns and other outbuildings, but this is one that should be considered.

While there are no current programs for owners of historic houses to help offset the costs of rehabilitation, there is strong support in Congress for such legislation, and it may be assumed that a tax credit program will be developed in the next few years. Therefore, it is important for Buckland and Shelburne to secure nominations for all the eligible properties in their communities.

### Local Historic Districts

This is potentially the most effective preservation tool and one that should be considered. Local Historic Districts are defined by a community and are tailor-made to the strengths and characteristics of a particular area. The district and associated bylaws must be voted on by Town Meeting. Typically, Historical Commissions set up a committee to identify the districts and to prepare bylaws which will outlines the features in the district which will be reviewed and regulated.

National Historic District status is an honorary designation. In Local Historic Districts alterations, demolition, and new construction are reviewed for their impact on the building itself

and on the district as a whole. Each town chooses elements for review that they consider historically significant. For instance, most communities decide to review only work that is visible from a public way; but some communities choose to adopt more detailed guidelines such as reviewing the use of artificial siding or exterior paint color. The Local Historic District tool could be established for the existing National Register Historic District. In addition, it would be appropriate for any new or expanded National Historic District in either community.

### Demolition delay bylaws

A demolition delay for a set period of time, up to six months, allows alternatives to be studied such as tax credits for rehabilitation, alternative uses, and as a last resort, moving the structure. Buckland and Shelburne should consider adopting a demolition delay bylaw to protect historic properties.

*Long-term*

### A revolving fund for the preservation of historic properties

A revolving fund is a long-term strategy, which has had success in many parts of this country. Usually organized and managed by a nonprofit group, an historical society or community development organization, a revolving fund is established which offers low-interest loans for the rehabilitation of historic properties. Revolving funds also are used to buy historic properties, rehabilitate them and sell them with protective covenants in place. A revolving fund offering low-interest rate loans for preservation of historic buildings in Buckland and Shelburne would be a welcome tool at a time when grants and tax credits for private historic house owners are not available. Revolving loan funds can provide funds to act quickly, as land trusts often do to buy a threatened property, giving local organizations additional time to raise the needed money.

### Commercial Facade Easement Programs

Commercial facade easement programs have been developed through Housing and Urban Development grants. These are deferred interest loans for commercial buildings for the rehabilitation of properties according to the Secretary of the Interior's Standards. If the property remains in the same ownership for an established period of time, the loan is forgiven. The loan must be repaid with interest if the property is sold before that date.

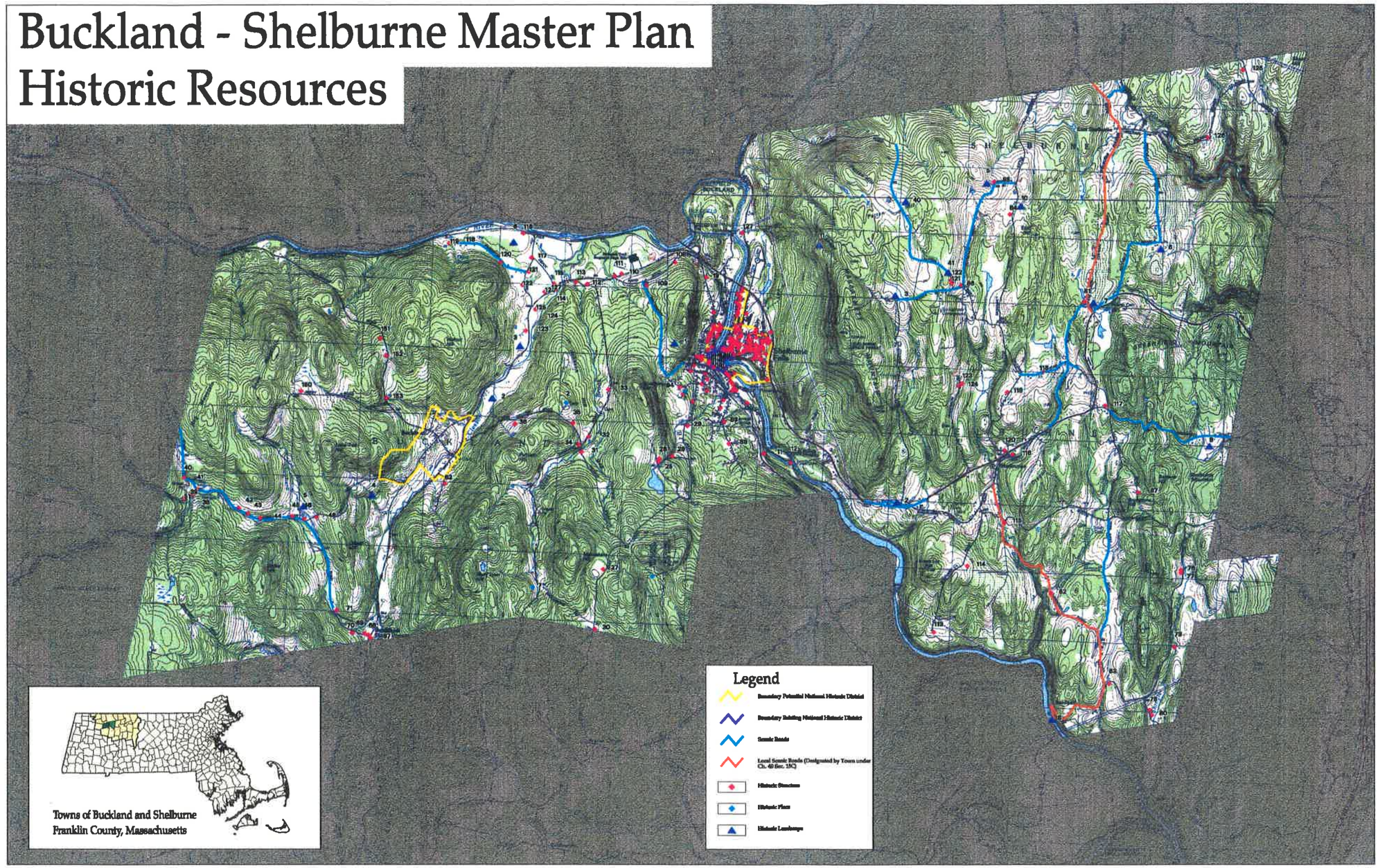
### Protection of Historic Landscapes and Scenic Roads

The goal of identifying the historic landscapes and scenic roads of Buckland and Shelburne is to implement preservation strategies with willing landowners. Preservation strategies for landscapes and scenic roads include acquisition of land in fee simple by a public or private preservation or conservation organization, or acquisition of a scenic easement by same. Other

mechanisms include tools such as siting and design guidelines, right-of-first-refusal agreements, site plan review, transfer of development rights, and cluster/open space zoning. Using historic landscape patterns to shape and guide new development helps to protect historic rural landscapes. Site planning and design based on historical or contextual elements can help new development fit in with the rural historic landscape when permanent protection is not impossible.

M.G.L. Chapter 40, Section 15C, authorizes towns to pass local by-laws designating certain town roads as scenic. Each community determines on its own which roads should be designated as scenic. Planning Boards, Conservation Commissions and Historical Commissions typically play an active role in recommending which roads should be included in the local bylaw. Once designated, the Planning Board must give written approval before any repair, maintenance, construction, or paving of the road is allowed if that activity would involve the cutting or removal of trees, or the tearing down or destruction of stone walls in the public Right of Way.

# Buckland - Shelburne Master Plan
# Historic Resources




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

Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

Map Sources:

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

This map is made from scanned images of the 7.5 minute United States Geological Survey (USGS) topographic maps for the area.

Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

May 1999

NORTH

# CHAPTER 3

# TRANSPORTATION RESOURCES

The road infrastructure of Shelburne and Buckland is comprised of two state highways and a network of roads serving the village center and outlying rural areas. Due to the rural nature of Buckland and Shelburne, cars and trucks are the primary modes of transportation for people and goods. According to the 1990 Census, 95% of Buckland households and 90% of Shelburne households own at least one vehicle. In addition, 66% of Buckland's and 81% of Shelburne's working population are employed outside of the town they live in. This places great importance on the road networks of both towns for commuting, particularly since neither community is well served by public transportation.

Route 2 is the main east-west route across the northern portion of Massachusetts and this highway bisects Shelburne and crosses through a small portion of Buckland. Route 112, the main North/South route in the Western half of Franklin County, bisects Buckland and crosses a small portion of Shelburne. These two routes link the commuters, services, and businesses of both towns to the interstate network. Both communities share a village center, Shelburne Falls, and have rural outlying areas. According to an analysis of the road infrastructure completed for both communities, 46% of Buckland's town maintained paved roads and 27% of Shelburne's are in poor condition. Not surprisingly, the Master Planning surveys completed by each community (conducted by Buckland in 1996 and Shelburne in 1997) revealed that road maintenance and improvements were a top priority. Roads were the top ranking category for needed town expenditures in Buckland. For Shelburne, repair and maintenance of local roads was the highest ranking category for town expenditures. The surveys can be found in Appendix I.

The roadway infrastructure is not only important to local residents, but also to tourists visiting the historic Village of Shelburne Falls or driving the scenic Mohawk Trail. According to information compiled by the Shelburne Falls Village Information Center, tourist traffic has increased since the installation of signs on I-91 for the Bridge of Flowers. This has led to a noticeable increase in traffic congestion in the village center and questions about the adequacy of parking and pedestrian facilities. Traffic counting data for both communities is limited and additional data collection is needed to document this trend.

Additional transportation infrastructure includes a limited public transit service and an active rail line. A transit route does exist between Greenfield and Charlemont, with stops located in Shelburne Falls. However, this runs only once in the morning and once in the afternoon on weekdays, during the school year. The lack of alternative transportation options is reflected in the 1990 Census commuter data, which showed that only 0.6% of Buckland's commuters and 0.5% of Shelburne's commuters used public transportation. The vast majority of residents drive alone. Increased usage of the rail line may occur if efforts to develop the Buckland Railyard property are successful.

The transportation section of the Master Plan will address most of the transportation issues outlined above. These issues are also reflected in the following Transportation goals and strategies. The goals and strategies were prepared by the towns based on the results of their community surveys

and were adopted by Buckland and Shelburne at their respective Town Meetings. These goals and strategies will be refined by the Transportation Subcommittee and approved by the Master Planning Committee.

## Goals

- To improve the condition of the road system.
- To improve the pedestrian infrastructure.
- To improve accessibility for the elderly and disabled.
- To address future parking requirements in Shelburne Falls village center.

## Strategies

- Use available transportation funds judiciously to maintain and improve roads and streets.
- Pursue additional funding sources for road improvement projects, such as Public Works Economic Development (PWED) or Small Town Rural Assistance Program (STRAP) funds, as they become available.
- Strive to devote additional funding within the existing town budget to road improvements and maintenance.
- Support economic development efforts to expand Buckland's tax base through increased commercial and industrial development, appropriate for the town, so that additional funds are available for road maintenance and improvements.
- Provide or improve sidewalks in the Shelburne Falls village center.
- Explore the feasibility of providing walking trails throughout Shelburne.
- Explore the feasibility of establishing bike paths in Shelburne.
- Assist in implementing accessibility improvements for municipal and other village center buildings, which are compatible with the historic character of the business district.
- Address parking and circulation issues in the village center.

To address these Goals and Strategies the following work items are included in the Master Plan:

- A comprehensive pavement management analysis of all town maintained paved roads in Buckland and Shelburne to assess the overall condition of the road network and to estimate funding needed to improve the condition of the road system;
- Collection of traffic counts for the main roads in Buckland and Shelburne and the village center;
- Collection and analysis of accident data;
- An assessment of traffic volumes to road capacity known as Level of Service (LOS) along important roads in Buckland and Shelburne;
- Intersection assessments at critical locations along Route 2 and within the village center;
- Incorporation of the results of the parking study currently being conducted by the Franklin Regional Council of Governments for the Shelburne Falls Area Business Association (SFABA); and
- Assessment of the potential for improving the pedestrian network in the village center and for adding bicycle and pedestrian trails.

Future tasks, which are outside the Scope of Work of this Master Plan, but which may be included in regional transportation planning efforts are an analysis of existing transit services and exploration of opportunities to increase transit services for Buckland and Shelburne.

## Pavement Management Analysis

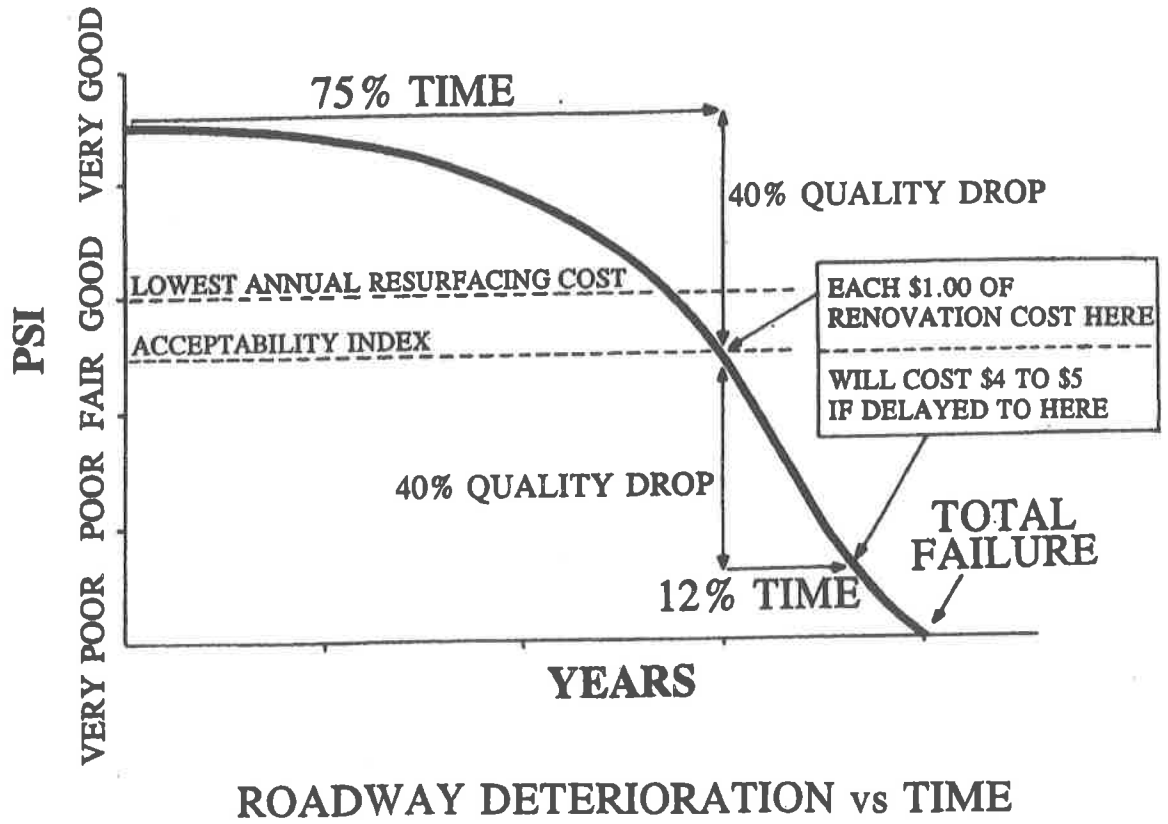
The residents of both towns expressed great concern regarding the condition of the road network. In Buckland, survey respondents made road maintenance the highest priority for the use of existing tax dollars. In Shelburne, survey respondents made road maintenance the highest priority among transportation issues, stating it was an important or very important issue to them. Based on this overwhelming concern, the FRCOG Planning Department conducted a Pavement Management Analysis of the paved road network in both towns.

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

Figure 3-1 gives a graphical depiction of the general life cycle of an asphalt pavement. Under normal conditions of consistent weather and traffic patterns, a pavement will deteriorate by 40 percent in the first 75 percent of its life. During the next 12 percent of its life, the pavement will deteriorate by a further 40 percent. With proper timing of preventative maintenance measures during the first 75 percent of a pavement's life, many years can be added to the functionality of the road at a lower overall cost.

With limited availability of transportation funding, it is more important than ever to make cost-effective decisions. A formalized PMS improves on the existing practices that most highway departments already employ by enhancing professional judgement through guidelines and a standardized approach. A PMS is generally based on a piece of computer software that has been developed from years of research about pavement behavior and the effects of timed repair strategies. A PMS can help determine the most appropriate time for repair action to be taken, what the most cost-effective method is, and the cost of maintaining the roadway at a desirable condition level.

**Figure 3-1: Life Cycle of Asphalt Pavement**




Source: 1996 Pavement Management Program Technical Report, Mass Highway Department

The FRCOG Planning Department has been involved in pavement management since the early 1990's and recently completed a three year contract with the Massachusetts Highway Department (MHD) encompassing nearly 500 miles of Federal Aid and State Transportation Program (STP) funded roads in Franklin County. The FRCOG Planning Department utilizes the RoadManager (RM) pavement management software for its PMS studies and extracts basic geometric and administrative information about roads from the State maintained Road Inventory File (RIF). The RIF is a computerized database containing information on all public roads and highways within the Commonwealth of Massachusetts. It was originally compiled from field data collected between 1969 and 1974 and has become an important reference source for transportation planning and administration at the Federal, State and local levels.

The Pavement Management System does not address gravel roads. However, since all gravel surfaced roads are re-graded twice a year in Buckland and once a year in Shelburne, concentrating limited resources on the study of paved roadways makes sense. The methodology used for data collection and analysis was designed to maximize the effectiveness of the RM software. For each paved road, section breaks were defined based on the following criteria: after one mile in length; at a change in pavement surface type; at a pavement width change of more than five feet; or if the pavement condition changed dramatically. All data collection was conducted by a field survey. This involved driving each road twice. The first pass identified the start and end points of each section, additionally the section length and width were recorded along with the pavement type. The second pass was made at low speed (10 mph) during which the average pavement distresses were noted.

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

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

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

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

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

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

- **PCI between 95 and 100 means** that the pavement is in **excellent** condition and requires no immediate or short-term pavement maintenance.
- **PCI between 85 and 94** means that the pavement is in **good** condition and generally requires minor or no immediate pavement surface maintenance.

- **PCI between 65 and 84** means the pavement is in **fair** condition and will generally need minor to extensive pavement surface maintenance and/or rehabilitation.
- **PCI between 0 and 64** means the pavement is in **poor** condition and will generally need extensive rehabilitation or reconstruction.

Repair strategies are assigned to sections through a matrix, which takes into account the PCI, condition of the pavement base, the average curb height, functional class and the pavement type. Five generalized repair categories are used and each repair strategy was also assigned an average cost to reflect present market conditions in Massachusetts.

The five repair strategies are as follows:

1. **Reconstruction Or Reclamation** ($30 per sq/yd)
   Complete removal and replacement of a failed pavement and base, which may include widening, realignment, traffic control, safety hardware and major drainage work.

2. **Rehabilitation** ($10 per sq/yd)
   Full depth patching, partial depth patching, joint and crack sealing, grouting and under-sealing, grinding or milling in conjunction with overlays over 2 inches in depth.

3. **Preventative Maintenance** ($7.50 per sq/yd)
   Localized crack sealing.and full/partial depth patching in conjunction with Chip sealing, or Micro Surfacing, or overlays less than 2 inches in depth.

4. **Routine Maintenance** ($2.50 per sq/yd)
   Crack sealing and localized patching.

5. **No Immediate Action** ($0 per sq/yd)
   No maintenance

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

**Benefit Value**

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

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

It can be seen from this formula that roads with higher Average Daily Traffic (ADT) volumes will be assigned higher BV's, which provides priority for higher volume roads. Traffic volume data was used where it was available, which generally included most of the major roads. Traffic volumes were estimated where data was not available based on road use and the number of homes and

businesses along them. These traffic volumes were reviewed by the Highway Superintendents from each town.

The distress data was collected on all paved roads maintained by the town or MHD, except Route 2, during the months of November and December 1997. The following sections summarize the results of the analysis for each town. It should be noted that the information contained in the tables was created from a visual evaluation of the pavement surface in which the severity and extent of the observed distresses were estimated. The recommended repair strategies and the associated costs are not final. A more detailed engineering evaluation must be conducted before finalizing any repairs and their associated costs. The information presented here can be used as a tool for preliminary evaluation and prioritization of the paved road network as a whole.

**Pavement Management Analysis Results: Buckland**

Tables 3-1 and 3-2 and Figure 3-2 summarize the results of the pavement management analysis on the town maintained paved road network in Buckland. The average PCI for all the town maintained paved roads in Buckland is 68, which categorizes the overall condition of the road network at the lower end of fair condition. However, 45% of the network has been classified in poor condition based on the severity and extent of the distresses noted during the data collection. This is reflected by 15% and 34% of the network being assigned rehabilitation and reconstruction repair strategies respectively. This has contributed to a large backlog of repairs with an estimated cost of $4.8 million. This backlog of repairs provides an estimate of the investment required to bring the whole paved road network up to an excellent condition. The estimated repair cost of $4.8 million is an enormous amount compared to the annual Chapter 90 funding available to the town of approximately $150,000. Therefore, it is essential that available funding be used efficiently to ensure that maximum benefits can be achieved. The RM software prioritizes the repairs through the benefit value formula mentioned earlier and the benefit value is then translated into the PMS Rank, with the road section with highest benefit value receiving the number 1 PMS Rank.

A complete listing of all town-maintained paved road sections can be found in Appendix II. Table 3-3 lists the top ten prioritized town-maintained road sections for Buckland. Primarily the road sections with high traffic volumes that require routine maintenance are in the top-ten list. Two rehabilitation projects have been listed indicating that the traffic volumes on these sections make it more beneficial to do this repair before other sections requiring routine maintenance. It should be noted that the priority list is a recommendation and that the town may have good reasons for undertaking repairs in a different order. For instance, a road that has low volumes and is in need of reconstruction would receive a low PMS Rank, but may be of higher priority if its condition makes traveling hazardous. Unfortunately, the benefit value calculation does not allow for the inclusion of safety and social factors.

What is evident from the PMS study of Buckland's paved road network is that it requires major investment to bring a higher percentage of its roads up to a good to excellent condition. Currently, the FRCOG Planning Department and Jim Fitzpatrick (Highway Superintendent) are investigating additional sources of funding. Presently, each town in Massachusetts is allocated Chapter 90 funding from the State, based on road mileage, population, and level of employment. This money can be used for road design, construction, improvements that extend the life of the roadway, and purchases of road machinery and equipment. Additionally, roads functionally classified as a Rural

Major Collector or higher are eligible for Federal and Non-Federal Aid funding for reconstruction through the Transportation Improvement Program (TIP). The TIP is a prioritized fiscally constrained listing, which is updated annually. Towns with projects on the TIP are responsible for the design and engineering of the project. Presently, these funding sources are not sufficient to improve or even keep Buckland's roads at their present level of condition. Additional State and Federal funding is desperately needed to improve Buckland's road network.

**Table 3-1: Summary of Pavement Conditions for Buckland's Town Maintained Roads**

| PAVEMENT CONDITION (PCI Range) | Number of Miles | Percentage of Total Mileage |
|---|---|---|
| Excellent (=>95) | 8.09 | 23% |
| Good (85<=>94) | 3.19 | 9% |
| Fair (65<=>84) | 8.22 | 23% |
| Poor (<65) | 16.42 | 45% |

*Total Mileage = 35.92*

**Figure 3-2: Summary of Pavement Conditions for Buckland's Town Maintained Roads**

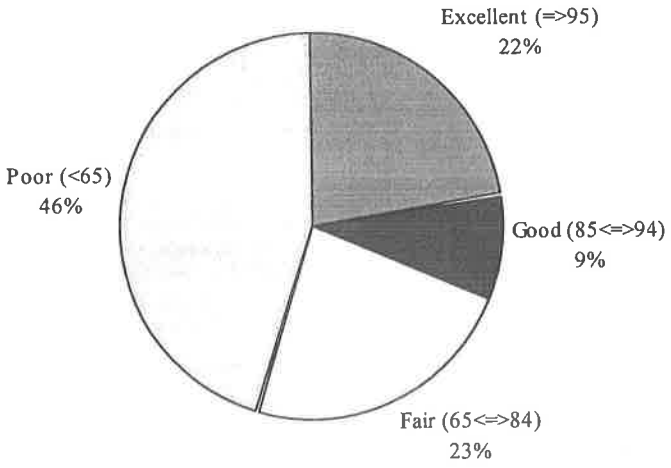


**Table 3-2: Summary of Required Repairs for Buckland's Town Maintained Paved Roads**

| REPAIR TYPE | Number of Miles | Percentage of Total Mileage | Estimated Cost of Repairs |
|---|---|---|---|
| 5. No Immediate Action | 9.23 | 26% | $0 |
| 4. Routine Maintenance | 7.89 | 22% | $247,124 |
| 3. Preventative Maintenance | 1.08 | 3% | $85,547 |
| 2. Rehabilitation | 5.46 | 15% | $663,821 |
| 1. Reconstruction | 12.26 | 34% | $3,790,766 |
| | *Total Mileage = 35.92* | | *Backlog of Repair = $4,787,258* |

Summary of Road Mileage

Town Maintained Paved Roads = 35.92 miles (7.51 miles eligible for Federal Aid)
Town Maintained Gravel Roads = 5.82 miles
MHD District 1 Maintained Paved Roads = 6.20 miles (Route 2 and Route 112)

## Table 3-3: Top 10 Prioritized Town Maintained Road Sections for Repair in Buckland

| Street Name | Section ID# | Section From: | Section To: | Length (ft) | PCI | Repair Code | Estimated Cost | PMS Rank | Estimated ADT | Survey Date |
|---|---|---|---|---|---|---|---|---|---|---|
| State Street | 5100 | North Street | Mohawk Trail | 3802 | 79 | 4 | $31,683 | 1 | 3500 | 11/20/97 |
| State Street* | 5000 | Clement Street | North Street | 634 | 89 | 4 | $5,283 | 2 | 3500 | 12/19/97 |
| Conway Street* | 3600 | Ashfield Street | South Street | 2429 | 80 | 4 | $16,193 | 3 | 2050 | 12/19/97 |
| North Street* | 5300 | Ashfield Road | State Street | 4752 | 89 | 4 | $31,680 | 4 | 1760 | 12/19/97 |
| South Street* | 3800 | Conway Street | Gardner Falls Rd | 1320 | 77 | 2 | $32,267 | 5 | 2050 | 12/19/97 |
| Conway Road* | 3900 | Gardner Falls Rd | Conway T.L. | 5122 | 72 | 2 | $147,969 | 6 | 2050 | 12/19/97 |
| Ashfield Street* | 3500 | State Street | Conway Street | 106 | 85 | 4 | $2,238 | 7 | 2050 | 12/19/97 |
| Upper Street* | 900 | Ashfield Road (North) | Children Sign NB | 3969 | 87 | 4 | $24,640 | 8 | 600 | 12/19/97 |
| Clement Street | 8400 | School Street | State Street | 1426 | 66 | 3 | $28,520 | 9 | 540 | 11/20/97 |
| Ashfield Street | 9800 | Conway Street | Kendrick Road | 1373 | 83 | 4 | $10,679 | 10 | 500 | 12/02/97 |

**Street Name** - Street Name. * Indicates the road section is eligible to receive Federal Aid or Non-Federal Aid for Reconstruction only.
**Section From** - Start point of the individual section.
**Section To** - End point of the individual section.
**Length (ft)** - The length of the section, measured in feet.
**PCI** - Pavement Condition Index: 95 - 100 indicates the pavement is in **excellent** condition,
85 - 94 indicates the pavement is in **good** condition;
65 - 84 indicates the pavement is in **fair** condition;
0 - 64 indicates the pavement is in **poor** condition.

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

**PMS Ranking** - A ranking of all the sections requiring repair, based on a cost/benefit produced by the RoadManager software through the Benefit Value. The section with the highest Benefit Value has received a PMS Ranking of 1. Sections with equal Benefit Values have received the same ranking. In total there are 66 ranked sections in Buckland (A total listing of all Projects can be found in Appendix II).

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

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

**Pavement Management Analysis Results: Shelburne**

Tables 3-4 and 3-5 and Figure 3-3 summarizes the results of the pavement management analysis on the town maintained paved road network in Shelburne. The average PCI for all the town maintained paved roads in Shelburne is 79, which categorizes the overall condition of the road network at the upper end of fair condition. An estimated 44% of the network has been classified in good to excellent condition based on the severity and extent of the distresses noted during the data collection. This is reflected by 43% of the network being assigned the "no maintenance required" repair strategy. However, 15% and 8% of the network has been assigned Rehabilitation and Reconstruction repair strategies respectively, which has contributed to the backlog of repair cost of $2.2 million. This backlog of repair provides an estimate of the investment required to bring the whole paved road network up to an excellent condition. The estimated $2.2 million is a large amount compared to the annual Chapter 90 funding available to the town of approximately $180,000. Therefore, it is essential that the money that is available be used efficiently to ensure that maximum benefits can be achieved.

A complete listing of all town-maintained paved road sections can be found in Appendix III. Table 3-6 lists the top ten prioritized town-maintained road sections for Shelburne. In general, those road sections with high traffic volumes that require routine maintenance appear in the top ten list. A reconstruction project and a rehabilitation project have been listed indicating that the traffic volumes on these sections make it more beneficial to do this repair before other sections requiring routine maintenance. It should be noted that the priority list is just a recommendation and the town may have other good reasons for undertaking repairs in a different order.

What is evident from the PMS study of Shelburne's paved road network is that it requires significant investment to bring a higher percentage of its roads up to a good to excellent condition. Overall, the Shelburne town maintained paved road network is in an acceptable condition. Much of the road mileage that is in poor condition comprises very low volume access roads to a small number of homes. The town may choose to increase the priority of these roads based on their very poor condition. The FRCOG Planning Department is investigating additional sources of funding. The town is currently utilizing two main sources of funding. The first is Chapter 90 Funding, which comes from the State and is received by all towns in the Commonwealth. This money can be used as the town sees fit for road design, construction, and repairs which extend the life of the road. The second is Federal and Non-Federal Aid through the Transportation Improvement Program (TIP), which is available for reconstruction projects on roads functionally classified as Rural Major Collectors and above. A portion of Colrain-Shelburne Road has been designed and is listed as a FY99 Federal Aid project under the Transportation Improvement Program. Current sources of funding are not sufficient to keep Shelburne's roads at their present condition levels. Additional State and Federal funding is needed to improve Shelburne's road network.

**Table 3-4: Summary of Pavement Conditions for Town Maintained Roads**

| PAVEMENT CONDITION (PCI Range) | Number of Miles | Percentage of Total Mileage |
|---|---|---|
| Excellent (=>95) | 10.69 | 28% |
| Good (85<=>94) | 6.52 | 16% |
| Fair (65<=>84) | 11.03 | 29% |
| Poor (<65) | 10.42 | 27% |

*Total Mileage = 38.66*

**Figure 3-3: Summary of Pavement Conditions for Town Maintained Roads**

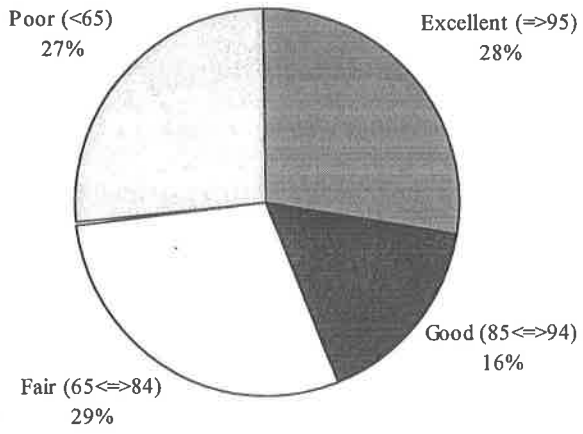


**Table 3-5: Summary of Required Repairs for Town Maintained Paved Roads**

| REPAIR TYPE | Number of Miles | Percentage of Total Mileage | Estimated Cost of Repairs |
|---|---|---|---|
| 5. No Immediate Action | 16.63 | 43% | $0 |
| 4. Routine Maintenance | 10.79 | 28% | $327,005 |
| 3. Preventative Maintenance | 2.10 | 5% | $200,817 |
| 2. Rehabilitation | 5.97 | 15% | $667,597 |
| 1. Reconstruction | 3.17 | 8% | $1,006,857 |
| | *Total Mileage = 38.66* | | *Backlog of Repair = $2,202,276* |

Summary of Road Mileage
Town Maintained Paved Roads = 38.66 miles (7.51 miles eligible for Federal Aid)
Town Maintained Gravel Roads = 10.12 miles
MHD District 1 Maintained Paved Roads = 9.48 miles (Route 2 and Route 112)

## Table 3-6: Top 10 Prioritized Town Maintained Road Sections for Repair in Shelburne

| Street Name | Section ID# | Section From: | Section To: | Length (ft) | PCI | Repair Code | Estimated Cost | PMS Rank | Estimated ADT | Survey Date |
|---|---|---|---|---|---|---|---|---|---|---|
| Bridge Street* | 2700 | South Maple Street | Mechanic Street | 1109 | 89 | 4 | $8,318 | 1 | 4770 | 12/19/97 |
| Mechanic Street | 7100 | Church Street | Hope Street | 1584 | 77 | 4 | $9,680 | 2 | 2000 | 12/11/97 |
| Bridge Street* | 2810 | Mechanic Street | Falls Bridge | 581 | 90 | 4 | $7,263 | 3 | 4770 | 12/19/97 |
| Church Street | 2500 | Maple Street | Mechanic Street | 950 | 77 | 4 | $5,278 | 4 | 1500 | 12/11/97 |
| Mechanic Street | 7000 | Bridge Street | Church Street | 1267 | 83 | 4 | $9,854 | 5 | 2000 | 12/11/97 |
| North River Rd. | 2000 | Colrain Road | Colrain Town Line | 106 | 84 | 3 | $2,120 | 6 | 2290 | 12/19/97 |
| Church Street | 2520 | Mechanic Street | Main Street | 317 | 79 | 4 | $2,554 | 7 | 1500 | 12/11/97 |
| Colrain-Shelburne Road* | 9205 | #240 Colrain Shelburne Road | Start of Guardrail | 2798 | 41 | 1 | $205,187 | 8 | 2240 | 12/19/97 |
| Old Greenfield Road | 8500 | Mohawk Trail | Zerah Fiske Road | 1056 | 61 | 2 | $21,120 | 9 | 1000 | 12/10/97 |
| Colrain Greenfield Road | 9600 | Greenfield Town Line | 0.35 Miles from Town Line | 1848 | 67 | 4 | $11,293 | 10 | 500 | 12/03/97 |

**Street Name** - Street Name. * Indicates the road section is eligible to receive Federal Aid or Non-Federal Aid for Reconstruction only.
**Section From** - Start point of the individual section.
**Section To** - End point of the individual section.
**Length (ft)** - The length of the section, measured in feet.
**PCI** - Pavement Condition Index: 95 - 100 indicates the pavement is in **excellent** condition,
85 - 94 indicates the pavement is in **good** condition;
65 - 84 indicates the pavement is in **fair** condition;
0 - 64 indicates the pavement is in **poor** condition.

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

**PMS Ranking** - A ranking of all the sections requiring repair, based on a cost/benefit produced by the RoadManager software through the Benefit Value. The section with the highest Benefit Value has received a PMS Ranking of 1. Sections with equal Benefit Values have received the same ranking. In total there are 61 ranked sections in Shelburne (A total listing of all Projects can be found in 3-B).

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

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

The results of the pavement management analysis has provided both towns with a snapshot of the condition of their paved road network for which they are responsible. The data shows that overall Shelburne's roads are in a better condition than Buckland's, giving them a better base from which to continue pavement management. Buckland has a harder task ahead of them, as much of the funding they will receive will have to be used to reconstruct or rehabilitate their roads. This pavement management information now in computerized format can be updated biannually to assist with yearly decisions about spending Chapter 90 and other funds.

## Roadway Level of Service (LOS) Analysis

A LOS Analysis was conducted on those roads functionally classified above Local in both Towns. This includes Route 2, Route 2A and Route 112 in both towns, Colrain-Shelburne Road, Bardwell's Ferry Road and Main Street in Shelburne, North Street, Conway Road, Charlemont Road and Upper Street in Buckland. "LOS is a qualitative measure describing operational conditions within a traffic stream, generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience and safety."[2] Simplistically for two lane roads, LOS is a function of traffic volume to capacity, with the capacity of a roadway being calculated based on geometric and environmental conditions, such as lane and shoulder widths, terrain, percentage of "no passing zones," make-up of the traffic stream and its directional split. LOS is calculated for peak flow traffic conditions and is used to identify sections of road which are at or nearing capacity, and/or experience congested conditions due to geometric parameters of the roads layout. The varying LOS levels are assigned letters A through F which have the following generalized definitions:

- LOS A - signifies a road section where motorists are able to drive at their desired speeds (approaching an average of 60 mph in ideal conditions); delays incurred by slow-moving vehicles occur less than 30 percent of the time; demand for passing is well below passing capacity; and almost no platoons of three or more vehicles are observed.
- LOS B - signifies a road section where delays incurred by slow-moving vehicles occur up to 45 percent of the time; average speeds in ideal conditions exceed 55 mph; demand for passing required to maintain desired speed approximately equals the passing capacity; and the number of platoons forming in the traffic stream increases significantly.
- LOS C - signifies a road section where delays occur 60 percent of the time; average speeds under ideal conditions exceed 52 mph; demand for passing is in excess of passing capacity; and platoons are prevalent, commonly chaining together and although the traffic flow is stable, it is becoming susceptible to congestion due to turning and slow-moving vehicles.
- LOS D - signifies a road section where the two opposing traffic streams essentially begin to operate separately as passing becomes extremely difficult; average speeds under ideal conditions approach 50 mph even though platoon sizes reach between 5 and 10 vehicles; motorists incur delays up to 75 percent of the time; and turning or slow-moving vehicles cause major shock waves in the traffic stream.
- LOS E - signifies a road section where speeds under ideal conditions drops below 50 mph and is much lower under less than ideal conditions where passing becomes virtually impossible; delays

[2] Highway Capacity Manual 1994, Transportation Research Board

are incurred greater than 75 percent of the time and "platooning" becomes intense when slower vehicles or other interruptions are encountered.

- LOS F - signifies a road section where traffic demand has exceeded capacity resulting in heavy congestion.

In general, it is desirable to maintain traffic conditions at a LOS C or better.

Table 3-7 gives the results of the LOS analysis conducted using the Highway Capacity Software. More detailed information is available in Appendix IV. It should be noted that these LOS conditions reflect the peak traffic conditions, i.e. reflecting the largest one hour recorded traffic volume on the roadway. Some of the traffic volume data used in the LOS calculations was collected in October during the week of the Columbus Day Holiday, typically the height of the fall foliage season. However, these figures have been seasonally adjusted to present an average peak condition. It should be noted that the LOS calculations do not take into account the pavement conditions of each of the road sections. This information is also illustrated on the Transportation Map.

**Table 3-7: Rural Two Lane Roadway Level of Service Analysis Results**

| Town | Route/Road | From | To | v/c Ratio | LOS |
|---|---|---|---|---|---|
| Buckland | Route 2 | Shelburne T.L. | Charlemont T.L. | 0.37 | D |
| Buckland | Route 112 South | Route 2 | Ashfield T.L. | 0.20 | C |
| Buckland | Upper Street | Route 112 South | Route 112 South | 0.01 | A |
| Buckland | Charlemont Road | Upper Street | Charlemont T.L. | 0.04 | B |
| Buckland | North Street | Route 112 South | State Street | 0.08 | B |
| Buckland | State Street | North Street | Route 2 | 0.10 | B |
| Buckland | Conway Street | Ashfield Street | Conway T.L. | 0.09 | B |
| Shelburne | Route 2* | Greenfield T.L. | Shelburne Center Rd. | 0.70 | D |
| Shelburne | Route 2* | Shelburne Center Rd. | South Maple Street | 0.56 | D |
| Shelburne | Route 2 | South Maple Street | Buckland T.L. | 0.32 | C |
| Shelburne | Route 112 North | Hope Street | Colrain T.L. | 0.06 | B |
| Shelburne | Mechanic Street | Route 2 | Hope Street | 0.07 | B |
| Shelburne | Hope Street | Mechanic Street | Colrain Road | 0.07 | B |
| Shelburne | Bardswell's Ferry Rd. | Route 2 | Conway T.L. | 0.01 | A |
| Shelburne | Colrain-Shelburne Rd. | Route 2 | Colrain T.L. | 0.13 | C |

Note: T.L. – Town Line

LOS analysis was not conducted on Bridge Street and Main Street in Shelburne, and a portion of State Street in Buckland, due to the parking and pedestrian interaction with traffic flows, which would not be accounted for in the LOS evaluation.

This analysis indicates that during peak traffic conditions, portions of Route 2 in both Shelburne and Buckland are experiencing conditions with a Level of Service D. These LOS levels indicate that vehicle speeds are below the posted speed limit, large platoons are forming, and additional delays are caused due to turning and slow moving vehicles. The volume to capacity (v/c) ratio

indicates that these delays are caused by geometric conditions, specifically the continual vertical and horizontal (hills and curves) alignment changes that limit passing opportunities.

Severe delays currently occur around Columbus Day Holiday. It is uncertain if this also occurs in other periods throughout the year. These portions of Route 2 will be monitored under future projects conducted in the area.

LOS C levels were recorded on Route 112 South in Buckland and on Colrain-Shelburne Road in Shelburne. These levels reflect average delay conditions and again are caused by the geometry of the road where passing opportunities are limited.

The remainder of the roads show LOS A and B, and very low v/c ratios indicating no problems relating to delays caused by traffic for users of these roads.

The LOS analysis indicates that there are delays and congestion along the Route 2 corridor even with a seasonal adjustment to the peak fall foliage numbers. If plans to extend the peak tourist season are fulfilled, conditions will worsen. The LOS Analysis has implications for the type of businesses which Shelburne may want to attract. Businesses which have low traffic generation rates should be encouraged to avoid exacerbating the already poor Level of Service.

## Traffic Counts

FRCOG Transportation staff conducted traffic counts along high traffic locations in the two towns. This information was used to determine the Average Annual Daily Traffic (AADT). Traffic counts from previous years were studied, where available, and the Average Annual Growth Rate (AGR) was calculated for these locations. The results of this study are tabulated in Table 3-8 below.

**Table 3-8: Traffic Count Data**

| Town | Street/Route | Location | Most Current Count | | Past Year Count | | Average AGR |
|---|---|---|---|---|---|---|---|
| | | | Year | AADT | Year | AADT | |
| Buckland | Ashfield Street | South of State Street | 1998 | 2150 | 1996 | 1800 | 9.29% |
| Buckland | Bridge Street | On the Iron Bridge | 1996 | 4770 | - | - | - |
| Buckland | Charlemont Road | 1/10 Mile East of Avery Road | 1998 | 320 | - | - | - |
| Buckland | Charlemont Road | 1/10 Mile North of Avery Road | 1998 | 240 | - | - | - |
| Buckland | Clement Street | West of State Street, Under Rail Bridge | 1996 | 530 | - | - | - |
| Buckland | Conway Street | 1/10 Mile East of State Street | 1998 | 2290 | 1996 | 2060 | 5.43% |
| Buckland | Hawley Road | South of Orcutt Hill Road | 1993 | 300 | - | - | - |
| Buckland | North Street | 1/10 Mile North of State Street | 1998 | 1610 | 1996 | 1760 | -4.36% |
| Buckland | Route 112 | Ashfield Town Line | 1996 | 2230 | 1991 | 2201 | -0.01% |
| Buckland | Route 112 | ½ Mile North of High School | 1997 | 4180 | - | - | - |
| Buckland | State Street | 1/10 Mile North of North Street | 1998 | 2470 | 1996 | 2400 | 1.45% |
| Shelburne | Bardwell's Ferry Road | 7/10 Mile North of Zerah Fiske Road | 1998 | 130 | - | - | - |
| Shelburne | Colrain-Shelburne Road | 1 Mile North of Route 2 | 1997 | 1960 | - | - | - |
| Shelburne | Colrain-Shelburne Road | Colrain/Shelburne Town Line | 1997 | 2220 | 1992 | 2100 | 1.12% |
| Shelburne | Little Mohawk Road | West of Route 2 | 1993 | 560 | - | - | - |
| Shelburne | Mechanic Street | South of Route 2 | 1997 | 1600 | - | - | - |
| Shelburne | Mechanic Street | South of Hope Street | 1998 | 970 | | | |
| Shelburne | Main Street | South of Hope Street | 1998 | 1450 | | | |
| Shelburne | Route 2 | West of Greenfield Town Line | 1997 | 11300 | 1995 | 11000 | 1.35% |
| Shelburne | Route 2 | At Tower Road | 1997 | 10430 | 1993 | 9500 | 2.36% |
| Shelburne | Route 2 | East of Mechanic Street | 1997 | 6300 | - | - | - |
| Shelburne | Route 2A (S. Maple Street) | West of Route 2 | 1998 | 3880 | 1997 | 3860 | 0.52% |
| Shelburne | Route 112 | North of Route 2 Bridge | 1998 | 1440 | | | |
| Shelburne | Shelburne Center Road | South of Route 2 | 1997 | 320 | | | |

AADT – Average Annual Daily Traffic.
AGR – Annual Growth Rate

The data in Table 3-8 shows that Ashfield and Conway Streets in Buckland are exhibiting high growth rates in traffic volume. This indicates that there will be increasing pressure on the intersection of these roads at the Iron Bridge in Shelburne Falls. The present road layout is constrained by the Iron Bridge. Alternative parking configurations should be explored which may improve traffic flow through this area.

## Accident Data Analysis

The accident records of the Shelburne Police Department had previously been reviewed and the reported accidents noted for the years 1994 through 1996. The accident records of the Buckland Police Department were reviewed for this study and the reported accidents noted for the years 1996 through 1998. State Police accident records will be reviewed during the Summer of 1999. A brief evaluation of the accident data follows:

### Buckland – 01/01/1996 through 12/31/1998

There were a total of 43 reported accidents by the Buckland Police Department in the 3 year period analyzed. Of the 43 reported accidents, 19 (44%) occurred when the road surface was described as either wet, icy or snowy indicating that these conditions were likely a contributing factor in these accidents. Four accidents were identified as occurring at the intersection of Route 2 and State Street. All the accidents seem to be isolated occurrences. State Street from Route 2 to approximately the Iron Bridge saw a total of seven accidents. Two of the accidents involved vehicles backing out of parking spaces near the Town Hall. Six accidents were reported along North Street. Finally, Route 112 south saw eight accidents along its length, with no two accidents occurring at the same location.

### Shelburne – 01/01/1994 through 12/31/1996

There were a total of 49 reported accidents by the Shelburne Police Department in the 3 year period analyzed. Due to the process used collecting this data, it is difficult to decipher the circumstance leading to the accidents. The intersection of Route 2 and Colrain-Shelburne Road experienced five accidents, three of which resulted in personal injury to at least one party involved. The intersection of Route 2 and Little Mohawk Road experienced three accidents. Twelve additional accidents were reported at various locations along the length of Route 2 in Shelburne. Ten accidents were reported at various locations along Bridge Street from South Maple, four of these accidents were noted as occurring at the intersection of Bridge Street with Water Street and Deerfield Avenue. Seven accidents were reported along Route 112 North, between Hope Street and the Colrain Town Line. Five of these accidents resulted in personal injury to one or more of the parties involved. Finally, five accidents were reported along the length of Colrain-Shelburne Road, between Route 2 and the Colrain Town Line.

### Result

The accident locations and causes in the towns were diverse. However, two problem areas should be monitored. They are the intersection of Route 2 and Colrain-Shelburne Road (5 accidents) and the intersection of Bridge, Deerfield and Water Streets (4 accidents). The FRCOG will be updating the accident data for the entire county in the coming year. These results should be reevaluated once the new data is available.

## Intersection Analyses

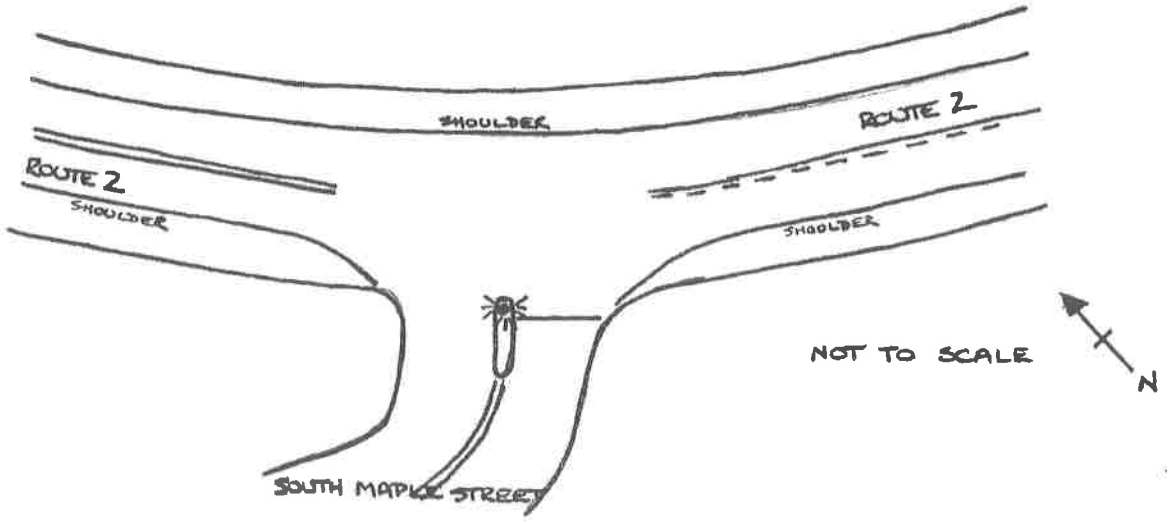
The FRCOG in conjunction with the Highway Superintendents of both towns identified four intersections that warranted review. Due to the high costs of data collection for intersection analysis, an initial site visit was made to identify problems and hazards. If it was determined that a complete analysis of the intersection would be helpful in finding a solution to the problems, then traffic volume data collection would be conducted when funding allowed. The four intersections that were identified are:

- Route 2/Route 2A (South Maple Street), Shelburne
- Route 2/Colrain-Shelburne Road, Shelburne
- Route 2/Route 2A (State Street), Buckland
- The area on the Buckland side of Shelburne Falls where Conway Street, Ashfield Street, Clement Street, the Iron Bridge and State Street all converge.

The intersection of Route 2 and Mechanic Street has already been studied by Mass Highway and improvements are expected to be made this year.

It should be noted that the comments made on each of the intersections were made following a single visit and are based on visual observations made at that time. A more detailed engineering evaluation is required before any of the suggestions should be acted upon.

### Intersection of Route 2 (Mohawk Trail)/ Route 2A (South Maple Street), Shelburne




A site visit was made to this intersection during the evening traffic peak under clear and sunny weather conditions. This intersection is a "T" intersection with stop control on the minor street (South Maple Street) and provides the main access for westbound traffic to the village of Shelburne Falls. Route 2 at this point is wide with a 12 foot travel lane and approximately 12 foot paved shoulder in the westbound direction and a 12 foot travel lane and approximate 18 foot shoulder in the eastbound direction. The alignment is slightly curved with an uphill grade in the westbound

direction. This section of Route 2 has a posted speed limit of 50 mph and carries approximately 8,000 vehicles per day. South Maple Street approaches Route 2 at approximately a 90 degree angle, with a curve about 100 feet back from the intersection. South Maple Street has a slight downhill grade at the stop line for traffic entering Route 2. South Maple Street flares as it approaches Route 2 allowing ample room for simultaneous left and right turning vehicles at the stop line. A raised island is located between the two lanes of South Maple Street and flashing beacons and directional signs are located here also. Yellow beacons flash to warn drivers on Route 2 of the intersection at which they should proceed with caution and stay alert. The red beacon flashes in the South Maple Street direction to inform drivers that they must stop before entering the major roadway. This section of South Maple Street carries approximately 4,000 vehicles per day.

Approximate sight distances for vehicles entering Route 2 from South Maple Street were estimated by measuring the time between a vehicle first coming into sight, and the time it passed the intersection. Sighting of the vehicles was done at a height similar to that of a driver. For vehicles travelling eastbound this time was consistently measured at around 8 seconds. Assuming each vehicle was travelling at 55 mph this computes to a sight distance of approximately 650 feet. The Mass Highway design[2] standards recommend a minimum sight distance of approximately 1100 feet for design speeds found on this section of Route 2. However, the recommendations allow for variations where the frequency of turning traffic does not justify the additional cost of realignment. The sight distance to the west was not quantified, but is well in excess of the design standards. In the three year period between 1994 and 1996 based on the Shelburne Police Department records only one accident had been recorded at this intersection and this involved a single vehicle which lost control and resulted in no injuries. Additional information is needed from the State Police accident records to determine if this intersection's accident history indicates a sight distance problem.

During the site visit the following traffic patterns were observed. Traffic was sporadic on both Route 2 and South Maple Street, with occasional periods when no traffic traversed the location. Westbound traffic on Route 2 was generally in platoons of five or more vehicles. Traffic making the left turn into South Maple Street was rarely delayed due to oncoming traffic, and when it was, the stop was momentary. Through traffic used the paved shoulder to pass left turning vehicles, resulting in no or minimal loss of speed. Eastbound traffic on Route 2 was much lighter than in the westbound direction and generally no platoons were noted. The majority of the traffic in this direction was through traffic with the very occasional right turning vehicle, which used the shoulder to slow down and did not impede through traffic. Traffic entering Route 2 from South Maple Street generally arrived at the stop line in ones and twos. The vast majority of traffic from this arm made a right turn onto Route 2. This traffic generally experienced minimal delays, with the maximum queue length noted being three vehicles, which quickly cleared.

Overall during the site visit this intersection was perceived to operate efficiently with periods of "congestion" being minimal and brief.

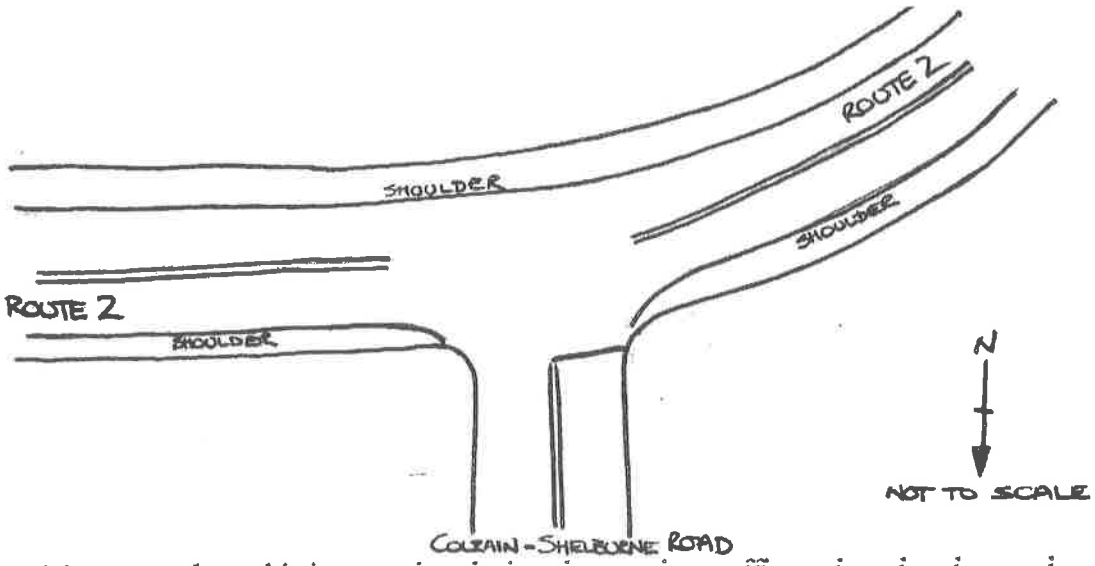
The following safety concerns were raised following observations made during the site visit. The sight distance for left turning traffic from Route 2 westbound onto South Maple Street is approximately 650 feet (8 seconds) which gives sufficient decision making time for the maneuver. No minimum sight distances for this movement exist in the Mass Highway Design Manual since,

[2] Mass Highway, "Highway Design Manual 1997 Edition"

the minimum is set by the right turn movement from the minor road. On a number of occasions vehicles were noted cutting across in front of oncoming traffic, which was clearly in view by that point. These maneuvers did not require any sharp stops by the oncoming traffic, but were perceived as unsafe and unnecessary. Two possible explanations for this maneuver could be aggressiveness on the part of the left turning drivers, or fear of being hit from behind by following through traffic, especially tractor trailers. Presently, through traffic on Route 2 utilizes the break down lane when there is left turning traffic and do so generally without a reduction of speed. It can be unnerving waiting for opposing traffic to clear with platoons of fast moving traffic coming up behind and passing at high speed. Technically, use of the shoulder to pass on the right is an illegal maneuver, although it is unlikely that a citation would be issued for making the maneuver unless it resulted in an accident. Further study should be conducted to evaluate the benefits of installing separately marked left turn and through lanes in the westbound direction.

Once the State Police accident records have been reviewed it will become clearer if the shortened sight distance needs to be studied further.

**Intersection of Route 2 (Mohawk Trail)/Colrain-Shelburne Road**




A site visit was made to this intersection during the evening traffic peak under clear and sunny weather conditions. This intersection is a "T" intersection with stop control on the minor street (Colrain – Shelburne Road) and provides access to residences and farms in Shelburne and Colrain. It is also reported to be heavily used by recreational traffic accessing the mountains and ski areas in southern Vermont, especially on Friday and Sunday evenings. Route 2 at this point is wide with a 12 foot travel lane and approximately a 10 foot paved shoulder in the eastbound direction and a 12 foot travel lane and approximately a 7 foot shoulder in the westbound direction. Colrain-Shelburne Road intersects Route 2 where it curves with an uphill grade in the westbound direction. The crest of the hill on Route 2 is a few hundred feet to the west of the intersection with the road curving further with a slight downhill grade. This section of Route 2 has a posted speed limit of 50 mph and carries approximately 10,000 vehicles per day. Colrain–Shelburne Road approaches Route 2 at approximately a 90 degree angle. Traffic follows a steep downhill grade and comes to the stop line on a slight uphill grade. Due to the raised elevation of the intersection, a guardrail has been placed next to the pavement edge. The pavement flares slightly at the stop line allowing both right and left

turning vehicles to be there simultaneously. If the queue of traffic is three or more cars or one truck then access to the stop line is cut off. This section of Colrain–Shelburne Road carries approximately 2,000 vehicles per day.

Approximate sight distances for vehicles turning onto Route 2 from Colrain–Shelburne Road were estimated by measuring the time between a vehicle first coming into sight and the time it passed the intersection. Sighting of the vehicles was done at a height similar to that of a driver. For vehicles travelling westbound on Route 2 this time was consistently around 10 seconds. Assuming each vehicle was travelling at 55 mph, this computes to a sight distance of approximately 800 feet, which is less than the Mass Highway recommended design standards of approximately 1100 feet. Sight distance at the stop line is slightly obscured by the guardrail, but clears if vehicles edge forward slightly. Vehicles travelling eastbound on Route 2, could be sighted approximately 800 feet away (10 seconds), again less than the recommended Mass Highway design length. According to the Town of Shelburne Police Department records, in the three year period between 1994 and 1996, five accidents have been recorded at this intersection. Three (two left turn and one right turn) involved vehicles turning from Colrain-Shelburne Road onto Route 2. It is unclear if the other two involved collisions related to turns into, or out of Colrain-Shelburne Road. State Police accident records will be compiled by the FRCOG later in the year. This intersection should be reviewed once additional data becomes available, after which further recommendations may be made.

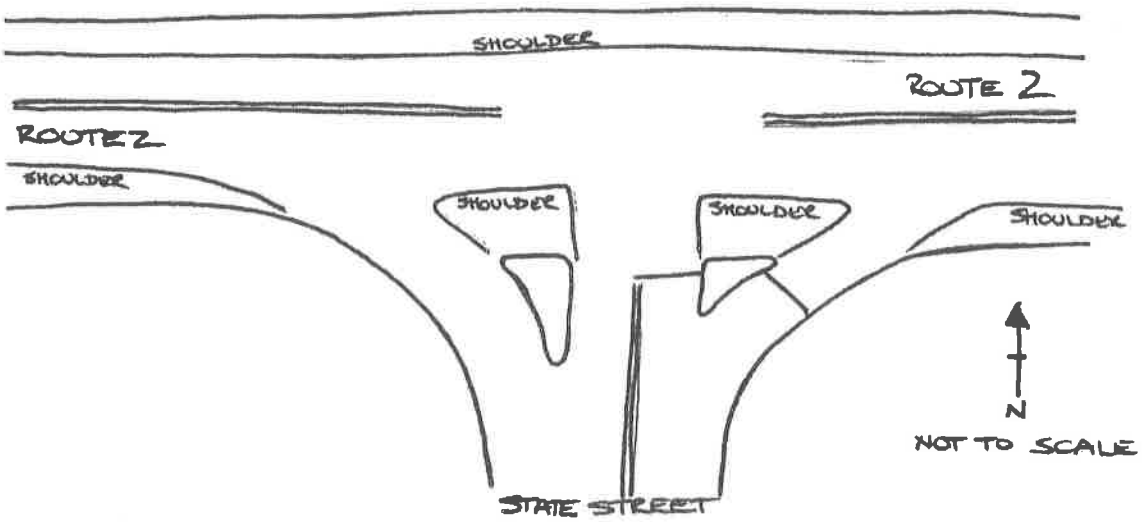
During the site visit the following traffic patterns were observed. Traffic on Route 2 in both directions was heavy and consistent with platoons of five or more vehicles common. The majority of traffic in both directions was through traffic with the occasional left turner travelling eastbound and a higher proportion of right turners travelling westbound. The eastbound left turning traffic did not impede through traffic that passed using the shoulder. The westbound right turning traffic had a greater impact on the through traffic as the shoulder is narrower than a car width and vehicles had to reduce speeds considerably to negotiate the turn onto Colrain-Shelburne Road. Traffic on Colrain-Shelburne Road was sporadic and generally arrived at the intersection in platoons of two or three vehicles. The majority of this traffic was making a left turn and often encountered a considerable delay awaiting a suitable gap in the Route 2 traffic. These delays could be seen to cause frustration to some drivers who made turning movements into less than suitable gaps, causing traffic on Route 2 to reduce their speeds. The longest observed queue was five vehicles, with delays in excess of 30 seconds on occasion.

This intersection is experiencing periods of "congestion" when delays can be considerable and queues can be relatively long. Generally these periods of "congestion" are not continuous, occurring sporadically throughout the peak period, but are significant.

The following safety concerns were raised following observations made during the site visit. The use of the shoulder by eastbound through traffic when confronted with left turning traffic in the same direction is a cause for concern for two reasons. The first is due to the width of the shoulder at 10 feet and the guardrail which is right at the pavement edge, leaving little room for error at speeds in excess of 50 mph. The second is the use of this shoulder by vehicles accessing the Shelburne Falls Coffee Roasters premises approximately 300 feet from the intersection to quickly decelerate and make the right turn. This is not a problem unless the through traffic is using the shoulder to pass a left turning vehicle, then a shock wave effect of breaking along the platoon occurs and the potential for rear end accidents increases enormously if any of the drivers are inattentive or unfamiliar with the situation.

In the westbound direction, right turning traffic makes partial use of the shoulder to decelerate and make their turn. Meanwhile through traffic passes on the left at speed. On occasion the through traffic crosses the center line to pass the turning traffic, potentially coming into conflict with eastbound through and left turning traffic. Sight distances for traffic entering Route 2 from Colrain-Shelburne Road, although less than recommended, give drivers sufficient time (10 seconds) to base decisions on whether the gap is sufficient to safely enter the traffic stream. Due to the volume of traffic traversing Route 2 during peak periods, the availability of suitable gaps for turning traffic is reduced. As driver frustration increases due to the length of delays incurred, the size of the gap they are willing to accept decreases sometimes to a point where evasive action is required by the approaching traffic. In these instances the potential for collisions increase and due to the speeds involved so does the severity. The extent of this problem will be revisited following a review of the State Police accident records.

Based on the observations made during the site visit, further traffic and geometric study is warranted. As funding becomes available, FRCOG staff will undertake a manual turning movement count and quantify the levels of delays incurred using intersection analysis software. Based on the results of this analysis, recommendations will be made to improve traffic flow and safety at this intersection.




**Intersection of Route 2 (Mohawk Trail)/ Route 2A (State Street), Buckland**

A site visit was made to this intersection during the evening traffic peak under clear and sunny weather conditions. This intersection is a "T" intersection with stop control on the minor street (State Street) and provides the first access for eastbound traffic to the village of Shelburne Falls. Route 2 at this point is wide with travel and paved shoulders in both directions. The alignment is relatively straight with an uphill grade in the westbound direction. This portion of Route 2 has a posted speed limit of 50 mph and carries approximately 4,000 to 5,000 vehicles per day. State Street approaches Route 2 at a 90 degree angle and has a slight uphill grade to the intersection. Two islands separate the turning movement lanes from and into State Street. The right turn lane exiting State Street is at approximately a 45 degree angle to Route 2. The right turn lane is

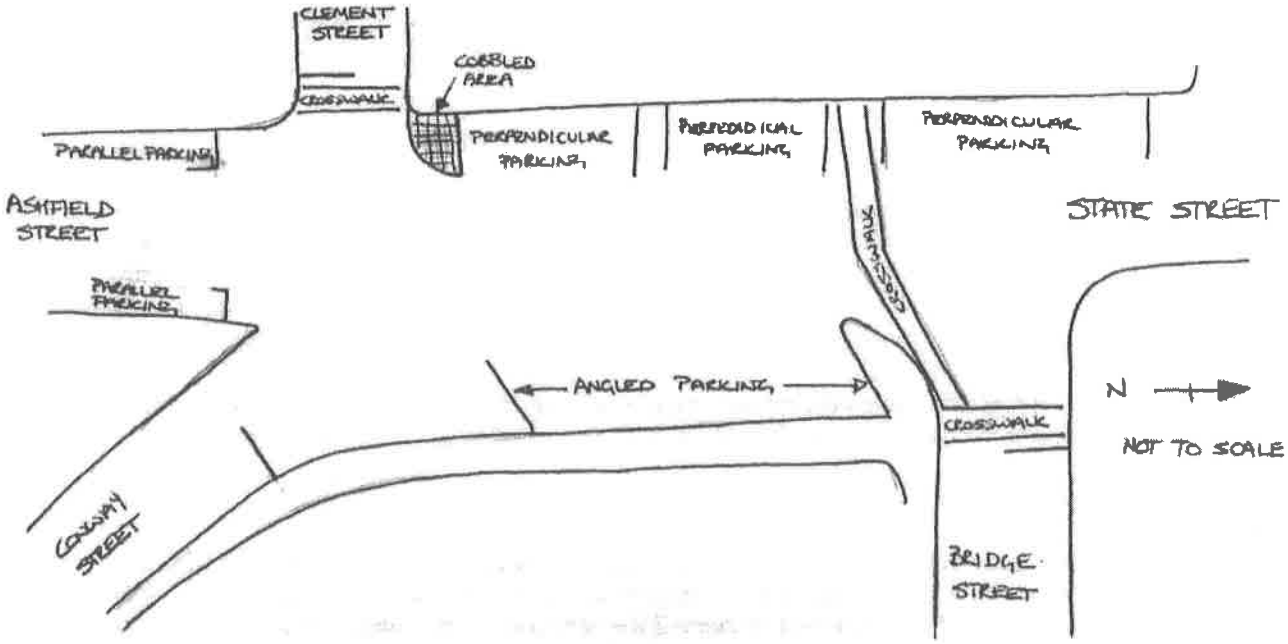
separated from the left turn lane exiting State Street by an island and is perpendicular to Route 2. Both of these movements are stop controlled. The entry lane for left turning traffic from Route 2 westbound is next to the left turn lane exiting State Street. A second island separates this lane from the right turn lane from Route 2 eastbound. Approximately 2,500 vehicles exit and access Route 2 from State Street per day.

Approximate sight distances for vehicles entering Route 2 from State Street were estimated by measuring the time between a vehicle first coming into sight, and the time it passed the intersection. Sighting of the vehicles was done at a height similar to that of a driver. For vehicles travelling both east and westbound on Route 2 this time was consistently measured around 12 seconds. Assuming each vehicle was travelling at 55 mph, this computes to a sight distance of approximately 1000 feet, which comes close to the Mass Highway design standards of approximately 1100 feet. Additional accident data must be collected to determine if sight distance may be a problem.

During the site visit the following traffic patterns were observed. Traffic was sporadic on both Route 2 and State Street, with short periods where no traffic traversed the location. Westbound traffic on Route 2 was generally in platoons of three or more vehicles. The major movement on this arm was through, with the occasional left turn, which experienced minimal delays. Through traffic used the shoulder on the occasions there was a left turning vehicle to pass without reducing speed. Eastbound traffic on Route 2 was lighter, with the majority of the traffic making the through movement, with the occasional right turn. Right turning traffic generally used the shoulder to slow down and did not impede the through traffic. Traffic entering Route 2 from State Street was light, generally arriving at the stop line singly. The left turn movement saw the majority of the traffic, which occasionally produced delays of upwards of one minute due to oncoming traffic from both directions on Route 2. On these rare occasions queues of two or three vehicles would develop, but generally dispersed quickly after the first vehicle found a gap in traffic. The majority of left turning traffic experienced minimal delays. Right turning traffic quickly found acceptable gaps to enter into the Route 2 traffic flow.

Overall, during the site visit, this intersection was perceived to operate efficiently with periods of "congestion" being minimal and brief. Observations did not identify any safety or sight distance problems. Once additional accident data has been collected, further comment may be made based on the findings.

**The area on the Buckland side of Shelburne Falls where Conway Street, Ashfield Street, Clement Street, Bridge Street (the Iron Bridge) and State Street converge**




A site visit was made to this intersection during the afternoon peak, under clear and sunny conditions. This area sees the convergence of five different roads in the space of approximately 200 to 300 feet. State Street runs south from Route 2 and ends where Conway Street, Ashfield Street and Clement Street converge. Using a clock face to describe direction with north and State Street being 12 o'clock, Conway Street intersects at approximately 5 o'clock, Ashfield Street at 6 o'clock and Clement Street at 9 o'clock. Conway and Clement Streets operate under stop control with no control on Ashfield Street. Bridge Street intersects at 3 o'clock about 200 feet north of Ashfield Street. The section of State Street between Bridge and Ashfield Street is wide, but with perpendicular parking on the west side and angled parking on the east side the travel lanes are narrowed to no more than 12 feet each. Conway Street is relatively narrow with the retaining wall of Ashfield Street on its west side and a sidewalk and the Deerfield River on its east side. There is a slight uphill grade to the stop. The recent completion of the sidewalk reconstruction moved the stop line closer to State Street and angled it better for visibility of oncoming traffic. Ashfield Street approaches the area on a steep downhill grade and has parallel parking on both sides. Clement Street approaches the intersection on a downhill grade and has a pedestrian crossing marked in front of the stop line. Bridge Street approaches the area on the level. Both travel lanes are narrow (9 feet each), constricted by the bridge width. The stop line is set back from the intersection to accommodate a crosswalk.

Conway and Ashfield Street carry approximately 2000 vehicles a day each, Clement Street carries approximately 500 vehicles a day and Bridge Street carries approximately 5000 vehicles a day. Based on these traffic volumes, State Street in this area probably carries approximately 5000 vehicles per day.

During the site visit the following traffic patterns were observed. A number of vehicles approaching the area on Conway Street failed to stop before entering onto State Street. This could have been in part due to the construction activities, but local merchants noted that it was not an

uncommon situation. The majority, if not all, of the turns from this road were right turns. Some vehicles coming down the hill on Ashfield Street and entering onto State Street did so with excessive speed. All the traffic noted coming down the hill continued onto State Street. Vehicles entering State Street from Clement Street did so without incident and the small number that were noted took a left turn. At these three intersecting roads no signs of "congestion" were noted. Around the intersection with Bridge Street, more noticeable signs of "congestion" were evident. Left and right turning vehicles were noted entering State Street from Bridge Street. Vehicles making these movements experienced some delay due to pedestrian activity and opposing traffic. Often courteous drivers on State Street yielded the right of way to Bridge Street traffic entering State Street. The parking area on the west side of State Street sees considerable turnover of vehicles which on a small number of occasions disrupted the flow of traffic through the area.

Overall during the site visit, this area was perceived to operate reasonable efficiently, with periods of "congestion" being minimal and short. It is suspected that the traffic volumes observed on the day of the site visit are not a fair representation of the worst conditions seen in this area, but give an insight into the interaction of the vehicles converging from all the directions.

The following safety concerns were raised following the site visit. The fact that a number of vehicles failed to stop on Conway Street was of concern. This stop line has recently been realigned as part of the sidewalk reconstruction. This should help the situation by bringing vehicles at the stop line to a more perpendicular angle to State Street, which means drivers approaching the intersection have to change direction (no longer straight). In addition, it brings cars closer to State Street improving the sight lines to traffic approaching from Ashfield Street. A proportion of the traffic coming down the hill on Ashfield Street did so at speeds that were perceived as excessive for the conditions they encounter in this area. Conflicts between vehicles entering and exiting parking spaces and traffic through the area occurred, but generally vehicle contact was avoided due to the generally slow speeds used by drivers travelling southbound on State Street. The parallel parking on the east side of State Street was not in use due to the construction. This area relies on slow vehicle speeds, driver awareness, and courtesy, otherwise serious safety issues would arise. There have been a number of accidents reported in this location and further study of the parking configuration and traffic flows is warranted. Recent sidewalk reconstruction has improved the safety of the pedestrian crosswalk.

The Police Chief has ask if the implementation of angled parking instead of perpendicular parking could be considered to reduce the conflicts of vehicles entering and exiting spaces on the west side of State Street. The use of angled parking is not recommended by Mass Highway due to the high accident rates associated with its use as a result of the blocked view of exiting vehicles by SUVs and vans. However, it is true these are the same problems experienced now with the perpendicular parking presently in place. The results of changing to angled parking would be a loss in the number of available spaces and vehicles could only exit in one direction, i.e. for this location, to the southbound direction. It is uncertain if this would benefit safety and additional analysis is required. Vehicles wishing to go northbound would have to reverse their direction somewhere else, the Salmon Fall parking lot would be the desirable location, but most likely a U-turn would be made at the intersection of Clement Street, which would present additional safety issues.

Further study of this area should be considered before any of the following suggestions are implemented to gage their impact on traffic flow. The installation of stop control on Ashfield Street would decrease speeds of traffic entering State Street dramatically. All vehicles entering the area

would be doing so from a stop and hence would be traversing this busy intersection at low speed allowing more time for drivers to react to conflicting movements either from parked traffic or the other roads. Consideration should be given to making the intersection of Bridge and State Streets a three-way stop. Again, this would reduce traffic speeds in the area and the concept of the three-way stop has the potential to improve traffic flow out of Bridge Street. Further study would be required to determine if this type of control would have a detrimental effect on congestion from queued vehicles on State Street.

## Shelburne Falls Parking Study

The Franklin Regional Council of Governments (FRCOG) was hired by the Shelburne Falls Village Partnership to conduct a parking study. The Scope of Services for the Shelburne Falls Parking Study was designed to address the following tasks: assess the current use of existing parking; assess how to increase the use of existing peripheral lots; reconfigure existing spaces within the Keystone Lot to increase capacity; and develop an implementation plan to use existing parking to its fullest capacity.

Based on two parking turnover surveys, it was established that there was not a parking capacity shortage in the Village. There remained 30% (100 spaces) unused capacity at peak occupancy. The perception that there is a shortage of parking in the Village of Shelburne Falls is likely attributed to the perception that the core parking areas account for all the available parking. Additional capacity could be obtained in core areas by removing all day parkers from these valuable spaces. The Keystone Lot was identified as an area where high turnover is desired, but 50% of its spaces are being occupied by long term parkers.

Time limit restrictions have been recommended for the Keystone Lot and other key areas to increase turnover and therefore the availability of spaces. Enforcement options have been proposed in the form of a parking enforcement officer along with a hand held computer citation device. Without enforcement the new and existing restrictions would be open for abuse. Meters and pay and display options were investigated but have been discouraged due to high implementation costs and perceived unfriendliness to visitors.

## Pedestrian and Bicycle Transportation Infrastructure Assessment

This section provides a brief overview of the infrastructure for the most common types of non-motorized transportation—bicycling and walking. Primarily, infrastructure in and around the village center was assessed. Specifically, the Transportation Subcommittee suggested that the following items be generally evaluated to determine their current condition/status, and the feasibility for improving bicycle and pedestrian linkages within the village center, or between the village center and other points outside of the downtown area. The evaluations were intended to be "first cuts" to decide if the expenditure of additional time or resources to pursue the ideas was warranted. These potential improvements were intended to serve residents of the towns, as well as tourists to the area. The following areas or ideas were explored:

- Establishing a bikepath to connect the downtown area with the Mohawk Trail Regional High School via Old State Street;
- Creating a linkage between an existing Audubon Trail at High Ledges and the village center;
- Creating a pedestrian esplanade/walkway along the Deerfield River on State Street from Bridge Street to Route 2;
- Connecting the Mahican-Mohawk Trail hiking path along the Deerfield River from its current terminus approximately 1/2 mile east of the village center into the downtown area;
- Identifying other pedestrian and bicycle opportunities in and around the village center.

### Bikepath between Mohawk Trail regional High School & Downtown Shelburne Falls

Creating a way for students to safely walk or bike from the village center to the Regional High School was the goal behind this suggestion. It was proposed that perhaps an off-road bikepath could be built along Old State Street, formerly a through road from State Street to the upper end of North Street. The former roadway used to cross under Boston & Maine railroad tracks (still currently active), but with the discontinuance of the road the underpass was filled. The former roadbed now ends at an earthen bank that rises approximately 15 feet to the railroad tracks above. Between the railroad tracks and North Street is private property. The property owner is opposed to public access of his land.

The steep grade at the former underpass poses the first obstacle to establishing a bikepath in this area. Another lies in the need to cross active railroad tracks in the event that an acceptable grade elevation could be achieved. Securing the approval of a railroad to cross an active line with a bicycle or pedestrian crossing is a complicated, extremely difficult and rarely successful endeavor. Likewise, reestablishing an underpass would be similarly difficult since it would involve both railroad negotiations and the fact that a good deal of land beyond the railroad tracks has also been filled. Finally, there is strong opposition by the private property owner whose land would be crossed by the bikepath. Pursing this bikepath at this time would not be the best use of resources.

An alternative bicycle/pedestrian facility could be developed as a shared roadway facility along North Street. This means that the road is configured in a way that allows bicycles to travel in a shoulder or break down lane. The primary obstacle to this option is the poor visibility and sight distance at the narrow "S" curve under the railroad tracks. Similarly, the road width may not be able to accommodate the minimum 4-foot shoulder on either side of the roadway for safe cycling.

### High Ledges/Village Center Linkage

High Ledges, an Audubon conservation area located along a ridge in the northwest portion of Shelburne, contains a network of hiking and viewing trails. One trail, established in the 1970s, traverses the mountain from the High Ledges ridge to the Arms Cemetery near the Route 2/Mechanic Street intersection. It was thought that it might be possible to establish a link between the trail terminus at Arms Cemetery and the village center, creating an opportunity for residents and visitors to access both areas.

Initial research indicates that although the trail is used, its use is minimal and sporadic. More activity tends to take place in the ridge and conservation area itself. The trail was established

primarily on Audubon land, however the cooperation of private landowners was necessary to complete a through trail to the cemetery. Conversations with one of the private landowners whose property is crossed by the trail revealed a willingness to continue the current arrangement of limited use, but an unwillingness to promote the trail to attract additional users. This landowner felt that neighbors whose land is also crossed by the trail would share this opinion. Therefore, this idea may be better pursued at a future date since the time needed to conduct appropriate negotiations with landowners could prove significant.

**State Street Esplanade**

With the completion of the attractive River Esplanade from the Iron Bridge to Lamson-Goodnow on Shelburne Falls Road/Conway Road, it was suggested that perhaps a similar facility could be constructed along State Street and the Deerfield River from the Iron Bridge toward Route 2. The original idea was to explore establishing a walkway either along the River's shore, or via a parallel supported structure similar to a boardwalk.

A field visit revealed that adequate sidewalk is present in front of the buildings immediately adjacent to the Iron Bridge and Bridge of Flowers. This sidewalk ends at the Sunoco gas station, which due to its unusual site layout and proximity of structures to the road right-of-way makes continuing the sidewalk past this business difficult. It appears that sidewalk in this area would be either located in the vehicle travel lane of State Street, or conflict with the ingress and egress to the gas pumps. Beyond the gas station is the Eagles Club and a public parking lot. At this point, the River is once again in view and parallel to State Street. The next 3/10 of a mile appears to be an excellent place to establish a River Esplanade/walkway.

Due to the steep grade from the Deerfield River shoreline to State Street above, combined with the narrowness of the shore itself, the best option for establishing an esplanade would be in the edge of the existing road right-of-way closest to the Deerfield River. There is currently approximately 36 feet of pavement available for vehicle travel in this area of State Street. Typical travel lanes are 12 feet wide, with 2-4 feet of shoulder for breakdown, etc. The existing roadway width could possibly be reconfigured to allow a 6 foot Esplanade along the Deerfield River edge from the Eagles Club to Neighbors mini-mart (3/10 of a mile), while still maintaining adequate width for vehicle travel. Such a facility could also have the additional benefit of traffic calming along this road due to a perceived reduction in width. Beyond the Neighbors mini-mart the River is less visible due to a dense cluster of buildings along the river side of State Street, and the turning of the Deerfield River away from State Street. For these reasons, the area of Neighbors mini-mart seems to be an appropriate terminus for a State Street Esplanade. A walkway continues toward Route 2 on the opposite side of the street.

Further exploration of a State Street Esplanade should be conducted. Such a facility may be possible with a minimum of construction, and would blend nicely with other plans and construction throughout the village center. The only difficulty is linking the Esplanade from the Eagles Club to the sidewalk beyond the Sunoco station. However, a narrower walkway or another design solution should be possible.

## Mahican-Mohawk Trail Connection

The Mahican-Mohawk Trail is planned to be a 100-mile trail and interpretive facility from the Connecticut River to the Hudson River. It follows an original Native American travel and trade route along the Deerfield and Hoosic Rivers. The first section of this trail was complete in 1997, and stretches approximate 8 miles along the Deerfield River from Historic Deerfield to the former Franklin Nursery near the Shelburne Falls State Police Barracks. Since its current terminus is only approximately 1/2 mile from the Shelburne Falls village center, it was thought that a walking connection between the Village and the trail would benefit many users.

It was suggested by the subcommittee that a possible connection could be the bridging the Deerfield River from the trail's terminus near the Franklin Nursery to the Gardner Falls hydroelectric plant's recreational facilities off of Shelburne Falls Road/Conway Road. While this would provide an excellent link to the village center by connecting the trail to the newly constructed Esplanade and an easy walk into downtown, the significant width of the River in this area and the location of the hydroelectric generation facility make this option unlikely. Negotiations with the electric generating company would be required, and that could be time consuming. More importantly, however, erecting a bridge of the length required, and one that could withstand the changing water levels due to the hydroelectric activity, would be a significant undertaking. Pursuit of this idea may not be a good use of resources at this time.

Establishing a connection between the Mahican-Mohawk Trail and the village center is an excellent goal, however, that warrants further exploration. It may be possible to identify a different section of the trail that is adjacent to a narrower portion of the Deerfield River making it possible to more appropriately span a bridge. Similarly, there may be opportunities to extend the trail into the Village on the same side of the River. There are still several possibilities to explore in making the Trail-Village connection, and resources should be devoted to more fully exploring these options.

## Other Pedestrian and Bicycle Opportunities

Due to its historic development pattern, the village center has an established pedestrian network that serves much of the downtown. Thanks to recent efforts and grants, existing pedestrian facilities are being repaired and upgraded throughout the Village. Most of the typical suggestions for improving walkways are already being carried out. However, some attention should be paid to safely connecting peripheral parking areas with the existing network. Connecting the parking lot near the Eagles Club to the Iron Bridge and downtown is important. As previously mentioned, accomplishing this will be challenging given the location of the gas station. Other pedestrian cues, such as signs to and from parking areas, will help facilitate pedestrian movement through town. Again, work is underway to identify types and locations of appropriate signs for this purpose.

Also due to its historic development pattern, bicycling in the village center can be difficult due to narrow roads and on-street parking. Roads leading into the Village, such as Shelburne Falls Road/Conway Road, Route 112, or side streets on the perimeter of town can be successfully biked. However, once a cyclist is in the Village it would be preferable if bike racks were available to park bicycles allowing patrons to walk to Village destinations. Bike rack locations might include the State Street Parking area adjacent to the eagles Club. Landscaping and benches could also be installed at this location to encourage greater use of this parking area, particularly by tourists given

the lovely view of the Deerfield River. In addition, bike racks could be located at the Cross Street and Salmon Falls parking areas.

Although hilly, the roads outside of the village center in both Buckland and Shelburne offer some of the most scenic and enjoyable cycling for experienced cyclists. Loops that start and stop in the Village could be established for visitors who want to explore while in the area. Routes connecting destinations in a less circular fashion could be established for residents who would like to travel by bicycle. Possible roads include Route 112 north to Colrain and Vermont, and south to Ashfield and Routes 116 north and Route 9 west; Shelburne Falls Road and Route 116 to Conway; Bardswell's Ferry Road; this list goes on. The towns should establish a bikeway committee to more fully explore possible loops and routes for bicycle transportation throughout their towns. It is important that the road's width, condition, and volume of traffic be considered when identifying bicycling routes. A committee made up of a variety of interests including local cyclists, businesses, and transportation professionals could identify desirable routes and their feasibility. There are a variety of transportation funding sources for the establishment of bicycling facilities that could be explored if the town developed a bikeway plan and identified its priorities.

**Summary**

There are a number of ideas generated by the subcommittee that warrant further exploration. Namely, development of an Esplanade along State Street and the Deerfield River has the potential to improve pedestrian circulation within the village center, while at the same time creating more cohesion between this section of the village and core areas. Similarly, resources should be devoted to exploring the possibilities for connecting the Mahican-Mohawk trail with the Village. A number of options should be looked at to see if an appropriate Deerfield River crossing can be identified, or if continuing behind the State Police Barracks is feasible. Pedestrian facilities are currently being addressed, but special attention should be paid to connecting peripheral parking areas with the core areas. Bike racks should be provided in the village center to encourage both bicycling trips into the Village, and walking while there. Finally, development of a bikeway plan for the communities could be the first step in establishing transportation and recreational bicycling facilities for visitors and residents.

## Recommendations

- Given the poor Level of Service (LOS) which currently exists for Route 2 in Shelburne, minimize future additions to traffic by protecting open space along the corridor, encouraging businesses with low traffic generation rates and requiring shared curb cuts and access roads for new development.

- Work with the FRCOG Transportation Planning Staff to address potential safety issues at key intersections identified by the Accident Data and Intersection Analyses.

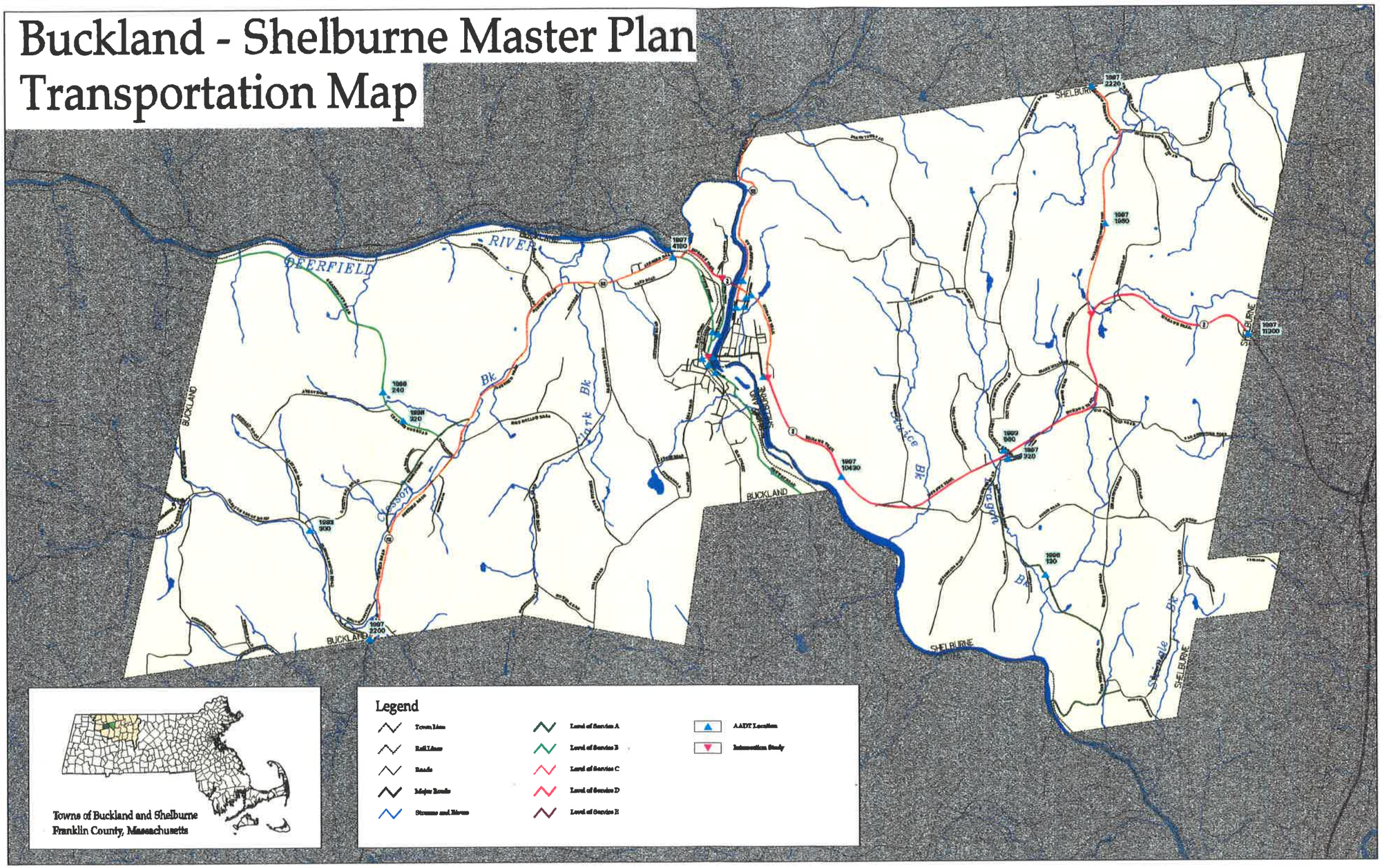
- Implement a Local Pavement Management Program in each town building upon the work completed by the Master Plan.

- Implement the recommendations of the Shelburne Falls Parking study.

- Continue expanding the pedestrian infrastructure in Shelburne Falls.

- Establish a bikeway committee or join the Franklin County Bikeway Advisory Committee to develop a bikeway plan for Buckland and Shelburne.

# Buckland - Shelburne Master Plan
# Transportation Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Lines
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Level of Service A
- Level of Service B
- Level of Service C
- Level of Service D
- Level of Service E
- AADT Location
- Intersection Study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## Map Scale

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,500
Scale in Feet

## Map Sources:

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

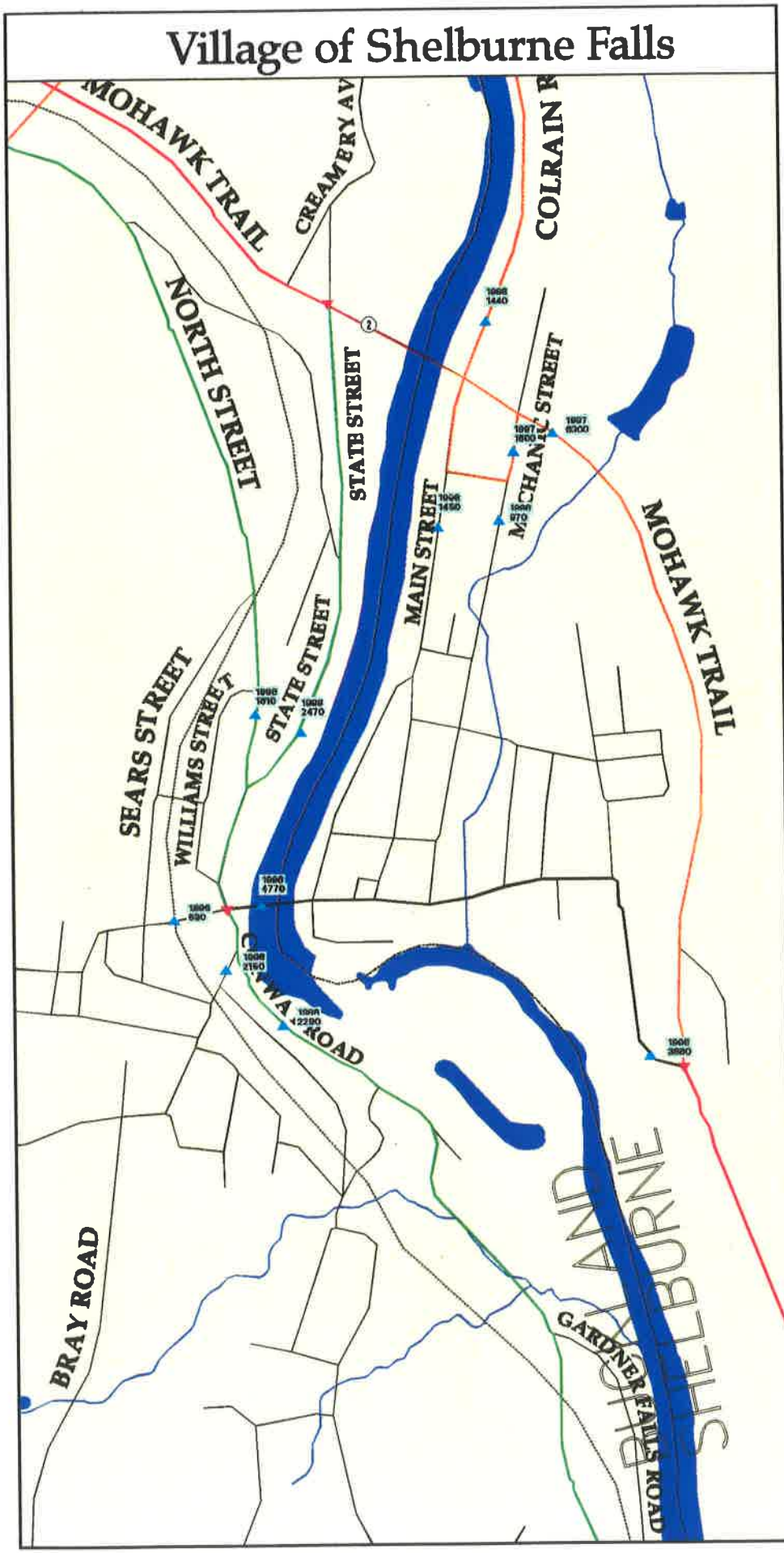
Roads data provided by Massachusetts Highway Department
Land use data created by UMASS Department of Forestry and Wildlife Management under contract of FRCOG Planning Department.
APR (Agricultural Preservation Restriction) data provided by the Massachusetts Department of Food and Agriculture.
Town lines, rail lines, open space(Chapter 61 & Protected Open Space), streams,

Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

April 1999

NORTH


Village of Shelburne Falls
MOHAWK TRAIL
CREAMERY AV
COLRAIN R
NORTH STREET
STATE STREET
MAIN STREET
MOHAWK TRAIL
SEARS STREET
WILLIAMS STREET
STATE STREET
ROAD
BRAY ROAD
GARDNER FALLS ROAD
SHELBURNE

CHAPTER 4

# PUBLIC INFRASTRUCTURE AND MUNICIPAL SERVICES

The master planning surveys in both Buckland and Shelburne identified town services as an important issue to be addressed in the Master Plan. Public safety, recreation and elder services were identified as top priorities by survey respondents. In Shelburne, 66% of the residents who responded to the Community survey stated that the public services had been important or very important in their decision to move to or live in Shelburne.

The public infrastructure and municipal services section addresses:
Water Supply
Waste Disposal
- Solid and Hazardous Waste
- Wastewater Treatment

Schools
Emergency Services
Elder Services
Recreational Facilities
Parking – Parking in downtown Shelburne Falls has been discussed in the Transportation section of this Master Plan.

## Water Supply

The Shelburne Falls Fire District ("Fire District") was established in 1912, and provides water supply to approximately 2,200 persons within the village of Shelburne Falls, on both the Buckland and Shelburne side. The water supply currently exceeds demand given the recent addition of a new public water supply well. It was found to be less expensive to drill a new well than to build a surface water filtration plant for the reservoir. The reservoir now serves as an emergency back up for the system. The Fire District's permit from the Department of Environmental Protection allows them to draw up to 310,000 gallons/day. The current demand averages approximately 210,000 gallons/day over the course of the year. Thus, approximately 70% of the system's capacity is currently being utilized. The water sources for the Shelburne Falls Fire District are listed in Table 4-1.

One of the issues facing the Shelburne Falls Fire District is the protection of the water source. The wells providing water to Shelburne Falls are located in Colrain. The town of Colrain is not willing to utilize town funding to protect land around the wellheads. The onus is, therefore, on

the Fire District to protect this resource. The Fire District has already acquired land around the water supplies in Colrain. However, this is an expensive and time-consuming strategy. The towns of Buckland and Shelburne would be well served to identify any aquifers and potential water supply sources within their own town boundaries to ensure protection of the local water supply. Potential aquifer areas are identified on the Water Resources and Wildlife Habitat Map in the Natural Resources section of this Master Plan. The Natural Resources section also proposes the establishment of aquifer protection overlay districts to protect the aquifer resources within the town boundaries that may serve as potential water sources for the towns at a future date if needed. The United States Geological Survey (USGS) has identified a single area in the two towns with a potential yield of 51 - 200 gallons per minute. This area lies right below Shelburne Falls Village Center on the Shelburne side and would not be suitable for locating a public water supply given the type and intensity of uses which currently exist. The next yield category of 50 gallons or less per minute runs along the Deerfield River on both the Buckland and the Shelburne banks, and along the Clesson Brook and Clark Brook in Buckland. It is important to note that these ranges are estimates based on soil conditions. Ideally, the Fire District would need a well with a yield of 150 gallons per minute (GPM) to be a suitable source for public water supply.

**Table 4-1: Shelburne Falls Fire District Public Water Supplies**

| Source Name/Type | Ground Or Surface | Availability/Status |
|---|---|---|
| Well #1 | G | Inactive |
| Fox Brook Reservoir | S | Emergency |
| Well #2 | G | Inactive |
| Well #1 Replacement | G | Active |

Source: Massachusetts Department of Environmental Protection
Notes: GP = Gravel Packed
P = Purchased

Protection of drinking water quality is of critical importance in Buckland and Shelburne. Development always impacts water quality, and future expansion will affect resources available for use as the towns grow. Threats to ground water include agricultural runoff, salt storage residue, road salting, contaminated runoff from paved surfaces, failing septic systems, leaking underground storage tanks (UST), abandoned unlined landfills, and chemical contamination from business and industry. Development in the two towns has been moderate, and the municipal public water supply, which is closely monitored, has not suffered from contamination. Central water supply in Shelburne Falls allows residences and businesses to share the expense of providing and maintaining a water supply, thereby reducing development costs and encouraging growth in the parts of the towns serviced by the system. An important link exists between the availability of water service and control of development.

There are two Non-Community public water supply wells in Buckland and eleven in Shelburne. By definition, a public water supply provides piped water for human consumption, if such system has at least fifteen service connections or regularly serves a minimum of 25 individuals daily at least 60 days of the year. A Non-Community source is one that serves 25 or more persons, such as a school, factory, campsite, or restaurant. This may be Transient or Non-

Transient, depending upon the usage period. Sources that are in use for less than six months are considered Transient.

As increasingly demanding regulations have been adopted to ensure environmental integrity under the Safe Drinking Water Act, public water suppliers in the region have been challenged to upgrade facilities and to expand testing and monitoring. Several state, federal and independent agencies and organizations exist to aid suppliers with the financial burden of planning, infrastructure maintenance and testing. The FRCOG Planning Department provides technical assistance and local planning services to Buckland and Shelburne.

**Wellhead Protection**

The risk of water supply contamination is evident in tests seen throughout the state. According to the DEP, 231 public water sources were permanently closed due to ground water contamination in 89 Massachusetts communities as of January, 1998. Volatile organic compounds were the cause of contamination in 59% of cases; 27% were closed due to inorganic compounds, synthetic organic compounds and natural causes; 8% were discontinued due to a combination of these; and the rest were closed due to varied causes. Because preventive measures are much more cost effective than remedial efforts, protection of public water supplies is best done before problems arise. Contaminants may be either agricultural or industrial in origin. Contamination of ground water results from hazardous material leaks, agricultural and golf course runoff, road salt, landfills, surface impoundments, sewers, pipelines, and underground storage tanks (USTs). Waste disposal practices for sanitary, solid, and industrial waste are the most serious sources of ground water pollution. Approximately one-half of all homes in Buckland and Shelburne rely on septic systems to dispose of human waste. The large number and widespread use of these systems makes them a serious possible contamination source.

Ground water conductivity is determined by gravity, pressure, material permeability and slope. Well pumping alters the natural movement of ground water. When pumped, ground water around the well is pulled down and into the well. This area may extend to many miles, depending on local hydrogeological conditions. Replenishment of the ground water aquifer is known as recharge and occurs primarily from precipitation percolating through the land's surface. Under certain conditions, surface waters also provide ground water recharge, called induced recharge. A Zone II wellhead protection zone should encompass the entire pumped and recharge area.

In general, the protection of water resources, particularly wellheads, is crucial because ground water pollution is difficult to correct and the cost of clean-up and remediation is usually high. The purpose of delineating wellhead protection areas is to define the geographic limits most critical to the preservation of a wellfield. Properly identifying the recharge area is also critical because the introduction of contaminants into the recharge area can cause aquifer contamination.

The EPA lists a five-part process for wellhead protection including: forming a community group, mapping water protection areas, identifying potential contamination sources, managing the

protection area, and planning for the future. Identification of water protection areas should include overlay maps of watersheds, aquifers and their recharge areas; wellhead zones of influence and contribution; direction of ground water flow, soil, geology; FEMA floodplain maps; and all wetlands, streams, lakes and ponds from which wells may induce recharge.

The EPA-designated zones of protection comprise several levels of safety. The Zone I designation is a 400' radius around the wellhead for primary resource protection. Because any breach within this first zone of defense could directly and immediately impact water quality, acquisition or control of land in this zone is imperative for protection. The Interim Wellhead Protection Area reaches to a radius of one half mile and is intended to be a temporary designation until a Zone II protection area can be established by a pump test. The Zone II designation extends to the area drawn upon if no rain falls for 180 days. Zone II areas supply recharge to the public supply well under the most severe pumping and recharge conditions that can be realistically anticipated. Local regulation of land use activity in this area is critical to maintain potable water supplies. Contaminants that percolate down through the unsaturated zone to the aquifer have the potential to move with the ground water flow and pollute a public supply well. Unlike the mixing and dilution that occurs between pollutants and the water in surface water bodies such as lakes and streams, pollutants in the ground water often remain concentrated in a contaminant plume.

The Safe Drinking Water Act of 1974 designated the Environmental Protection Agency as the federal authority for implementation of this new law. In Massachusetts, authority was delegated to the DEP to govern the oversight of public water supplies in the state. Because the double protection of federal and state-mandated restrictions are in place, municipal public water supply systems are closely regulated and monitored for quality. However, some municipal and non-municipal public water suppliers have not yet identified or protected their Zone II areas. The towns should encourage entities that own and manage public water supply wells to identify and protect the Zone II areas around these wells.

**Protection of Private Wells**

Currently, no coordinated program exists to monitor and track water quality of private wells in Buckland and Shelburne. The local Boards of Health are only able to review private water supplies at the time of new well installation. Subsequent contamination may remain undetected for years. Because approximately half of the homes in the two towns rely on private wells for water supply, the need for protection of these water resources is important. According to a nationwide study, about 60% of all private wells contain various pollutants at levels exceeding public drinking water standards. The most common sources of private well pollution are septic systems, pesticides, road salt, underground fuel tanks, hazardous waste, and landfills. One gallon of cleaning solvent, waste oil, or gasoline can contaminate one million gallons of ground water. The quantity of water has also decreased noticeably in some wells as new housing has drawn upon the same sources.

## Goal

To safeguard the quality and quantity of public and private drinking water supplies.

## Strategies

Pursue state financial assistance to identify ground water supplies and Zone II recharge areas, as well as technical assistance to develop resource protection strategies.

Prioritize the acquisition of land in Zone I protection areas for all community water supplies.

Prioritize the delineation of Zone II wellhead protection areas within the towns to preserve community water supplies utilizing the EPA's five-part Wellhead Protection Program.

Protect zones of influence for existing and potential water supplies through adoption of aquifer overlay districts and associated zoning regulations.

Manage the Zone II wellhead protection area by orchestrating adequate land use regulations to protect all ground water supplies and resources. For more details on the tools and techniques that may be used, refer to the Land Use and Zoning section.

Plan for the future by reviewing the Wellhead Protection Program yearly, identifying future problems and their solutions, and developing contingency plans for alternate water supplies.

Notify the DEP of all new public water suppliers to monitor water quality for public safety.

Establish a growth boundary for the water mains to be consistent with areas identified in the Land Use Section where future development is being encouraged.

Maximize water conservation when planning for development in order to limit demands on the water supply.

Initiate a program to identify all underground storage tanks. Establish leak detection and repair programs as needed and remove USTs over 20 years old.

Encourage the adoption of best management practices in all town departments, especially for the use of road salt by the highway department.

Cooperate regionally to develop a public program for affordable testing of private drinking water supplies to ensure preservation of high quality resources.

Encourage the development of educational outreach and guidelines for private well maintenance and wellhead protection to protect private water supplies.

Identify and map locations of private wells to prevent contamination from road salt, herbicides and other contaminants by limiting applications near those locations.

Educate septic system owners about the dangers of septic system cleaners and the importance of adhering to a maintenance schedule.

Boards of Health should strictly adhere to Title 5 requirements and encourage the use of alternative septic systems in situations where enhanced wastewater treatment is needed to protect ground water supplies.

## Waste Disposal

### Solid and Hazardous Waste

A number of landfills have been closing around New England in the last 10 years. There are several reasons for landfill closure, including lack of space, environmental concerns, and the will of local community groups. However, the major reason is Subtitle D of the federal Resource Conservation and Recovery Act, which mandates the closure of unlined landfills.

Since 1989, the Massachusetts Department of Environmental Protection has conducted environmental assessments of operating town landfills, which is the first step in closure. After landfill operations cease, capping of the site requires three to four months when the weather is most conducive to earthmoving functions, usually July through October. The procurement of funding to cap landfills presents a challenge to towns as costs average $100,000 per acre for capping. In addition, ground water testing and monitoring must be maintained for up to thirty years at neighboring sites. The various components involved in landfill closure are:

- Excavation and removal of refuse
- Impervious cover layer
- Drainage layer, loaming, and seeding
- Site Preparation
- Gas vents
- Rip-rap

Buckland and Shelburne have been challenged to provide for environmentally sound solid and hazardous waste disposal as local landfills have closed, costs for waste transfer and disposal have escalated, and increasingly sophisticated regulations have been adopted to ensure environmental integrity. The closure of local unlined, potentially polluting landfills has generated a need for regionally integrated waste management systems.

The Buckland landfill was closed in June 1997. According to the DEP schedule, the landfill was due for capping in October 1998. The estimated cost to the town for this project is $1.3 million, spread over twenty years. The waste from Buckland and Shelburne is currently being sent to the Bernardston landfill via a transfer station. This landfill is due for closure in July 1999. The two

most immediate issues facing Buckland and Shelburne are how trash will be managed and how sludge will be handled after that date. As of April 1999, Buckland and Shelburne will most likely pay to have their waste sent to the Northampton landfill.

The Franklin County Solid Waste Management District (FCSWMD) was formed a decade ago as a waste planning and contracting consortium of twenty-one Franklin County towns. It is working to locate a long-term disposal site outside the region, as no Franklin County town has expressed an interest in siting a landfill within its boundaries. Since disposal options are limited, the towns should seek long term contracts with a clear schedule of disposal fees. Equally important, the towns should implement aggressive composting and recycling programs, supported by strong educational programs, to reduce costs. The 1998 recycling rates for Buckland and Shelburne were 53% and 34% respectively. Further improving the recycling rates should be a focus for both communities. Regional plans for transfer of non-recyclables using larger compactors or transfer trailers to carry more tonnage will mean cost containment for towns in the FCSWMD.

The Massachusetts Integrated Solid Waste Management Plan provides specifications and policies to direct regional groups and municipalities. The plan calls for a waste management hierarchy, as follows: first, reduce waste as much as possible, then compost organic wastes which have an end-use, collect and market recyclables, incinerate waste where possible, and landfill waste which cannot be handled in any other manner.

This waste management plan decreases air and ground water pollution by removing the number of harmful chemicals, which are released into the ground water and atmosphere through usage and improper dumping. Municipal disposal costs are lowered by reducing the need to pay for costly disposal methods. Hazardous waste disposal is decreased by removing the amount of chemicals which must be properly collected and incinerated. Fuel usage is reduced when fewer trucking trips are required to haul waste. Use of scarce landfill space is lessened if a smaller portion of waste must be landfilled. Waste reduction decreases the use of natural resources, such as metals, minerals, timber and oil, when fewer materials are used for manufactured items or packaging and more materials are returned to the manufacturing stream by recycling programs.

Ways to generate less waste include change of buying habits by purchasing in bulk quantities, by purchasing without containers, or by utilizing reusable containers. Less trash is generated if manufacturing processes are improved to eliminate excess. Waste reduction is more efficient if redesign of packaging materials (1/3 of all waste) makes packaging reduced, recycled or eliminated altogether. Trash is further reduced by product redesign to make articles more durable and recyclable. Adoption of variable rate disposal fees, or "pay by the bag," is useful to provide waste generators with direct economic incentives to conserve resources.

Composting is a safe, efficient and relatively inexpensive way to convert food and yard wastes into a usable product. Town and home composting programs, combined with public education, have expanded participation. In our region's smaller towns, yard waste has never been a significant part of the waste stream but the larger towns maintain yard waste piles. On-site food composting for schools, hospitals, institutions and large businesses has been successfully

initiated in other parts of the country and would significantly reduce our region's waste stream. It is slowly being incorporated into some local institutional waste management programs.

The cost of trash collection is likely to increase after July 1, 1999. Hauling and tipping fees are likely to increase for the waste will need to be transported a greater distance. Types of waste that will continue to need to be landfilled are mostly construction and demolition material, mattresses, carpeting, furniture, street sweepings, dead animals, and grit and screenings from treatment plants. The anticipated increases in both hauling and disposal fees, provide an incentive to further reduce waste generation.

**Hazardous Waste**

While source reduction of solid waste remains a high priority, the towns of Buckland and Shelburne must also address the use and disposal of hazardous materials. Appropriate hazardous waste management is critical to ensure the protection of the environment and of public health. If hazardous wastes are improperly disposed of at landfills, down drains and through the incineration process, even though they are in small quantities, they will contaminate air, land and potentially drinking water supplies. Cost-effective management of hazardous wastes begins with education aimed at minimizing use. Environmentally safe disposal methods in use include paint swaps, paint collection, and collection of pesticides, solvents and other hazardous wastes. Since 1992, the FCSWMD has sponsored an annual collection of household hazardous waste. The collected toxic substances can be safely burned using specialized incinerators. In 1998, the FCSWMD developed four regional "super depot" sites for permanent, year-round collection of special wastes (also called universal wastes) that are no longer considered hazardous but require restricted collection and handling. These include fluorescent bulbs, oil-based paint, antifreeze, waste oil, oil filters, and rechargeable and button batteries. While the household hazardous waste collection program gathered 14 tons of toxic materials in 1997, many more tons are still uncollected and may potentially pollute our ground water and atmosphere.

**Goals**

To manage solid waste using an integrated management system that includes waste reduction, recycling, composting, incineration and landfilling.

To collect and dispose of hazardous waste in an environmentally sound manner.

To cap the existing landfill in Buckland with environmentally sound methods.

To identify a suitable method for disposal of municipal solid waste and institute a long-term contract with the facility.

### Strategies

Establish priorities for the handling of solid waste. The first priority is to reduce the amount of waste as much as possible. The second priority is to recycle or compost waste that cannot be avoided. The third priority is to incinerate waste that cannot be recycled or composted. Finally, wastes must be landfilled that cannot be recycled, composted or burned.

Decrease the volume of municipal solid waste from incinerator and landfill facilities by maximizing participation in recycling and composting programs through public education or by providing incentives to recycle like variable rate disposal fees.

Allocate adequate storage for the collection and interim storage of materials for recycling.

Continue and expand regular hazardous waste collection.

Require commercial and industrial businesses that use, store, generate or transport hazardous materials or wastes to prepare and maintain an emergency response plan that identifies potential environmental and health risks and recommends ways to reduce those risks. Plans should be provided to local officials responsible for emergency response coordination.

## Wastewater Treatment

The Shelburne Falls Wastewater District is responsible for municipal sewage treatment in Shelburne Falls. The sewage treatment plant is currently functioning at a rate that is nearing its capacity. According to the Massachusetts Department of Environmental Protection (DEP), the average monthly flow into the Shelburne Falls wastewater treatment plant was 0.23 Million Gallons per Day (MGD), implying that it was functioning at 92% of its design capacity, which is 0.25 MGD. State regulation plays a prominent role affecting the potential use of remaining capacity. Each wastewater treatment facility is required by the DEP to initiate plans for expansion when the influent loading rates reach 80% of the facility's design capacity for 90 days.

Wastewater treatment facilities are point sources of pollution. In Massachusetts, wastewater treatment facilities are licensed and regulated by the DEP through the National Pollution Discharge Elimination System (NPDES) to control types and levels of contaminants. Wastewater must be treated before being released to ground or surface waters in order to ensure the adequate removal of solids, destruction of pathogens and removal of pollutants, such as metals and organic compounds. Wastewater is generated from households and from commercial and industrial operations. There are three significant categories of wastewater to be treated: municipal sewage, which may be treated in a municipally-owned or privately-owned treatment plant; domestic septage, which typically is treated along with municipal sewage; and industrial waste water, which may be entirely or partially treated at the source, or may be incorporated into the flow of municipal sewage.

Municipal sewage contains material from commercial and industrial sources as well as from residential units, a situation that occasionally presents management concerns for wastewater treatment plants. Domestic septage is the material that is removed from a residential septic tank upon cleaning. Its composition varies and depends on many factors: household size, condition of the septic system, and user behavior. Use of a garbage disposal alters the quality and increases the quantity of septage to be treated, while a delay of pumping maintenance increases the amount of accumulated solids.

Three levels of wastewater treatment exist: primary treatment involves the physical removal of suspended particles by screens, sedimentation chambers and skimmers; secondary treatment additionally digests organic wastes using bacteria in a controlled system; and tertiary treatment adds further steps to precipitate out solids and remove compounds more difficult to extract. Facility types include: extended and conventional aeration, trickling filter, sand filter and solar aquatic system. The Shelburne Falls wastewater facility is of the Extended Aeration type.

After treatment, the solids and liquid effluents undergo separate disposal processes. The Shelburne Falls Wastewater District utilizes phragmites reed beds, as a treatment method that duplicates natural wetland cleansing processes. Reed beds incorporate specific plant materials to absorb and retain compounds from treated sludge and can reduce the volume of sludge by up to 95%. They are long-term sludge accumulation and storage systems, with reed beds being emptied approximately every ten years. The sludge is then applied to fields or incinerated. The liquid effluent is released into the Deerfield River.

The Shelburne Falls Wastewater system staff have determined that a large percentage of the load on the system is due to Combined Sewer Overflow (CSO). CSO occurs when storm water runoff mixes with sewer inflow and overloads the wastewater treatment biological process. During peak storms a portion of the sewer/storm water mixture is released directly into the nearest river to prevent overloading of the system. Ultimately, towns are responsible for conducting a comprehensive study to identify CSOs, then develop and implement separate infrastructures to alleviate the mixing of storm water and sewer inflow.

Another problem, which taxes the wastewater system, is inflow and infiltration of groundwater into the underground pipe system. The Shelburne Falls Wastewater District has purchased video equipment over the past few years to identify problem areas and begin the process of repairing damaged pipes. Last year, some of the oldest lines were replaced. This has had a positive influence on the system by reducing the inflow and infiltration problem. The task, however, is a large one. According to the Wastewater District, approximately 40% of the lines, both on the Buckland side and the Shelburne side, need to be replaced to eliminate the problem and enhance the efficiency of the system. The replacement of old sewer lines is the major project before the Wastewater District at present. Therefore, they are not planning any expansion of the sewer lines. Replacement of lines, however, will eventually free up additional capacity.

As in public water supply systems, the availability of wastewater treatment infrastructure plays a major role in determining the rate and location of development in town centers. Planning for capital improvements must be an integral part of the towns' planning efforts. The Wastewater District has a budget of $193,000, which is raised entirely from sewer fees. The sewer fees are

calculated based on the water usage. The current rate is $2.84 per hundred cu.ft. of water used. These fees cover operation and maintenance of the system. Capital improvements must be covered by Community Development Block Grants (CDBG) or other funding sources.

The Federal Clean Water State Revolving Fund (SRF) program provides seed money to the states to make loans to communities, individuals, and others for high-priority water-quality activities. Massachusetts uses the SRF to provide subsidized loans to communities that approximate a zero percent loan and are equivalent to a 50% grant*. While traditionally used to build or improve wastewater treatment plants, loans are also used for:

•agricultural, rural, and urban runoff control;
•estuary improvement projects;
•wet weather flow control, including stormwater and sewer overflows; and
•alternative treatment technologies.

* A zero-percent loan for 20 years saves the community 50 percent of the total project costs over a similar loan at 7.5 percent.

Both Shelburne and Buckland actively encourage growth in those parts of town where there is public sewer service for environmental reasons, since public treatment facilities safeguard water quality in densely built residential areas. However, they run the risk of exceeding the carrying capacity of their sewage treatment systems if development is not controlled through planning.

The possible introduction of privately owned wastewater treatment facilities into the towns could allow formerly undeveloped parts of the landscape to grow. The existing rural town centers, Shelburne Center and Buckland Center, and cluster developments are examples of growth that could be served by private wastewater treatment. These facilities eliminate some of the built-in growth constraints that individual septic system requirements provide.

The towns could also consider the adoption of a Phased Growth Bylaw. A Phased Growth Bylaw allows towns to limit the amount of development that occurs in any one year to ensure that the service infrastructure is not overburdened by a spurt of growth. This allows a community time to plan for infrastructure improvements within its capital budget. This is particularly important within the village district in both Buckland and Shelburne, given that the wastewater system is functioning close to capacity.

**Goals**

To maintain the sewer system and remove impediments to efficient functioning.

Support renovations and maintenance of the current sewer system.

To provide environmentally sound wastewater treatment.

**Strategies**

Establish sewer extension limits consistent with the Master Plan. The Village Residential District, as proposed in the Land Use and Zoning section (refer to the Potential Zoning Districts Map), is the area currently served by sewer and water and, given the capacity of the water and sewer system, would serve as a suitable definition of the sewer extension limit.

Consider adopting a Phased Growth Bylaw to ensure that development within the towns does not exceed the capacity of the sewer system.

Consider neighborhood treatment systems for existing development in Buckland Center and new clustered housing developments.

Plan for the construction or expansion of infrastructure that reinforces the traditional character and village development patterns of the region.

Support proposals to upgrade and improve existing wastewater treatment facilities and sewer lines.

Support the implementation of the recommendations being prepared by the engineering study of the wastewater treatment plant that is currently underway to determine the state of the plant and needed renovations.

Direct rain gutters to dry wells or alternative means of disposal to reduce stormwater runoff.

## Schools

The school system includes the Buckland - Shelburne Regional Elementary School in Shelburne Falls and the Mohawk Regional High School in Buckland. The functioning of each of these schools is overseen by separate school committees. Generally, a Master Plan analyzes the expected capital needs of a school system based on projected populations and school-aged children. Shelburne and Buckland, however, have recently addressed the capital needs of their school system. The Mohawk Regional High School District has just completed an addition costing $3.8 million which should address the needs of the communities for the next 10 to 20 years. Similarly, renovations have recently been completed at the Buckland-Shelburne Elementary School and are expected to last for a similar time frame. Since the capital needs have recently been addressed, the Master Plan will not include this topic.

However, from the results of the community surveys, it is evident that the school system remains a critical and important issue for town residents. The issues that were raised in the survey responses suggest that the cost of the school system and the curriculum provided by the school system are the main areas of concern. In Shelburne, 66% of the residents who responded to the Community survey stated that the public school system had been important or very important in their decision to move to, or live in, Shelburne.

Overall, 82% of survey respondents from Shelburne felt that it is important, or very important, for the Master Plan to assess future capacity needs of the school system and plan for those needs. Of the survey respondents, 16% did not comment on the school system. We speculate that this may be due to demographic reasons with some respondents not having members of their family that are of school age.

In Shelburne, 50% of the survey respondents stated that they are dissatisfied with the public school system and 35% are satisfied with it. Of the people who were dissatisfied with the school system, 45% identified the curriculum as a problem, 30% cited inefficient use of money, and 10% expressed the need for more discipline. The school related issues prioritized by the respondents from Shelburne are the year round use of school facilities (44% of survey respondents) and job preparatory skills and the curriculum (42% of survey respondents).

### Goal

To create a school system that meets the needs of the students, the faculty, and the residents of Shelburne.

### Strategies

Encourage excellence in the educational system of the community.

Devise a method to address curriculum issues.

Pursue a School-to-Work program.

Lobby the State for increased State responsibility and funding for public schools to ensure an equitable educational system throughout the Commonwealth of Massachusetts and to ease the financial burden on municipalities.

## Libraries

There are three libraries within the study area: the Buckland Public Library in Buckland Center, the Shelburne Free Public Library in Shelburne Center, and the Arms Library in Shelburne Falls. In Shelburne, 21% of the survey respondents selected the Arms Library as their favorite historic resource. Renovation of Arms Library was cited as one of the three most important capital expenditures needed in the Town of Shelburne by 30% of the survey respondents. In Shelburne, 27% of the respondent households use the libraries at least once a week and an additional 25% use it at least once a month. Only 26% of the households responding to the survey do not use the libraries at all.

The Buckland survey asked residents if they would like to see expanded services in the Buckland Public Library. Additional programs for children and new material, including print, non-print, and electronic material, received the highest support, both selected by 53% of survey respondents. Increased hours were favored by 39% and programs for general patrons by 36% of the respondents.

Shelburne residents were asked similar questions about the Arms Library and the Shelburne Free Public Library. For the Arms Library, new material was prioritized by 49% of the survey respondent, programs for children by 44%, handicapped access by 42%, and increased hours by 36% of the respondents. For the Shelburne Free Public Library, 33% of the respondents identified new material as a high priority. Additionally, 30% of the respondents would like to see more programs for children, and 27% would like increased hours.

The Library Commission for the Arms Library recently received a grant of $30,000 from the Board of Library Commissioners for repairs to the roof of the building. The Arms Library Commission is also currently involved in a twenty year Needs Study for Accessibility. The proposed improvements include handicapped access ramps, expanded space for the Children's Room, and possible expansion of the facility. The approximate cost for design and construction of the improvements is estimated at $1 million. The town of Shelburne has agreed to include the library renovations in the next Community Development Block Grant (CDBG) application. However, it is important to note that additional space and multiple exits created as a result of expansion will place additional demands on library staff.

## Elder Services

How a community takes care of its aging residents is reflective of the quality of life that is present for all residents, especially for those who have made the Shelburne Falls area their home. This sense of support for one's own community is evident in the Survey results that focused directly and indirectly on the quantity and quality of elder services provided to residents. Respondents to Shelburne's Community Survey felt that the budget for Elder Services, as part of Human Services should be increased (47% of respondents) or at least maintained (50% of the respondents). Based on the budget question in Buckland's Community Survey, Elderly Services was elected as the fourth most important expenditure among respondents.

According to an analysis of 1990 Census of Population and Housing figures (see Table 4-2), just under 13 % of Buckland's population was 65 years or older, while the same cohort represented 19 % of Shelburne's total population. This is likely due to the presence of nursing homes (e.g. Anchorage, Labelle's) and the Highland Village elderly housing complex in Shelburne. Population projections show that by the year 2010, the percentage of the population comprised of elders will be roughly 15 % for each town (see Table 4-3).

**Table 4-2: Number of Buckland and Shelburne Residents ≥ 65 Years In Age – 1990**

| Age Group | Buckland | Shelburne |
|---|---|---|
| | | |
| 65-69 years | 75 | 88 |
| 70-74 years | 59 | 75 |
| 75-79 years | 51 | 73 |
| 80-84 years | 38 | 62 |
| 85 + years | 22 | 76 |
| Total 65+ | 245 | 374 |
| Total Pop. | 1928 | 2012 |

Source: 1990 Census of Population and Housing, Summary Tape File

**Table 4-3: Number of Buckland and Shelburne Residents ≥ 65 Years In Age – 2010**

| Age Group | Buckland | Shelburne |
|---|---|---|
| | | |
| 65-69 years | 100 | 101 |
| 70-74 years | 73 | 52 |
| 75-79 years | 60 | 52 |
| 80-84 years | 38 | 44 |
| 85 + years | 45 | 60 |
| Total 65+ | 316 | 309 |
| Total Pop. | 2178 | 2107 |

Source: MISER Population Projections, Zongli Tang, demographer

In the following report the goals and objectives will be followed by a description of the services provided by the Shelburne Senior Center. Next, the main issues of concern relating to the effectiveness of the current system will be presented. Finally, recommendations based on the current and future needs of elderly residents will conclude this section.

Based on Buckland's and Shelburne's Community Surveys that were completed in 1996 and 1997, respectively, each town's Master Planning Committee prepared a document describing their goals and objectives for the joint Master Plan. Although the objectives that focused on improving elder services were included only within Shelburne's sections titled Town Services and Transportation, (there were no Goals and Objectives in Buckland's plan), they have been consolidated and are presented in the format below.

## Goals

To expand elder services.

To improve accessibility for the elderly and disabled.

## Strategies

Explore the feasibility of developing new or expanding existing elder services and housing including identification of funding sources.

Assist in implementing accessibility improvements for municipal and other village center buildings, which are compatible with the historic character of the business district.

## Elder Services Provided

The Shelburne Senior Center is currently the "hub" from which elder services are provided to residents of Buckland and Shelburne as part of the Ashfield, Buckland, Colrain, and Shelburne Council on Aging Consortium's activities. The Consortium was formed when it became apparent that each individual town's Council on Aging was too small to provide the services required. The Selectmen from each community signed a Memorandum of Understanding (M.O.U.) agreeing to share the expenses of providing for elder services together.

The Shelburne Senior Center is located at 7 Main Street in Shelburne Falls within a small building currently owned by the Masons. The Center has four rooms, two offices for seven (7) people, a dining area, a small activity room, and one bathroom. There are three types of services that are currently provided through the activities of the Shelburne Senior Center: programming, meals, and transportation.

Shelburne acts as the lead town in the Consortium and provides a payroll payment process and access to a town-wide health insurance and retirement plan for employees of the Consortium. The Consortium has in its employ, the Director, at 32 hours per week (each town receiving 8 hours of the Director's time per week), and one other part-time person at 20 hours per week. A volunteer board, the Council on Aging, acts as the direct supervisor to the Director.

The funding for the Shelburne Senior Center elder service programs come from three main sources. The first is currently an $85,000/year contract with the Franklin County Home Care Area Agency that is used exclusively for the nutrition program. This pays for all the meals that caterers provide on a daily basis. Next, a separate contract through the Franklin Regional Transit Authority (FRTA) pays for all transportation related expenses, which is limited to supporting one driver at thirty (30) hours per week and another driver at ten (10) hours per week. All the social and recreational, health and exercise, and informational programming is funded through low user-fees, grants, and volunteerism, all organized by Center staff.

### *Programming*

There are three different types of programming that the Shelburne Senior Center provides. *Social and recreational programs* include a variety of activities and events that are organized to provide weekly, monthly, and special opportunities for socialization. Parties and get-togethers are organized around appropriate holidays. Outside trips to area restaurants, musical

presentations, and bingo are also regular programs. Painting and creative writing classes, and book discussion groups are scheduled on a monthly basis as well.

The other two types of programming include *health and exercise programs* and *monthly speakers.* The health and exercise programs include three (3) different weekly exercise programs. Two of these weekly exercise programs take place at the Cowell Gymnasium in association with the Mohawk Valley Health and Educational Services, and the other one takes place at the Senior Center. Monthly blood pressure and foot-care clinics are provided as well. Monthly speakers present important information on current issues. One or two speakers per month share information on health related topics such as diet and nutrition. Other speakers present issues relevant to the elderly, including legal services, estate planning, caregiving, and changes to medical insurance processes.

*Meals*

Meals are provided to elderly residents of Buckland and Shelburne in three different capacities. First, *congregate meals* are served at the Senior Center. A caterer delivers prepared meals that are warmed before serving at the Senior Center. These meals are served on Mondays, Tuesdays, and Thursdays. Secondly, the Center provides *home delivered meals* five days a week. Lastly, all are welcome to request *frozen dinners for the weekends*. Thus in all, elderly residents may receive meals seven (7) days per week.

*Transportation*

The Shelburne Senior Center is mandated by the Franklin Regional Transit Authority to prioritize their transportation services in the following order from most important to least: rides for medical appointments; rides to Senior Center programs, including meals; shopping trips; and rides to social and recreational activities.

**Elder Service Issues**

According to the Senior Center Director, Bill Korzenowski, there is one main issue of concern that affects the ability of the Shelburne Senior Center to effectively deliver elder services for the residents of Buckland and Shelburne, now and in the future. That is, the need for adequate funding.

*Inadequate Funding*

Within the issue of inadequate funding lie several concerns. The first is that although the number of elderly served in both towns is considerable, it could be higher. Seniors, who fear intervention because it may result in their living in a nursing home, may be less likely to ask for meals. An Outreach Worker could help to reassure people by letting them know that it is the full

intention of the Senior Center to help elders have fulfilling lives while still being as independent as possible. The people who are in most need of nutritional assistance often do not receive it until they are in trouble. At that point, an intervention is likely to happen, resulting in the unnecessary loss of personal independence for that person and expensive nursing home care. A potential indirect result of the early entrance of elderly residents into long-term nursing home care could very well be the premature conversion of their land assets to support that expense.

Secondly, transportation services are mandated by the FRTA to provide services to the greatest number of people over time. FRTA funds transportation services for nine towns, four of which make up the Consortium. Without additional transportation funds, the Shelburne Senior Center is tied to that policy. Additional transportation services are needed to assist seniors requiring frequent medical visits that require long waiting periods from the drivers.

Finally, improved coordination between the Shelburne Senior Center, the Council on Aging, and the town governments in Buckland and Shelburne is needed to increase the Center's ability to access financial support from State agencies. Much of the additional funding that a community might compete for to provide elder services requires an active partnership between the towns of Buckland and Shelburne, the Senior Center and the Consortium.

**Recommendations**

Based on the Community Surveys, the residents of both Buckland and Shelburne expect a sustained and effective level of elder services to be provided to their elderly community members and themselves. The Shelburne Senior Center is an important community resource for senior citizens. Additional services could be offered but require financial support from state programs that must be accessed by the Towns in partnership with the Senior Center. The following short and long-term recommendations are offered in the spirit that the care of our elder community members is extremely important and benefits all residents, either now or in the future.

- The Council on Aging and the Towns of Buckland and Shelburne need to improve coordination to support the short-term and long-term success of the Shelburne Senior Center and the Elder Services Program.

- The Selectmen from each Town should meet with the Council of Aging and the Director of the Shelburne Senior Center together on a quarterly basis to discover solutions for expanding services.

- The Council on Aging should identify potential funding sources that are available to Buckland and Shelburne to help support elder services.

- The Council on Aging should explore the feasibility of formalizing a link between the Senior Center and the Towns for the purpose of accessing State programs.

- The Council on Aging, working in conjunction with the Director of the Center, should determine the feasibility of developing a volunteer program specifically for the purpose of providing transportation for necessary medical services.

- The Council on Aging should work with the Shelburne Falls Business Association as well as the Historical Commissions to implement accessibility improvements for buildings and sidewalks.

## Emergency Services

Emergency services in the towns of Shelburne and Buckland are handled by the town Police and the Fire Districts. Fire and Emergency Management Services (EMS) in Shelburne are not part of the Town Budget. Financing for these items comes from Fire District taxes. The towns currently have three fire districts: Shelburne Falls, rural Buckland, and rural Shelburne. According to the community surveys, the residents of the two towns are satisfied with the Fire and Emergency Management Services, both within the Shelburne Falls village district and in the outlying rural area. Of the survey respondents from Shelburne, 80% find the fire services satisfactory and only 4% do not, and 66% find the Emergency Management Services satisfactory, while 6% do not. However, 11% of the Shelburne respondents also felt that overburdened police and fire services was one of the serious problems facing Shelburne today.

Vandalism and theft was identified as the biggest concern by Shelburne residents who responded to the Community Survey. Overall, 36% of the respondents stated that this was one of the major problems facing Shelburne. When asked about the Town budget, 59% of the respondents to the Shelburne Community Survey favored keeping the percentage of funds allocated to public safety functions, including police and animal control, constant. Of the remaining respondents, 19% would like to see the allocation to public safety increased, and 10% would like to see it decreased. In addition, 30% of the survey respondents felt that new facilities for the Police and Fire Services are an important capital expenditure for Shelburne.

The Shelburne Falls Fire District and the rural EMS staff are encountering shortage of space for staff and department vehicles. They are interested in locating to a larger facility, which would allow for efficient use of space and services. The Shelburne Falls Fire District has not yet found a suitable and affordable location within Shelburne Falls for their new facility. The rural Shelburne Fire Department has sufficient space at present. However, as population grows in the rural areas, the need for additional staff and equipment will create additional space needs. The space needs of the Shelburne Fire District should be reevaluated in a few years.

### Goal

To improve public safety.

**Strategies**

Increase police services to improve safety from crime and vandalism.

Evaluate programs to improve safety and decrease vandalism including community policing, neighborhood watch, and increasing involvement of parents and the school system.

Support the efforts of the Shelburne Falls Fire District to acquire a new Emergency Services Facility.

## Recreational Facilities

The towns of Shelburne and Buckland have both a vibrant village center offering a host of cultural events as well as a landscape offering scenic, historic, and recreational experiences unmatched in the region. The recreational resources in the two towns provide both visitors and residents opportunities to relax, play, learn new skills, and enhance the overall quality of their lives. According to the Community Surveys taken in 1996 and 1997, many residents of Buckland and Shelburne identified recreational opportunities as being important in their decision to move to, or live in their communities.

Findings from Shelburne's and Buckland's Community Surveys show that residents view their communities as rural New England hill towns rich in recreational opportunities. They identify two main types of recreational resources. The first type includes particular facilities (i.e. Buckland Recreation Center) and areas for recreation (i.e. open spaces such as parks or natural areas) that residents cherish for their recreational value. The second type of recreational resource is recreational programming, which the towns or private organizations may provide for residents (i.e. summer and winter activities for teens). Both towns' residents expressed a desire to maintain, or enhance, the value of facilities such as the Cowell Gymnasium and the Buckland Recreation Area. Overall, 82% of the survey respondents from both towns felt it was important to preserve open space for recreational needs. Also the most important needs expressed by respondents from both towns focused on programming for more winter/summer programs and an increase in teen activities.

The following section will include the main goal and supporting strategies, inventories of recreational areas and facilities, and recreational issues. It will conclude with a list of recommendations.

Based on Buckland and Shelburne's community surveys that were completed in 1996 and 1997, respectively, each town's Master Planning Committee prepared a document describing their goals and objectives for the Master Plan. Although the objectives that focused on improving recreational services were included within sections titled Family Services (in Buckland's plan) and Town Services (in Shelburne's plan), they have been consolidated and are presented in the format below, multiple strategies supporting one main goal.

## Goal

To provide additional recreational programs and facilities for Shelburne's and Buckland's residents, especially its youth.

## Strategies

Establish summer and winter programs to provide youth with organized and supervised activities especially for teens.

Promote greater utilization of the existing facilities at the Buckland Recreation Area and of Cowell Gymnasium by supporting renovation efforts.

Increase recreational facilities in Shelburne including a swimming pool and a fitness center (public or private).

Help families of Buckland and Shelburne by providing additional youth services such as day care options for Buckland families.

Establish after-school programs to provide supervision and activities for youth.

Publicize family oriented programs and facilities in place for use by residents.

Address safety, maintenance, and operations issues for all recreational sites.

## Inventory of Recreation Resources

Both Buckland and Shelburne identified significant recreational areas in their Open Space and Recreation Plans that were completed in March 1987. In their plans, properties were listed and described in an inventory. Much of that information has been updated and is summarized in Tables 4-4 and 4-5 on the following pages.

## Table 4-4: Recreational Resources -- Areas in Buckland

| Map # | Name of Area or Facility | Main Recreational Value or Use | Owner of Land/Manager | Size of Parcel | Extent of Resources | Issues/ Opportunities |
|---|---|---|---|---|---|---|
| 1 | Buckland State Forest | Hiking and cross-country skiing | Commonwealth of Massachusetts/ DEM** | 88 acres | No facilities | Potential site for programs |
| 2 | Kenneth Dubuque Memorial State Forest | Fishing, hiking, wilderness camping, and skiing | Commonwealth of Massachusetts/ DEM** | 57 acres | Marked trails and rest rooms (in Hawley) | Potential site for programs |
| 3 | Buckland Recreation Area | Playground, picnicking, and swimming | Town of Buckland/ Recreation Commission | 21 acres | Softball diamond, horseshoe pits, etc. | 55% of residents want to keep supporting it with public funds * |
| 4 | Mohawk Trail Regional High School | Field sports, tennis, and archery | Mohawk Trail Regional School District | 65 acres | Baseball diamonds, football field, 4 tennis courts, etc. | Potential site for after-school programs |
| 5 | Cricket Field | Softball and snowmobiling | Veterans of Foreign Wars | 2.5 acres | Softball diamond and rest rooms | Safety issues associated w/ Conway Rd. |
| 6 | Gardner Falls Project | Picnicking, fishing, and hiking | Western Massachusetts Electric Co. | | Trail system, benches, and a barbecue | Improve access for good fishing for bass and trout. |
| 7 | Mary Lyon Birth Place | Hiking | Mount Holyoke College | 11.6 acres | Stone marker | Road needs to remain public |
| 8 | Mohawk Trail Rest Area | Picnicking and hiking | Commonwealth of Massachusetts/ DPW*** | 3 acres | Tables and parking | Potential for enhancements and information kiosk |
| 9 | NEPCO Park | | Owned and managed by NEPCO**** | | Picnic tables, park benches, fishing platform, new landscaping, and a low safety fence | Park area for residents and tourists |

*: Based on the 1996 Community Survey
** DEM – Department of Environmental Management
*** DPW – Department of Public Works
**** NEPCO – New England Power Company

## Table 4-5: Recreational Resources -- Areas and Facilities in Shelburne

| Map # | Name of Area or Facility | Main Recreational Value or Use | Owner of Land/Manager | Size of Parcel | Extent of Resources | Issues/ Opportunities |
|---|---|---|---|---|---|---|
| 1 | High Ledges | Hiking, cross country skiing | Massachusetts Audubon Society | 370.5 acres | Trails and views | Potential site for recreational and educational programming |
| 2 | Glacial Potholes | Scenic Views | Mole Hollow Candles/Town of Shelburne | Several acres | Viewing Deck | Maintenance and safety questions related to access to Glacial Potholes |
| 3 | Mt. Massamont | Hiking | Commonwealth of Massachusetts/ DEM** Fire tower owned and managed by the Town of Shelburne | 49 acres | On top of Mt. Massamont there is a fire tower that provides spectacular views | Publicize this and other scenic lookouts |
| 4 | Veterans Memorial Field | Games, sports, and concerts | Town of Shelburne | 0.25 acres | Field for sports next to Elementary School and the Military Band Shell | Maintenance costs supported by residents, based on survey * |
| 5 | Cowell Gym | Basketball and street hockey | Town of Shelburne | | Gymnasium and outdoor basketball courts | Maintenance of facilities and building renovations needed |
| 6 | Buckland-Shelburne Elementary School | Playground activities | Buckland, Colrain, Shelburne School District | 16 acres | Basic play equipment for small children | Potential site for after school programs |
| 7 | Grange Pond | Picnicking | Shelburne Grange | 9 acres | Pond Area with Picnic Tables | Facilities need improvement |
| 8 | Arms Cemetery | Walking and bird-watching | Arms Cemetery Association | 32 acres | Maintained cemetery | Potential trail connection to High Ledges |
| 9 | Mohawk Field | Little League baseball field | Town of Shelburne | 3 acres | Baseball field & Picnic Area | |
| 10 | Goodnow's Chip and Putt | Golf course, skating and cross-country skiing | Privately owned and managed | 25 acres | Baseball Fields, Basketball Courts, Archery Range & Pool | Support owner to keep it as a popular recreation area |
| 11 | Camp Apex | Summer camp for 6-14 year olds - sports and hiking | Greenfield YMCA | 33 acres | Nature trails, lodge, and pavilion | Support YMCA to maintain or enhance to include year-round programming |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | Spring-brook Family Camping Area | Family tent and trailer camping | Privately owned and managed | 25 acres | Swimming Pool & Playground | Potential site for year-round activities |
| 13 | Wilcox Hollow | Fishing and hiking | Northeast Utilities | 25 acres | Access to River and trail system; Links to Mahican-Mohawk Trail | Potential danger due to periodic flooding |
| 14 | Wells Forest | Off trail hiking | Owned and managed by the New England Forestry Foundation | 65 acres | No signs. | Potential for use as recreational/ educational area |
| 15 | Baptist Lot | Used as a playground and an area for flea markets and fairs | Owned and managed by the Trinity Church | 1 acre | A triangular, grassy area in Shelburne Falls | Potential for continued use for community events |
| 16 | Mahican-Mohawk Trail | Hiking | Maintained by Friends of Mohawk, Deerfield River Watershed Association, etc. | 100 miles long in all | Trail system that varies in its quality | Potential to enhance connectivity of open spaces and downtown with spur trails |

*: Based on the 1997 Community Survey
** DEM – Department of Environmental Management
*** DPW – Department of Public Works

## Recreational Resource Issues

The two most important issues regarding recreational resources for both Buckland and Shelburne are based on the expressed needs of the communities' residents for programming and facilities. A third issue, dealing with open spaces is included based partially on the Survey respondents' expressed appreciation for their favorite recreational resources (i.e. High Ledges) and because of the relative paucity of accessible recreational resources.

### *Funding for Operation and Maintenance Given Constraints to Town Budget*

Residents in both Buckland and Shelburne are concerned about the level of programming available to young people, whether it's after-school or during the winter and summer months. In Buckland and Shelburne, Survey respondents identified an increase in teen activities and programming as their top priority for new recreational services. The relative quantity and quality of youth recreational programming depends on many factors: location of facilities or area, safety

and security, funding for adult supervision in special circumstances, and access to recreational choices throughout the year.

Some of these programming needs may require a significant increase in town expenditures or community-based volunteerism. Acquiring new sports field facilities, a swimming pool, and a fitness center could require creative budgeting and fundraising. However, the realization of these facilities may be more likely if jointly developed and owned by both communities or, if developed by a fitness chain. Other programming needs could be satisfied through an expansion of the existing volunteer program in partnership with public agencies and private non-profit organizations, like Massachusetts Audubon Society. Improving and expanding relations with the state forests, private camps, and non-profit conservation organizations and helping to improve existing trail systems and facilities could add to the residents' recreational choices. However, in either case, the necessity for an accurate and thoughtful assessment of recreational resources is paramount to determining the most effective allocation of limited municipal funds or precious volunteer time by both communities.

## *Facilities for Recreational Uses*

### *Buckland*

Residents of both communities share a love and concern for the facilities that support a variety of recreational activities for young people and their families, as well as for residents of all ages. In Buckland this type of facility includes the Buckland Recreation Area and the Mohawk Trail Regional High School and Cricket Field. The Buckland Community Survey focused on the Buckland Recreation Area and 55% of respondents felt that the town should not privatize it while 45% said the town should. The two most popular types of improvements that residents would like to see at the Buckland Recreation Area are other kinds of facilities and more playing fields.

### *Shelburne*

Again, according to the Community Survey completed in 1997, 97% of the survey respondents felt that the funds allocated for recreational services including Cowell Gymnasium, Bridge of Flowers, and the military band, should stay the same or increase in the following year's budget. The priorities for recreational facilities the respondents would like to see in Shelburne include a swimming pool, hiking trails, and a fitness center.

## *Open Spaces for Recreational Uses*

Overall, 82% of Buckland survey respondents and 83% of Shelburne survey respondents felt that it was important to maintain and preserve open spaces for recreational needs. It appears that land protection for recreational needs is an activity that residents of both towns would support. According to the 1987 Buckland Open Space and Recreation Plan, the town of Buckland owns

21 of the 248 acres of recreational open space. Shelburne's Plan identifies 5 to 6 acres owned by the town with an additional 633.75 acres owned by others.

*The Question of Ownership*

Why is ownership an important factor to consider? From an access perspective, the ownership of the open spaces in each town is an important factor in determining whether the current and future recreational needs of the residents are being, or would be met. Also, the fields and forests that provide access to other important recreational resources, such as the Deerfield River or the High Ledges, provide added, albeit indirect, value to the residents. Some private landowners with non-profit status, like the New England Forestry Foundation and the Massachusetts Audubon Society, provide free access to their lands, though facilities that would enhance the visitor's experience may be non-existent. Other open spaces, the State forests, for example, provide access to the public and yet decisions to enhance the facilities on site may be difficult to influence.

Ownership of open space by the towns has advantages and disadvantages. One advantage is that the community has the ability to determine and enforce the policies regarding the uses of the land. The town can also more easily affect a change in the types of facilities present and the quality of facilities management. Disadvantages may include the additional costs in materials and amenities, and maintenance activities such as trash removal that come with the responsibility of ownership. The obvious disadvantage is that land prices for developable land are often very high and purchasing parcels that may be slated for development is a challenging prospect for towns with little practice in acquiring conservation land.

A compromise could be attained perhaps through the towns' residents working in association with a local or regional conservation land trust. In this manner, parcels of land that became available could receive the attention of both the municipality and a land trust. By working in partnership with non-profit land trusts, towns may be able to protect parcels of land with a greater degree of flexibility. For example, with lands enrolled in the Chapter 61 and 61A programs, which are put up for sale, the towns have 120 days to act on their right-of-first-refusal. Sometimes, non-profit land trusts can acquire the necessary funding for land or conservation easement purchases, using contacts with private donors, federal and state government agencies, and their membership, much faster than a town's residents could prepare for a Town Meeting vote. In this case, Buckland or Shelburne could transfer their right-of-first-refusal to a land trust. Then the land trust could purchase the parcel for themselves or, for later resale to the town. Reselling the land back to the town would only be appropriate if the town had an active open space acquisition program with the necessary backing of the community's residents. The ownership of open space by non-profit conservation organizations could provide Buckland and Shelburne with the public access they desire for their community members without the associated expenses of ownership. Finally, working in partnership with land trusts could allow local residents, as volunteers, access to the decision-making processes affecting facilities and trail maintenance and management.

*Open Space and Recreation Plan*

Towns are required to have current Open Space Plans (updated every five years) to be eligible for Self Help funding from the Massachusetts Executive Office of Environmental Affairs (EOEA). Both Buckland and Shelburne's Open Space Plans date back to 1987. The EOEA 's Open Space Planner's Workbook lists the requirements for an Open Space Plan. This Master Plan has completed the required components listed in the workbook within the Natural Resources and the Public Infrastructure and Municipal Services section, with the exception of a soils map and an analysis of "Landscape Character." These sections of the Master Plan can therefore, serve as a basis for the town Open Space Plans. This information can be used to identify high priority areas for land conservation efforts where landowners are interested in permanently protecting their land (see the Potential Wildlife Corridors on the Composite Environmental Assessment Map in Chapter 1). This step is very important given the recent adoption of the Open Space Bond bill, which provides $25 million in Self-Help funds for local land acquisition projects statewide. Additional funding sources may include the Enhancements Program of the Transportation Equity Act for the 21st Century (TEA-21) for projects relating to recreational and alternative transportation trail corridors, such as the Mahican-Mohawk Trail.

**Recommendations**

Consider Hiring a Half-time Department of Recreation Coordinator for each town.
It is clear from the Town of Buckland's 1997 Annual Report that the Recreation Department provides a significant amount of recreational value for a small percentage of the town's annual budget. The value appears to come from the volunteer coordination of residents and many sources of support. To test the commitment of these volunteers by asking them to provide even more services, including after school programs seems unrealistic. Hiring a half-time recreation coordinator may be the most reasonable alternative to requiring an extensive upgrading in the volunteerism capacity of a limited number of Buckland and Shelburne's residents.

Support the Renovation and the Development Efforts of Recreational Facilities
In Buckland and Shelburne, the two facilities that require the most attention for improvements are the Buckland Recreation Area and the Cowell Gymnasium. Both facilities are included in the joint Buckland and Shelburne Capital Improvement Program (CIP). The CIP identifies an expenditure of $50,000 in the year 2002 to fund land acquisition for the Buckland Recreation Area. It also shows $25,000 to be spent on a new water filter system for the pool. Between 1999 and the year 2001, Shelburne estimates that $950,000 will be needed for the renovation of the Cowell Gymnasium. The sources for funding for the Cowell Gymnasium are yet to be determined. Therefore, it is very important to educate residents about the process and effort needed to substantially improve these facilities.

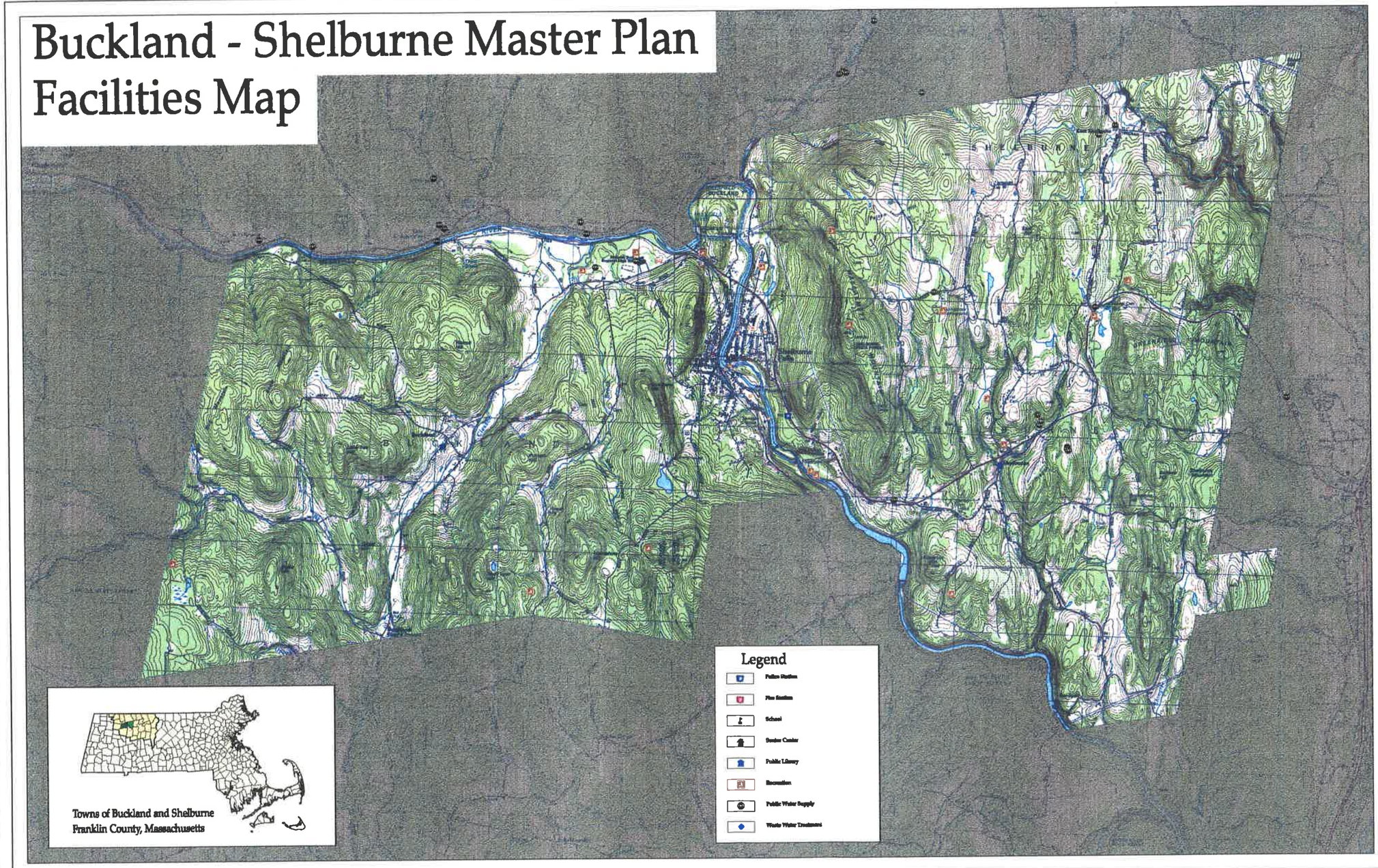
Support the Open Space and Recreation Program
Both towns should use the Natural Resources section of the Master Plan relating to open space protection as a basis for updating their Open Space Plans and encourage the continued and increased use and stewardship of town-wide open spaces. Towns with active open space related

recreation programs are more successful in receiving donations of land and easements from landowners. If willing landowners present the town acquisition opportunities, the Wildlife Corridor definitions on the Composite Environmental Constraints map can help to further define the significance of the parcel. A parcel-level analysis may at that time be appropriate. Finally, the Open Space and Recreation Plan would need to be updated every five years to keep abreast of the current funding opportunities through State Self-Help programs.

## Parking

Parking, particularly within the Shelburne Falls village, seems to be of concern to a number of the survey respondents from both Buckland and Shelburne. The FRCOG is conducting a parking study of the village. The study is discussed in the Transportation Resources section of this Master Plan (see Chapter 3).

# Buckland - Shelburne Master Plan
# Facilities Map




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

**Map Scale**

0 1/2 1 1 1/2
Scale in Miles

0 1,500 3,000 4,500 6,000 7,920
Scale in Feet

**Map Sources:**

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

This map is made from scanned images of the 7.5 minute United States Geological Survey (USGS) topographic maps for the area.

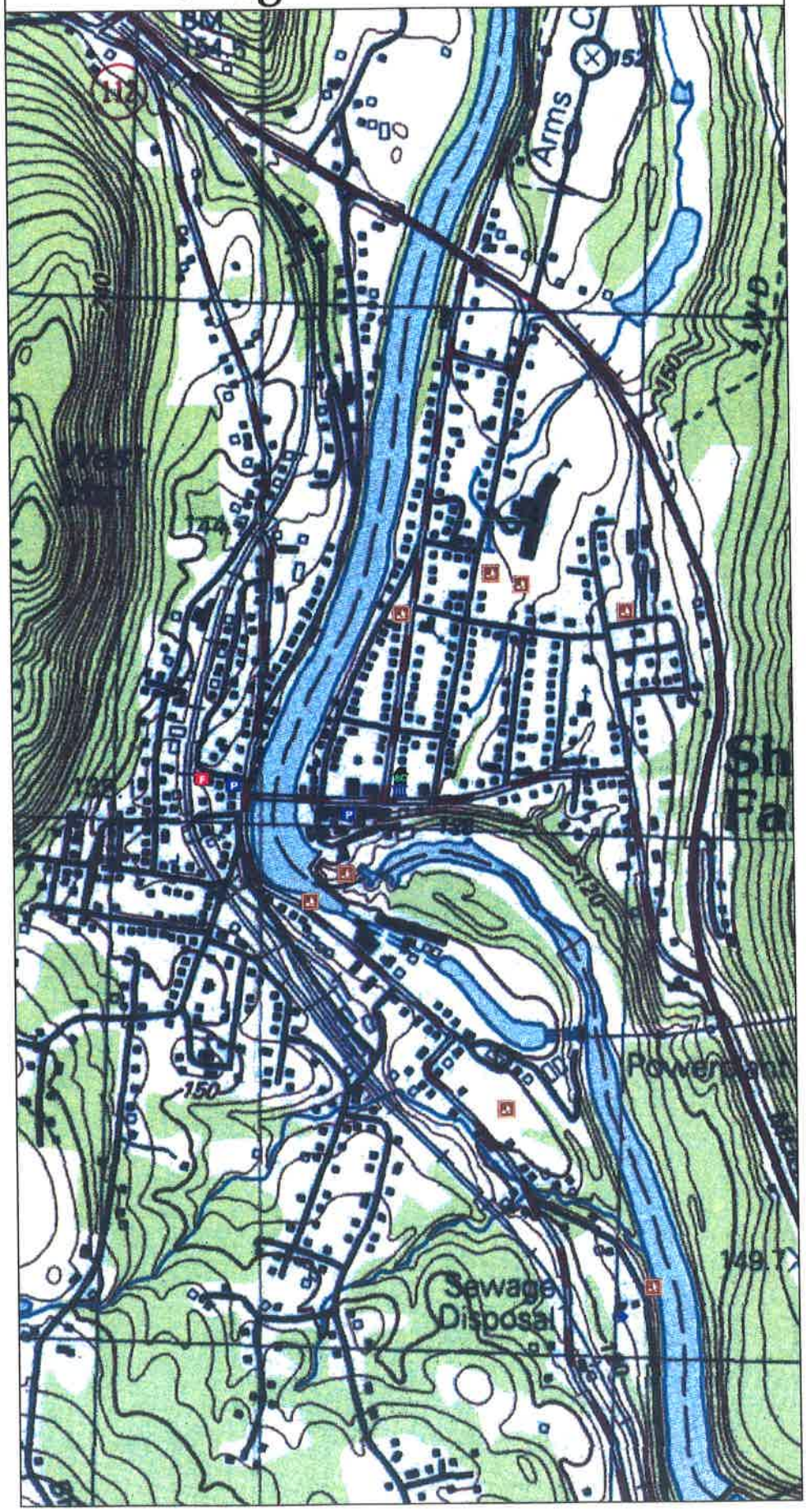
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

April 1999

NORTH

# Village of Shelburne Falls



CHAPTER 5

# CAPITAL IMPROVEMENT PROGRAM

The purpose of the Capital Improvement Program is to identify major planning, design, acquisition, renovation, and construction projects which are planned for the next five years so that they can be prioritized and coordinated. Capital Improvement Projects are large ticket items which are nonrecurring or very infrequent and do not include annual operation and maintenance items. Projects may be proposed by town departments, municipal boards, and other organizations such as the Shelburne Falls Area Business Association or the Shelburne Falls Fire District.

The Capital Improvement Program (CIP) is a useful planning tool to coordinate the many projects that are occurring in both communities and shared village center. This is particularly important for water, sewer and transportation projects. In addition, the Capital Improvement Program will help the towns anticipate funding needs in advance for important projects rather than react to emergencies. The Capital Improvement Program has been integrated into the Master Plan and a separate subcommittee of the Buckland-Shelburne Master Planning Committee was established to oversee its preparation.

## Process for Creating the Capital Improvement Program

To create the Capital Improvement Program, a survey was sent out to all municipal departments, boards, and committees as well as other organizations that would potentially have Capital Improvement Projects such as the Shelburne Falls Area Business Association. Each was requested to fill out the forms shown on the following pages to identify Capital Improvement Projects anticipated over the next five years. The forms returned were then compiled and the results are contained in Figures 5-1 and 5-2. There is a composite CIP listing all projects and one for each town. For purposes of this survey, a Capital Improvement Project was defined as:

- Any acquisition of land for a public purpose (open space, aquifer recharge area, public drinking water supply, recreation area, public building site);
- Any construction of a new facility (e.g., a public building, water lines, playfield, etc.) or an addition to, or extension, of an existing facility;
- A nonrecurring rehabilitation (i.e., something which is infrequent and would not be considered annual or recurring maintenance) or major repair of a building, its grounds or related equipment provided that the cost is $25,000 or more and the improvement will have a useful life of 10 years or more;
- Purchase of major equipment (i.e., items with a cost, individually or in total, of $5,000 or more which have a useful life of five years or more); and
- Any planning, feasibility, engineering or design study related to an individual Capital Improvement Project or Program.

## Figure 5-1: CIP Project Summary Form

**BUCKLAND/SHELBURNE CAPITAL IMPROVEMENT PROGRAM**
**FORM 1**
**PROJECT SUMMARY & DESCRIPTION**

**Project Title:** _____

**Department/Municipal Board/Organization:** _____

**Contact Person:** _____

**Phone #:** _____ **Date Prepared:** _____

**Project Description:** (*please provide basic information about the project such as location, size, acreage, floor area, capacity, equipment type, etc.)*

_____

_____

**Please describe the primary objective(s) or purpose(s) of the project:** (*Examples: to reconstruct deteriorating roads in town; to protect public drinking water supplies; to renovate an important public building; to permanently protect open space for public use; etc.)*

_____

_____

**Please identify the primary benefits of the proposed project:** *(Examples: improved public safety; reduction in operating & maintenance costs; resource conservation; expanded or improved facility, etc.)*

_____

_____

**Please identify the project schedule, including any work already completed, and the fiscal year (July 1 - June 30) or years the project will take to complete:** *(Example: Planning Study Completed - FY97; Design of project and preparation of Plans, Specifications & Estimates - FY98; Construction - FY99)*

_____

_____

**Please identify whether the project is dependent upon or linked to another project or funding source and if so, identify the other project(s) or funding source and its relationship to this project:** *(Examples: road reconstruction and associated sewer line replacement should be coordinated to occur at the same time; project is dependent on grant funding which is only available in the next fiscal year; etc.)*

_____

_____

**Please note priority of project, total cost and basis of cost estimate:** *(Explanation: Your department/board/organization has six Capital Improvement Projects. Prioritize them and list whether they are 1 of 6, 2 of 6, etc. on each project summary)*

*Project Priority:* ___ *of* ___ *Total Cost:* _____

*Basis of Cost Estimate (circle one):* (1) Cost of Comparable Facility/Equipment/Land; (2) Cost Estimate from Engineer, Architect or Appraiser; (3) Cost from Bids Received; (4) Preliminary estimate based on Unit Costs; or (5) Best Guesstimate.

**Figure 5-2: CIP Program Summary Form**

**FORM 2**
**PROGRAM SUMMARY OF PROJECTS & FUNDING**

**Department/Municipal Board/Organization:**_____

**Contact Person:**_____

**Phone #:**_____ **Date Prepared:** _____

**For each project identify title, priority, cost and cost elements (please use the following codes: Planning/Design - P/D, Site Acquisition - SA, Site Improvement - SI, Construction - C, Purchase of Equipment - E, and Other - O), and total cost.**
*(Example: Project Title* - Main Street Road Reconstruction, *Project Priority* - 1, *FY98 Cost* - $50,000 P/D, *FY99 Cost* - $500,000 C, *Total Cost* - $550,000)

| Project Title | Project Priority | FY98 Cost | FY99 Cost | FY00 Cost | FY01 Cost | FY02 Cost | Total |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Overall, 80 projects were submitted totaling approximately $17 million (see Tables 5-1, 5-2 and 5-3). The largest capital expenditures are related to school, road, water and sewer projects. For Buckland, the capping of their landfill is also a significant expenditure, $1.3 million. However, the cost is being spread out over a 20-year period given a 0% loan obtained from the state. After each project potential funding sources are identified. A description of key funding sources and the probability of obtaining them is included at the end of this section. This will allow Buckland and Shelburne to assess the staff capacity needed to pursue and administer grant funding. Additional funding sources can be found in Appendix V. The next step will be for each community to prioritize their projects. This can be accomplished by evaluating projects according to specific criteria. Some of the commonly used criteria for evaluating and prioritizing projects are listed below.

BUCKLAND - SHELBURNE CAPITAL IMPROVEMENT PROGRAM

| Project ID# | | Project Title | FY98 Amount | Type | Funding Source | Linkage | FY99 Amount | Type | Funding Source | Linkage | FY00 Amount | Type | Funding Source | Linkage | FY01 Amount | Type | Funding Source | Linkage | FY02 Amount | Type | Funding Source | Linkage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Community Services | | | | | | | | | | | | | | | | | | | | | | |
| B | 1 | Landfill Closure** | $65,000 | C | State Loan | | $65,000 | C | State Loan | | $65,000 | C | State Loan | | $65,000 | C | State Loan | | $65,000 | C | State Loan | |
| B | 2 | Town Hall Renovation | | | | | $50,000 | P/D | Town/CDBG | | $750,000 | C | Town/MPPF | | | | | | | | | |
| B | 3 | Buckland Library Chimney | | | | | $1,000 | C | Town or State BLC | | | | | | | | | | | | | |
| B | 4 | Buckland Library Roof | | | | | $1,200 | C | Town or State BLC | | | | | | | | | | | | | |
| B | 5 | Buckland Library Electrical System | | | | | | | | | $1,500 | C | Town | | | | | | | | | |
| B | 6 | Buckland Library Well Drilling | $5,000 | C | Town | | | | | | | | | | | | | | | | | |
| B | 7 | Buckland Library Handicap Access | | | | | $25,000 | C | CDBG/State BLC | | | | | | | | | | | | | |
| B | 8 | Buckland Library Parking | | | | | $40,000 | C | Town | | | | | | | | | | | | | |
| B | 9 | Buckland Library Addition | | | | | $25,000 | P/D | State BLC | | $250,000 | C | State BLC | | | | | | | | | |
| B | 10 | Town Garage | | | | | $50,000 | P/D/SA | Town | | $300,000 | C | Town | | | | | | | | | |
| B | 11 | Transfer Station | | | | | $15,000 | P/D/SA | Town | | $115,000 | C | Town | | | | | | | | | |
| S | 12 | Shelburne Computer Upgrade & Shelving | | | | | | | | | $5,000 | E | Town | | | | | | | | | |
| S | 13 | Arms Library Accessibility & Renovation | | | | | $500,000 | C | State BLC | | | | | | | | | | | | | |
| S | 14 | Senior/Community Center | $2,500 | P | | | $25,000 | D/SA | State Grant | | $250,000 | C | State Grant | | | | | | | | | |
| S | 15 | SHA Elderly Housing Parking | | | DHCD | | $20,000 | C | DHCD | | | | | | | | | | | | | |
| S | 16 | SHA Elderly Congregate Housing | TBD | SA | DHCD | | $100,000 | P/D | DHCD | | $1,000,000 | C | DHCD | | | | | | | | | |
| S | 17 | SHA Re-Roof All Buildings | | | | | $20,000 | C | DHCD | | | | | | | | | | | | | |
| S | 18 | Parking Lot for Community Center | TBD | SA | | | $30,000 | C | Town | | | | | | | | | | | | | |
| S | 19 | Arms Academy Parking Lot | | | | | | | | | | | | | $40,000 | C | ? | | | | | |
| Infrastructure & Equipment | | | | | | | | | | | | | | | | | | | | | | |
| B | 20 | Highway Equipment - Dump Truck & Backhoe | | | | | $100,000 | E | Town | | | | | | | | | | | | | |
| B | 21 | East Buckland Rd. | | | | | $150,000 | C | Ch. 90 | | | | | | | | | | | | | |
| B | 22 | Hog Hollow Rd. | | | | | | | | | $100,000 | C | Ch. 90 | | | | | | | | | |
| B | 23 | Rand Rd. | | | | | | | | | $100,000 | C | Ch. 90 | | | | | | | | | |
| B | 24 | Crittenden Hill Rd. | | | | | | | | | $30,000 | C | Ch. 90 | | | | | | | | | |
| B | 25 | Cemetery Rd. | | | | | | | | | $50,000 | C | Ch. 90 | | | | | | | | | |
| B | 26 | Avery Rd. | | | | | | | | | | | | | $100,000 | C | Ch. 90 | | | | | |
| B | 27 | Shepard Rd. | | | | | | | | | | | | | $50,000 | C | Ch. 90 | | | | | |
| B | 28 | Bray Rd. | | | | | | | | | | | | | $60,000 | C | Ch. 90 | | | | | |
| B | 29 | Clesson Brook Rd. | | | | | | | | | | | | | $150,000 | C | Ch. 90 | | | | | |
| B | 30 | Stone Rd. | | | | | | | | | | | | | $50,000 | C | Ch. 90 | | | | | |
| B | 31 | Goodnow Rd. | | | | | | | | | | | | | $20,000 | C | Ch. 90 | | | | | |
| B | 32 | Sewer Main Replacement - 2,533 l.f. Total (Green, Prospect, Clement, Sears & Williams Streets) | $40,000 | P/D | CDBG - Small Cities | | $334,785 | C | CDBG - Small Cities | | | | | | | | | | | | | |
| S | 33 | Highway Equipment - Truck & Plow | | | | | $37,000 | E | Town | | | | | | | | | | | | | |
| S | 34 | Highway Equipment - Dump Truck | | | | | $15,000 | E | Town | | | | | | | | | | | | | |
| S | 35 | Colrain-Shelburne Rd. | $1,166,000 | C | TIP/NFA | | | | | | | | | | | | | | | | | |
| S | 36 | Retaining Wall - Brook Rd. | $40,000 | C | Ch. 90 | | | | | | | | | | | | | | | | | |
| S | 37 | Bridge Street Sidewalk Recon. Near United Bank | $5,000 | P/D | Ch. 90 | S38 | $30,000 | C | Ch. 90 | | | | | | | | | | | | | |
| S | 38 | Bridge Street Reconst. w/ Drainage | $400,000 | C | PWED | S37/S39 | | | | | | | | | | | | | | | | |
| S | 39 | Completion of Deerfield Avenue | $300,000 | C | PWED | S38 | | | | | | | | | | | | | | | | |
| S | 40 | Highway Equipment - Dump Truck | | | | | | | | | | | | | $65,000 | E | Town | | | | | |
| S | 41 | Mechanic St./Route 2 Intersection | | | | | TBD | C | NFA | | | | | | | | | | | | | |
| S | 42 | North River Road Bridge | | | | | TBD | C | NFA | | | | | | | | | | | | | |
| S | 43 | Church St. Drainage & Reconstruction | TBD | C | Ch. 90 | | | | | | | | | | | | | | | | | |
| S | 44 | Bridge on Colrain Brook Road | | | | | TBD | C | NFA | | | | | | | | | | | | | |
| S | 45 | Bridge on Bardswell Ferry Road near Basset Rd. | | | | | TBD | C | NFA | | | | | | | | | | | | | |
| S | 46 | Zerah Fiske Rd. (Old Greenfield Rd. to South Rd.) | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 47 | Anderson Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 48 | Barnard Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 49 | Tower Rd. (Campground to Davenport Farm) | TBD | C | Ch. 90 | | | | | | | | | | | | | | | | | |
| S | 50 | Reynolds Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 51 | Wilson Graves Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 52 | Brook Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 53 | Patten Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 54 | Old Greenfield Rd. | TBD | C | Ch. 90 | | | | | | | | | | | | | | | | | |
| S | 55 | Carpenter Rd. | | | | | TBD | C | Ch. 90 | | | | | | | | | | | | | |
| S | 56 | Bardswell Ferry Rd. Reconstruction | | | | | | | | | TBD | C | Ch. 90 | | | | | | | | | |
| S | 57 | Shelburne Wellfield Study | $15,000 | P/D | Town/State Grant | | $15,000 | P/D | Town/State Grant | | | | | | | | | | | | | |
| S | 58 | Sewer Main Replacement - 3,635 l.f. Total on Water, Church, High, Mechanic & Severance Streets | $55,000 | P/D | CDBG - Small Cities | | $477,840 | C | CDBG - Small Cities | | | | | | | | | | | | | |
| SF | 59 | Green Street 300' Water Main Replacement (Sears St. intersection west to Pomeroy Terrace) | $4,000 | C | SF Water District | | | | | | | | | | | | | | | | | |
| SF | 60 | State Street Water Main Replacement* (Bridge of Flowers to New Fire Station) | | | | | $100,000 | C | SF Water District | | | | | | | | | | | | | |
| B | 61 | Conway to Depot Street - Stairway, Parking & Landscaping | | | | | | | | | $50,000 | P/D | TEA21 Enhancements | | $100,000 | C | PWED/TEA21 Enhancements | | | | | |
| B | 62 | Conway & State St. Utility Pole Relocation | | | | | $150,000 | C | Utility | | | | | | | | | | | | | |
| Public Safety | | | | | | | | | | | | | | | | | | | | | | |
| B | 63 | Police Cruiser | | | Town | | | | | | $30,000 | E | | | | | | | | | | |
| BS | 64 | Emergency Services Building for Fire & EMT | | | Town/State Grant | | $25,000 | P/D | Towns/ State Grant | | $50,000 | SA | Towns | | $1,000,000 | C | Towns/ State Grant | | | | | |
| Culture & Recreation | | | | | | | | | | | | | | | | | | | | | | |
| S | 65 | Street Tree Project | $5,000 | P/D | Town/Mass Releaf/TEA2 | | $5,000 | C | Town/Mass Releaf/TEA | | $5,000 | C | Town/Mass Releaf/TEA | | $5,000 | C | Town/Mass Releaf/TEA | | $5,000 | C | Town/Mass Releaf/TEA2 | |
| S | 66 | Deerfield Ave. to Mahican-Mohawk Pedestrian Trail | | | | | $80,000 | D/SA/C | TEA21 Enhancements | | | | | | | | | | | | | |
| S | 67 | State St. Arborway & Arms Cemetery to High Ledges Pedestrian Trail | | | | | | | | | $25,000 | P/D/ | TEA21 Enhancements/ Mass Audubon | | $100,000 | C | TEA21 Enhancements/ Mass Audubon | | $50,000 | SA | Town/Open Space Bond | |
| B | 68 | Land Acquisition for Buckland Recreation Area | | | | | | | | | $25,000 | E | Town | | | | | | | | | |
| B | 69 | Buckland Recreation Pool Water Filter Sys. | | | | | | | | | $500,000 | C | TBD | | $400,000 | C | TBD | | | | | |
| S | 70 | Cowell Gymnasium Renovation | | | | | $50,000 | P/D | | | | | | | | | | | | | | |
| S | 71 | Art Bank Elevator | $18,000 | P/D | SF Partnership | | $100,000 | C | TBD | | | | | | $250,000 | C | State Bond | | | | | |
| S | 72 | Memorial Hall Theater - Electrical/ Acoustics/Seating/Insulation | | | | | | | | | | | | | | | | | | | | |

## Criteria for Prioritizing CIP Projects

- Risk to Public Health or Safety - Projects must address a clear and immediate safety or public health risk.

- Deteriorated Facility - An investment to reconstruct, rehabilitate or replace a deteriorated facility or equipment. This "deferred maintenance approach" provides for replacement of equipment or a facility only when it is worn out. This approach is the opposite of Systematic Replacement (see below).

- Systematic Replacement - An investment that replaces or upgrades a deteriorated facility or equipment as part of a systematic replacement program. Assumes the equipment or facility will be replaced at approximately the same level of service although some increase in size to allow for normal growth is included.

- Improvement in Operating Efficiency - An investment that substantially improves the operating efficiency of a department or reduces operating expenses.

- Coordination - An expenditure necessary to coordinate with another CIP project (e.g. a sewer or water main replacement with a road reconstruction project) or to comply with the requirements of a court order or changing federal or state regulations.

- Protection and Conservation of Resources - An investment in a project that protects natural resources at risk or restores impaired resources.

- New or Substantially Expanded Facility - An investment in the construction or acquisition of a new facility.

- Fiscal Impact - The projected fiscal impact (positive, neutral or negative) expected to be generated by a project.

- Equitable provision of services - An investment that serves the special needs of a segment of the population deserving special attention (e.g. elderly, disabled, low and moderate income persons).

Capital expenditures which would benefit from close coordination are water and sewer infrastructure and road construction projects. Road repair projects can be negatively impacted by the replacement of water and sewer mains. This is particularly challenging as all three are funded by different sources and are managed separately. Road projects are undertaken by the towns typically using Chapter 90 funds. Water and sewer projects are completed by special purpose districts established to build, operate, and maintain those public services within the village center. The Shelburne Falls Fire District (the "Fire District") provides water to 783 households and serves a population of approximately 2,200. The water distribution system was initially constructed in 1911

**The Massachusetts Preservation Projects Fund (MPPF)** has recently been reconstituted by the state and may be used for rehabilitation, restoration and general preservation projects for buildings and structures on the National Register in public or non-profit ownership. Municipalities and non-profits can apply for pre-development funds of between $5,000 and $30,000 for studies such as the preparation of architectural plans and specifications, historic structure reports, or archeological investigations. Development funds of between $7,500 and $150,000 are available for general construction, building code compliance, and barrier free access. Acquisition funds are available for State Register Properties that are imminently threatened with inappropriate alteration or destruction. This is a 50% matching grant program. Funding from this program has been successfully used for restoration of stained glass windows in a public library, slate roof repair of a town building, rehabilitation of a town-owned barn, and restoration of an historic town hall. The state also offers a 50% matching Survey and Planning Grant that can be used for placing eligible properties on the National Register or for local education initiatives. Both of these programs are highly competitive.

**The Enhancements Program** of the **Intermodal Surface Transportation Efficiency Act (ISTEA)**, and the **Transportation Equity Act for the 21st Century (TEA-21)**, its newly reauthorized version, is administered through the regional planning commissions. Under this program federal and state funding has been provided to historic preservation projects that are transportation-related. It too is a matching program, but the town's share is 10% of the total project cost. This program is moderately competitive and currently gives higher priority to construction and implementation projects. Grant amounts typically range from $50,000 to $150,000. Funding can be used for scenic easements, streetscapes, pedestrian trails, bikeways, and restoration of historic transportation structures among other items.

**The Community Development Block Grant** (CDBG) program funds a wide range of public facilities and infrastructure such as replacement of water and sewer lines. The maximum amount for a single municipal applicant is $750,000 for one infrastructure or public facilities project as long as it can be completed within a 14-month grant cycle. CDBG funds can also be used to fund housing rehabilitation through weatherization and code compliance for income-eligible communities and for low-to-moderate income property owners. Other eligible activities include façade improvements and handicap accessibility. This program is competitive and success depends on the ability of the project to benefit low and moderate income populations, address serious threats to public health or safety, or to eliminate blight.

**Public Works Economic Development** is a grant program which funds the design, construction or reconstruction of roads, streets bridges, curbing, sidewalks, lighting systems, traffic control, drainage systems associated with municipal economic development activities. The maximum grant amount is typically $1 million and is highly competitive.

**Community Development Action Grant (CDAG)** funds economic development projects on publicly owned or managed property including work on buildings, streets, sidewalks, rail spurs, utility distribution systems, water and sewer lines, parks, site preparation and improvements and demolition of existing structures. CDAG funding is limited to 50% of the total project cost and the

applicant must demonstrate a matching financial commitment from public and private sources. Grant amounts are variable (typically in excess of $100,000) and are highly competitive.

**The Massachusetts Board of Library Commissioners** administers state and federal grant programs for libraries. The FY2000 grant round funded a variety of different activities including upgrades for computer hardware and software. To be eligible for these grants, an applicant must be a member of a regional library system and have an approved long-range plan on file with the Massachusetts Board of Library Commissioners that meet their requirements. The closing date for the FY 2000 grant round was December 17, 1998. Future years grant round information can be obtained from Sandy Souza, Grants Manager (617-267-9400).

**SELF-HELP Program** provides reimbursement for the purchase of conservation or passive recreation land. Reimbursement ranges from 52-70% of the costs based on the community's equalized valuation per capita decile rank.

This concludes the CIP section. Specific projects have been incorporated into the recommendations of other sections. As mentioned previously, the next step is for the towns to prioritize projects and assess staff capacity for writing and administering grants. The towns may wish to pool resources with the Shelburne Falls Area Business Association to maintain staff capacity for writing and administering grants and overseeing projects.

# CHAPTER 6

# ECONOMIC DEVELOPMENT

Buckland and Shelburne share the Deerfield River, a valley, and a village business center. Its center, Shelburne Falls is an eclectic blend of new and well-established businesses that offer a variety of products and services for residents of Buckland and Shelburne, West County communities, and also for tourists. The quality of life for residents, and one of the reasons people have come to live here depends in part on the communities' economic and financial well being. The economic state of the community affects the quality of municipal services, from education to the infrastructure that residents use every day. The health of the local economy ultimately affects basic services from water and sewer to roads. It also impacts property taxes, the availability of local jobs and the quality of the services that local businesses provide.

Shelburne Falls represents an economic center for surrounding towns in Western Franklin County. Financial services are provided by two savings banks with a long history of community service (Greenfield Savings Bank and United Bank). A hardware store, grocery store, clothing, pharmacy, and specialty food stores make Shelburne Falls the destination point satisfying many of the needs of the region's residents. Also, its proximity to Route 2, and unique attractions including the Bridge of Flowers, Glacial Pot Holes, and the various arts and crafts shops and restaurants have established Shelburne Falls as a recreational and leisure time destination for many Western Massachusetts residents as well.

From an industrial development perspective, Route 2 linking to Interstate 91, and a railway provide a well-connected transportation system that industry may find attractive. There are two main railways in Franklin County owned and maintained by the Guilford Rail System (GRS). The north-south Connecticut River Main line serves mostly manufacturers and businesses that sell bulk items like wood and plastic materials in Franklin County. There is an east-west line also run by GRS called the Freight Main. This rail line serves companies in Erving, Greenfield, and Millers Falls. Attracting new businesses to the region may be more possible by supporting GRS to maintain and improve those lines in need of particular upkeep. The manufacturing industries are the main supporter of the rail lines.

Buckland and Shelburne residents feel that there are problems and issues that need to be addressed through specific economic development initiatives. Overall, 78% of the Community Survey respondents felt that Shelburne is faced with significant problems including tax increases, lack of job opportunities, and a sluggish economy. In Buckland, 90% of respondents considered economic development to be either very important or, important to the town's future.

There were general feelings amongst respondents from both communities that economic development would be a good initiative if, it supported particular types of businesses that are compatible with the environment and the character of the towns. The majority of Buckland respondents preferred to promote commercial and retail development by pursuing new commercial development and by supporting

existing retailers to continue to reside in the area through the use of tax incentives. Also, new businesses should be supported to locate in existing vacant buildings, in the Shelburne Falls Village Center.

Any economic development plan should utilize the ideas of the local economic agencies. In this case, the Shelburne Falls Area Business Association has been consulted. They were able to offer an inside perspective on the economic strengths, liabilities, and opportunities of the Shelburne Falls Area. The following section will include the main goal and supporting strategies, community demographics, composition of the local economy, community characteristics and assets, and recommendations.

Based on Buckland and Shelburne's community surveys that were completed in 1996 and 1997, respectively, each town's Master Planning Committee prepared a document describing their goals and objectives for the Master Plan. The goals and strategies below were compiled from the economic development sections from both towns as well as those sections that are indirectly related to development including transportation and town services.

## Goal

- To support and promote businesses and industrial development which will maintain existing jobs and provide new employment opportunities, which are compatible with Buckland and Shelburne's environment and historic character, and which have minimal impacts upon existing agricultural land.

## Strategies

- Encourage the development of local businesses which can be integrated into the community without adverse environmental impacts including agricultural operations (farming, specialty food products, aquaculture, nurseries), forestry, home based businesses, restaurants, retailers selling local products and produce, artisans, and professional offices.

- Encourage the redevelopment of existing buildings for economic growth including the reuse of underutilized farm buildings and vacant industrial buildings.

- Encourage new commercial and light industrial development in the Shelburne Falls village center and in the Route 112 industrially zoned district in Shelburne, north of Arms Cemetery. At the same time, maintain surrounding areas as agricultural land and open space to maintain both towns' rural character.

- Support existing commercial and industrial businesses in the Shelburne Falls village center. Explore the effectiveness of offering tax and other types of incentives as a method of supporting business retention and expansion.

- Encourage a mix of businesses in the Shelburne Falls village center district, which provide services and products for both residents and tourists.

- Support retailers that sell local produce and products.

## Demographics

Understanding the economic well being of a community must be approached within the context of the whole community, beginning with its inhabitants. The numbers of people in each community is especially important from a labor force perspective. Economic development implies an expansion of production, employment, and annual payroll. However, for a business to expand, it usually means that additional people will need to be hired. Having those additional people in the region and in the towns is an important consideration for a prospective business or enterprise.

**Table 6-1: Current Population for Buckland and Shelburne**

| Current Population | |
|---|---|
| **Buckland** | **Shelburne** |
| 1,943 | 2,027 |

Source: U.S. Bureau of the Census Subcounty Estimates

First of all, the number of residents in each of the towns is almost equal (see table 6-1). However, the number of residents alone does not tell us much. How has the population, or the number of people living in each community, changed in the past twenty years, and how is it projected to increase, and at what rate compared to the County? The answers to these questions are important because they may forecast increasing development. If the number of residents in Buckland and Shelburne is increasing, there will be a greater demand for municipal services including road maintenance, police, fire, water and sewer, and especially schools.

**Table 6-2: Population Growth and Projections 1970-2010**

| | Population Growth, 1970-1990 (# of People) | Percent Growth, 1970-1990 | Population Growth Projections, 1990-2010 (# of People) | Percent Change, 1990-2010 |
|---|---|---|---|---|
| **U.S.** | 46,101,446 | **+22.7%** | | |
| **Massachusetts** | 329,150 | **+5.8%** | 704,179 | **+11.70%** |
| **Franklin County** | 10,882 | **+18.4%** | 8,098 | **+11.60%** |
| **Buckland** | 36 | **+1.9%** | 250 | **+13.00%** |
| **Shelburne** | 176 | **+9.6%** | 95 | **+4.70%** |

Sources: 1970-1990 data from Census of Population, Projection data from the Massachusetts Institute of Social and Economic Research (M.I.S.E.R.)

Between 1970 and 1990, Franklin County saw a significant increase in population at a rate less than the United States average but, over three times that of the rate of growth in the whole State of Massachusetts. Within the County, Shelburne's population rose by almost 10%, while Buckland grew by less than 2% (see Table 6-2). Compare these figures with the projections for the year 2010.

Buckland, according to M.I.S.E.R., will see a 13% increase in population, well beyond Shelburne's increase of 4.7%.

**Table 6-3: Number of People by Age Cohort Between 1990 and 1995 in Massachusetts, Franklin County, Buckland and Shelburne**

| | Massachusetts | | Franklin County | | Buckland | | Shelburne | |
|---|---|---|---|---|---|---|---|---|
| Age Cohort | 1990 | 1995 | 1990 | 1995 | 1990 | 1995 | 1990 | 1995 |
| 0-19 years | 1,475,100 | 1,586,312 | 19,015 | 19,177 | 558 | 514 | 469 | 521 |
| 20-44 years | 2,533,456 | 2,526,368 | 28,556 | 26,719 | 737 | 719 | 764 | 674 |
| 45-64 years | 1,115,150 | 1,233,156 | 12,348 | 14,901 | 388 | 463 | 363 | 410 |
| 65+ years | 819,284 | 826,058 | 10,173 | 10,095 | 245 | 252 | 374 | 286 |

Source: Massachusetts Institute of Social and Economic Research (M.I.S.E.R.)

According to Table 6-3, Massachusetts has gotten both younger and older between 1990 and 1995. There were more people 0-19 years old, fewer people 20-44 years old, and more residents in the 45-65+ cohorts between 1990 and 1995. Franklin County, as a whole, had a very similar track record except for its elder numbers, which decreased. Buckland and Shelburne didn't follow these trends. Buckland's population aged, with more people in the two higher cohorts and less in both the younger ones. Shelburne's population in the 0-19 and the 45-64 years old cohorts increased by 11%, and 13%, respectively. An increase in the 0-19 years old cohort may mean an increase in educational costs thus translating into a rise in property taxes for Shelburne residents.

The data in Table 6-3 also points to a trend that relates to the labor force of both towns. Buckland's work force is getting older without equal numbers of younger workers. Shelburne's labor force appears to be growing. In the short-term Shelburne's labor force is older and, beyond 5-10 years, it appears that the 20-44 years old cohort will see an increase in numbers. Viewing the residents of both Buckland and Shelburne as being part of the labor force is important in understanding the local economy. If there are more people in Buckland and Shelburne that are able to work, local and incoming businesses are more likely to be able to hire local employees as they expand.

**Table 6-4: Mean Household Income, Per Capita Income, and Percentage Below Poverty Level in 1990 for both towns compared to State**

| Income Statistics for 1990 | | | |
|---|---|---|---|
| | Shelburne | Buckland | Massachusetts |
| Median Household Income | $27,639 | $32,663 | $36,950 |
| Per Capita Income | $13,378 | $14,508 | $17,230 |
| Percentage Below Poverty Level | 11.90% | 4.90% | 8.90% |

Source: http://www.state.ma.us/dhed/iprofile

The figures in Table 6-4 illustrate the financial position of households in both towns. Buckland and Shelburne households earn less income than the State average. Shelburne households earn only 74% of the State's median household income figure of $36,950. Also, the percentage of households earning

income below the poverty level is 11.9 %, or 34% higher than the average for all Massachusetts households. Buckland's figures are also below the State's figures for median household income (88% of the State's figure) but the percentage of households earning income below the poverty level is roughly half of the State's figure. The differences in these figures for each town may be explained by several factors, the most likely of which may be that Shelburne has a greater percentage of rental units compared to all types, 36%, compared to 23% for Buckland (see Chapter 7 - Housing). The 1990 Census identified apartments with one person as a household. Therefore, Shelburne's median household income would be considerable less than Buckland's as described in Table 6-4 above. Also, the fact that the difference in the median household incomes of both towns is much greater than the per capita income figures supports this as well. Per capita income is equal to the total income earned by a group of people, say all of Shelburne's residents divided by the total number of men, women, and children in Shelburne. This slight difference in per capita income between the two towns may be explained by the fact that Buckland households have on average more people per household.

**Table 6-5: Educational Attainment for Adults as Compared to the State in 1990**

| | Highest Level of Educational Attainment for Adults | |
|---|---|---|
| | **High School Diploma or Higher** | **Bachelors Degree or Higher** |
| **Buckland** | 86.4% | 22.7% |
| **Shelburne** | 82.0% | 21.8% |
| **Massachusetts** | 80.0% | 27.2% |

Source: 1990 Census

Another factor that describes a community's population is its educational attainment. From a business owner's perspective it demonstrates the ability of a community to provide labor and expertise to an incoming venture. It could be a factor in the decision of a company to relocate to Buckland or Shelburne. For both towns, the percentage of residents that have a high school diploma or higher are greater than the Massachusetts' figure of 80%. However, there are fewer residents in both towns that have a Bachelors Degree or higher than the State average.

In summary, the demographic data above describes the following trends. Between 1970 and 1990, as the population increased in Franklin County by nearly 20%, Buckland saw a relatively slow increase of roughly 2% while Shelburne's numbers grew almost 10%. Between 1990 and the year 2010, Buckland's population is expected to swell by 13%, higher than the growth rate expected for the County. During the same time period, Shelburne's population increase will be less but still significant at almost 5%.

The population shifts that occurred between 1990 and 1995 show that in Franklin County, and in Shelburne, the number of school aged children increased, and the number of elders decreased significantly. Yet in Buckland, the trend was reversed.

The financial well being of residents in both communities, as described by the median household income and per capita income, is on average less than for the State as a whole. However, Shelburne's figures are much less than Buckland's. Finally, there is a higher percentage of households below the poverty line in Shelburne, and less in Buckland, compared to the percentage of Massachusetts households.

Lastly, in terms of the educational level attained by residents of Buckland and Shelburne, there are more people in each town that have at least a high school diploma than for the State average. But, both towns have a lower percentage of residents with a college degree or higher. This may be caused by a lack of high technology or professional firms in the area, or the region for that matter (compared to the State as a whole).

**Labor Force Statistics**

Labor force information focuses not on the persons hired by local employers but on the residents themselves, no matter where they work. Table 6-6 shows that the number of residents of Buckland and Shelburne who are employed increased by over 5%. The table also shows that the unemployment rate for both Buckland and Shelburne residents declined from 7.3% to 4.8% between 1992 and 1997.

**Table 6-6: Labor Force Employment and Unemployment Rate in the Local Economy of Buckland and Shelburne 1992-1997**

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1992-1997 Change | % Change |
|---|---|---|---|---|---|---|---|---|
| **Number of People in the Labor Force and Employed** | 1,958 | 1,989 | 2,072 | 2,031 | 2,034 | 2,066 | +108 | +5.52% |
| **Unemployment Rate** | 7.3% | 5.9% | 5.0% | 5.1% | 4.1% | 4.8% | N/A | N/A |

Source: Division of Employment and Training (Local Area Unemployment Statistics)

Table 6-7 shows that in Shelburne, the percentage of all residents who worked at home or walked to work was nearly twice the County average. This might be seen as indicative of the local labor force living and working in Shelburne Falls. Buckland's mean travel time to work is higher than the County average but, not by much.

**Table 6-7: Work Related Transportation Statistics for Buckland, Shelburne and Franklin County in 1990**

| | Buckland | Shelburne | Franklin County |
|---|---|---|---|
| **# of Workers over 16** | 1,015 | 979 | 34,674 |
| **% Who Drove Alone** | 76.7% | 71.2% | 76.5 |
| **% in Carpools** | 12.7% | 10.2% | 11 |
| **% Walked or Worked at Home** | 9.9% | 17.9% | 10 |
| **Mean Travel Time to Work** | 21.2 | 19.7 | 19.7 |

Source: 1994 Update Franklin County Long Range Regional Transportation Plan

## The Local Economy & Employment Sectors

Buckland and Shelburne share an economy centered in Shelburne Falls. Many small businesses from restaurants and arts and crafts to specialty shops and antique dealers help to provide a majority of local jobs. All businesses are in need of the community's support but some may benefit the local economy more than others may. Schools and light manufacturing provide the largest singular contribution to employment in these communities, but is a simple count of the number of jobs created enough? No, it is also important to understand how the economy of Shelburne Falls compares with that of Franklin County and Massachusetts. Through this comparison and analysis, particular areas of the economy may be shown to be more significant. These would be the businesses or industries that would benefit the local economy most through their expansion.

Economists use a classification system to compare the performances of similar types of economic activities in different geographical locations. The North American Industry Classification System (N.A.I.C.S), published by the Executive Office of the President's Office of Management and Budget in 1997, organized all economic activities into general categories. The NAICS classified all economic activities into 20 sectors. In the table below, the number of people employed in seven of the most commonly analyzed industry sectors have been tabulated for both Franklin County and the State of Massachusetts.

**Table 6-8: Employment by Industry Sector for Franklin County and State, 1990 and 1996**

| Industry Sectors | 1990 Franklin County | 1996 Franklin County | 1990 Massachusetts | 1996 Massachusetts |
|---|---|---|---|---|
| **Agriculture** | *140 | 128 | 11,881 | 11,747 |
| **Construction** | 884 | 612 | 108,187 | 91,989 |
| **Manufacturing** | 5,587 | 5,540 | 536,369 | 461,610 |
| **T.C.P.U.** | 1,006 | 805 | 131,374 | 132,712 |
| **Trade** | 5,367 | 5,022 | 720,257 | 693,005 |
| **F.I.R.E.** | 1,258 | 1,013 | 246,920 | 234,972 |
| **Services** | 6,555 | 7,453 | 1,009,359 | 1,151,071 |

Source: County Business Patterns 1990 and 1996, Bureau of the Census
*: This is an approximation determined from the total employment figures for Franklin County in 1990.
T.C.P.U.: Transportation, Communication, and Public Utilities
Trade: Wholesale and Retail Trade
F.I.R.E: Finance, Insurance and Real Estate

A comparison between trends in Massachusetts and Franklin County can more easily be detected by analyzing the changes in the values as a percentage of total employment for both. The figures in bold type in the table below demonstrate a significant difference between the economies of the County and the State. Clearly from the figures below, the service sector was the dominant employer category in Franklin County in 1996. In this sector, health services accounted for the majority of employers. Although the manufacturing sector has declined in the County and in the State over the past 20 years, this sector has shown a slight increase in Franklin County between 1990 and 1996. The plastics industry is considered to be a major segment of this sector in the region. The third most important sector is retail

trade, which comprised 24% of the total employment in the region. The dominant segments of the retail trade sector were eating and drinking establishments and food stores (FRCOG Regional Policy Plan; 1998).

**Table 6-9: Employment by Industry Sector for Franklin County and State as a Percentage of Total Employment, 1990 and 1996**

| | 1990 Franklin County | 1996 Franklin County | 1990 State of Massachusetts | 1996 State of Massachusetts |
|---|---|---|---|---|
| **Agriculture** | 0.67% | 0.62% | 0.43% | 0.42% |
| **Construction** | 4.25% | 2.97% | 3.91% | 3.31% |
| **Manufacturing** | 26.86% | 26.93% | 19.40% | 16.62% |
| **T.C.P.U.** | 4.84% | 3.91% | 4.75% | 4.78% |
| **Trade** | 25.81% | 24.41% | 26.06% | 24.95% |
| **F.I.R.E** | 6.05% | 4.92% | 8.93% | 8.46% |
| **Services** | 31.52% | 36.23% | 36.51% | 41.45% |

Source: County Business Patterns 1990 and 1996, Bureau of the Census.
T.C.P.U.: Transportation, Communication, and Public Utilities
Trade: Wholesale and Retail Trade; F.I.R.E: Finance, Insurance and Real Estate

Other trends in employment in Massachusetts between 1990 and 1996 included a slight decrease in the agriculture and F.I.R.E. sectors, representing finance, insurance, and real estate. There was also a decrease in construction, manufacturing and wholesale and retail trade and an increase in T.C.P.U., which includes transportation, communications, and public utilities. The trends in employment for Franklin County were similar except that the agriculture, construction, F.I.R.E, and T.C.P.U. sectors have declined by a greater percentage than in the State, while the service sector increased its share of the total employment by a larger percentage. Also, as stated earlier, the manufacturing sector, while actually decreasing in the State, increased slightly in Franklin County.

There are significant differences between the relative importance of particular industries to the economies of Buckland and Shelburne as compared to Franklin County (see Table 6-10). In 1990, the agriculture, construction, and services sectors employed a greater percentage of the total number of people employed in Buckland and Shelburne than in the County as a whole. The agriculture sector alone employed nearly 8% of all of the workers employed in Shelburne compared to 0.67% for the County in 1990. Manufacturing has a greater share of the total employment figures in Buckland as compared to Shelburne. And although the manufacturing sector remains important to both communities, it is a smaller percentage of the economic base in comparison to Franklin County.

**Table 6-10: Employment by Industry Sector for Buckland and Shelburne as a Percentage of Total Employment; 1990**

| Industry | Buckland Employed | Percentage of Total | Shelburne Employed | Percentage of Total |
|---|---|---|---|---|
| **Agriculture** | 51 | 4.9% | 77 | 7.8% |
| **Mining** | 0 | 0.0% | 3 | 0.3% |
| **Construction** | 87 | 8.4% | 76 | 7.7% |
| **Manufacturing** | 190 | 18.4% | 149 | 15.0% |
| **T.C.P.U.** | 77 | 7.5% | 55 | 5.5% |
| **Trade** | 172 | 16.7% | 163 | 16.4% |
| **F.I.R.E.** | 65 | 6.3% | 75 | 7.6% |
| **Government** | 24 | 2.3% | 31 | 3.1% |
| **Services** | 366 | 35.5% | 364 | 36.7% |
| **Totals** | **1032** | | **993** | |

Source: 1994 Update Franklin County Long Range Regional Transportation Plan

The agriculture sector is worthy of further discussion. It is very important to the economies of both towns for several reasons. First, agricultural-based businesses while employing mostly local residents have two other characteristics that make them highly deserving of local economic development support. By their nature, many of the products of farming, both field crops and livestock, are exported to markets outside of town and often, out of the region. Secondly, a thriving agricultural sector provides positive externalities including the maintenance of scenic and historic landscapes for the appreciation of residents and visitors. Also agriculture supports many other businesses from agricultural supply companies, equipment dealers, and contract labor, to machine repair shops and banking.

Table 6-11 describes the annual sales of agricultural products, both crops and livestock for Franklin County as compared to the rest of the counties throughout Massachusetts. Information by individual town is not available. What is clear, is that Franklin County is ranked second among all counties in three categories: the total value of livestock and poultry sold, dairy products sold, and, in the other crops category. It is ranked fifth out of a total of fourteen, among counties that have farms with nurseries and, which grow greenhouse crops, as well as for those that sell vegetables, sweet corn and melons.

Agriculture supports many other businesses directly and indirectly. According to the 1997 Census of Agriculture County Profile, U.S.D.A., New England Agricultural Statistics Services, farms in Massachusetts spent $311 million dollars on farm related expenses. The breakdown for these expenses could parallel products sold locally to farmers by Franklin County businesses. These products included: livestock and poultry purchases (2.4% of total); feed for livestock and poultry (10.2%); seeds, bulbs, plants and trees (5.1%); commercial fertilizer (3.3%); agricultural chemicals (2.7%); petroleum products (4.8%); electricity (2.5%); hired farm labor (26.2%); contract labor (2.3%); repair and maintenance (7.3%); custom-work, machine hire, and machinery rental (2.3%); interest (5.1%); cash rent (2.1%); property taxes paid (6.4%); and all other expenses (17.3%). What isn't counted here are additional revenues generated by the agricultural sector including restaurants, gains due to purchases associated with farmers' markets, tourism-based businesses, etc.

**Table 6-11: Ranking of Agricultural Sector Characteristics in Franklin County as compared to all other counties in Massachusetts**

| Item | Quantity | Rank | Universe* |
|---|---|---|---|
| **MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD** | | | |
| Total value of agricultural products sold | $40,704,000 | 4 | 14 |
| Value of crops including nursery | $25,074,000 | 6 | 14 |
| Value of livestock and poultry | $15,630,000 | 2 | 12 |
| **TOP FIVE ALL COMMODITIES – VALUE OF SALES** | | | |
| Dairy Products | $12,200,000 | 2 | 11 |
| Nursery and greenhouse crops | $8,759,000 | 5 | 14 |
| Tobacco | $6,599,000 | 3 | 4 |
| Vegetables, sweet corn and melons | $4,204,000 | 5 | 14 |
| Other crops: potatoes, peanuts, etc | $2,121,000 | 2 | 13 |

Source: 1997 Census of Agriculture County Profile, U.S.D.A., New England Agricultural Statistics Services

* Universe is the number of counties in Massachusetts with that item.

Given the fact that agriculture is so important to the economies of Buckland and Shelburne, as well as to the quality of life for its residents, it is suggested that additional efforts be made to discover the most effective ways that residents of these two towns can support farming. There are at least three categories of activities utilized to support the active farming of land: regulatory, promotional, and conservation-oriented. Regulatory activities include passing zoning bylaws that support farming by establishing agricultural districts or that provide farm owners an opportunity to generate additional revenues by leasing their outbuildings for office, commercial, or light industrial space. Promotional activities seek to generate support of farming by local consumers through educational and recreational activities and programs. A 'buy local' program initiated by the Shelburne Falls Area Business Association could increase the consumption of locally grown products and services. Finally, conservation oriented activities are utilized to conserve the farmland itself as either part of an estate planning effort or as a means of generating income through the sale of the land's development rights. A second conservation activity might include strengthening the economic viability of the farming business through business planning and access to technical assistance. This support is currently available to farmers through the Farming Viability Program, administered by the Massachusetts Department of Food and Agriculture.

## Major Employers

There are six major employers in both Buckland and Shelburne that are important in terms of number of employees. They are listed in Tables 6-12 and 6-13. Buckland clearly has the greater number of employees per employer. It is also important to note that two of Buckland's top six employers, and one of Shelburne's are in manufacturing. That is, manufacturing firms are still an important contributor to the total economy of Buckland and Shelburne employing a relatively large number of workers.

**Table 6-12: Number of Employees per Major Employer in Buckland**

| Major Employers in Buckland | Number of Employees |
|---|---|
| Mohawk Trail Regional High School | 110 |
| Lamson & Goodnow Manufacturing Co. | 94 |
| Mayhew Steel Products | 63 |
| New England Power Co. | 31 |
| McCusker's | 18 |
| Town of Buckland | 15 |

Source: Supplied by community, 1993.

**Table 6-13: Number of Employees per Major Employer in Shelburne**

| Major Employers in Shelburne | Number of Employees |
|---|---|
| Mole Hollow Candle | 50 |
| Clark Corvair | 30 |
| Bittersweet Herb Farm | 25 |
| Buckland-Shelburne Elementary School | |
| Town of Shelburne | 20 |
| Pioneer Nutritional Formulas, Inc. | 15 |

Source: Supplied by community, 1993; Overall Economic Development Program, 1995 & 1998; and Shelburne Falls Business Association Directory, 1998.

Any local industry or business that provides employment within the two towns is contributing to the towns' economies. Businesses located in Buckland and Shelburne inject money into the local economy in two ways. They provide support for municipal services through paying property taxes which has a positive fiscal impact. They also inject money into the economy through the salaries and wages they pay their employees. This money helps support retail businesses in the two towns. Even if the employees aren't residents of Buckland or Shelburne, they may spend their money in Shelburne Falls for lunches, clothes, coffee, etc. They may also have accounts in Shelburne Falls' banks. If the employees actually live in town, they also pay property taxes.

Each time that a dollar is spent in town it supports a variety of local businesses for services rendered or for products like food, clothing, or appliances, etc. Economists call the value added to each dollar as it cycles through the local economy, the multiplier effect. The more times a dollar is used locally, the more its value is multiplied.

Local businesses and industries that export products and services typically have a greater multiplier effect on the local economy. When a business earns a dollar from a resident, that dollar is among a limited number of dollars already cycling through the local economy. There is a lot of competition amongst local businesses for those locally held dollars. For every dollar held by a resident, only a fraction of it will be spent locally. However, when a business earns a dollar from an individual or

business, residing or located outside the local area, region, or country, that whole dollar arrives in Buckland and Shelburne and is potentially available for the local economy. This is the reason why it would serve Buckland and Shelburne well to attract businesses that export and support existing businesses with export sales.

Economic development should work to diversify the economy, help current industries and businesses expand, and attract the best types of businesses and industries to locate within the towns. However, this should all be done within the context of sustainability. What is sustainable for Buckland and Shelburne? Simply, the quality of life for residents should not be reduced from the expansion of the local economies. Although not an easy task, the environment should be protected and the quality of the jobs provided should be high. One measure of the local economy that relates to the quality of the job from the employee's perspective is the average annual wage. The average annual wage describes whether the employees are receiving adequate compensation. But, what this information doesn't measure is whether the jobs are part time or full time. Part time jobs rarely include benefits like health insurance and pension plans that full time jobs provide. Often, part time jobs offer below poverty wages as well. In summary, it is not enough to simply work for an increase in employment. The jobs the towns would like to attract should provide a living wage and benefits.

Table 6-14 provides the total annual payroll and average annual wage per year for the shared economy of Buckland and Shelburne from 1991 to 1997. The establishments listed were provided by the Commonwealth of Massachusetts Division of Employment and Training (DET). The establishments included in these yearly totals each had a minimum number of employees, therefore these figures are not inclusive of all employers in both towns.

**Table 6-14: Employment and Wages in Buckland and Shelburne 1990-1997**

| Year | Total Annual Payroll | Avg. Annual Wage | Number of Establishments |
|---|---|---|---|
| **1990** | $19,456,891 | $17,640 | 136 |
| **1991** | $19,614,062 | $17,945 | 138 |
| **1992** | $20,185,382 | $18,725 | 125 |
| **1993** | $21,483,325 | $19,250 | 132 |
| **1994** | $22,196,136 | $19,556 | 139 |
| **1995** | $22,234,066 | $19,852 | 147 |
| **1996** | $24,468,061 | $20,458 | 149 |
| **1997** | $28,281,271 | $22,026 | 146 |

Source: Commonwealth of Massachusetts, Division of Employment and Training

In 1997, according to the DET statistics, Buckland and Shelburne contained 146 business or industrial establishments with a certain minimum number of employees. In the same year, the area's annual average wage paid to employees was $22,026. According to Table 6-15, during the same period the number of people employed in Buckland and Shelburne increased by 3.87%, to 2,066 which is on par with the region's increase in employment (3.82%). This favorable employment growth by the small and medium size businesses in Buckland and Shelburne suggests that economic development efforts should be focused on retaining and growing existing businesses and supporting new start-ups. This is a better

strategy than trying to attract a major employer. Relying on only a few major employers results in a less diversified economic base which is more susceptible to severe economic dislocation from layoffs or business closures.

**Table 6-15: Annual Average Total Employment 1993-1997**

| Town | 1993 | 1994 | 1995 | 1996 | 1997 | 1993-1997 Increase in Employment | % Increase in Employment |
|---|---|---|---|---|---|---|---|
| **Buckland/ Shelburne** | 1,989 | 2,072 | 2,111 | 2,123 | 2,066 | 77 | **3.87%** |
| **OEDP Region** | 56,281 | 57,064 | 57,385 | 57,626 | 58,431 | 2,150 | **3.82%** |
| **State** | 2,945,400 | 2,981,800 | 3,005,900 | 3,051,800 | 3,129,400 | 184,000 | **6.25%** |

Source: Massachusetts Division of Employment and Training

Another measure of the stability of the economy is the commercial vacancy rate. Vacancy rates are the relationship between the amount of vacant space and the total space in the market. The rates in Table 6-16 have been calculated on an average annual basis, based on random surveys conducted during the course of the year. In general, in the Overall Economic Development Program (OEDP) region, there has been a positive absorption of all classifications of space over the past year except for Greenfield and Orange. Many of the town centers are changing from a retail and manufacturing orientation to service and office markets. According to Table 6-16, Shelburne Falls is exhibiting a commercial vacancy rate within the range of some of the more stable economies like Amherst, which has a vacancy rate of 5%.

**Table 6-16: Commercial Vacancy Rates for Major Employment Centers**

| Town | 1995 | 1996 | 1997 | 1998* |
|---|---|---|---|---|
| **Shelburne Falls** | 12% | 5% | 5% | 8% |
| **Turners Falls** | 14% | 8% | 19% | 17% |
| **Northfield** | 6% | 6% | 6% | 5% |
| **Greenfield** | 12% | 9% | 9% | 13% |
| **Amherst** | 5% | 5% | 5% | 5% |
| **Sunderland** | 12% | 7% | 7% | 6% |

Source: K. Levich Associates, Real Estate Appraiser; Greater Franklin OEDP, 1998.
* Year to date figures.

In summary, Buckland and Shelburne both have similar dominant industries: agriculture, construction, and services. Agriculture is a very important sector of the economy in Buckland and Shelburne. Agriculture employs a significant number of people, is export oriented, supports many other local businesses, and provides other positive externalities such as the rural character and open landscape that is attractive to both residents and tourists. Manufacturing is still a significant component of the local economy because each firm has a relatively large number of employees. The expansion in the economy of Buckland and Shelburne appears to be occurring through growth in small and medium size businesses. Again, the more employers in a community the more stable the economy. It is important to encourage a diversity of employment opportunities. Through a diversity of employment opportunities in Buckland and Shelburne, residents from West County communities, could find a match between their needs and a good job, full or part time.

### The Shelburne Falls Area Business Association

The Shelburne Falls Area Business Association (SFABA) provides economic development initiatives and leadership for Buckland and Shelburne. Although the SFABA is comprised of businesses and non-profit organizations from all of West County, they have focused much of their efforts on Shelburne Falls. Since 1995, the SFABA has contributed to the local economies of the two towns through the creation of the Shelburne Falls Village Partnership, a 3-½ year grant that has brought $1.1 million dollars in federal Community Development Block Grant funds to community development projects. These projects include both construction projects and planning projects. The construction projects included a sign and façade program, the Deerfield Avenue Streetscape Reconstruction including a Glacial Potholes Overlook Deck, a new Buckland parking lot behind the town hall, and outfitting Memorial Hall with an elevator. The planning projects included the Shelburne Falls Comprehensive Parking Study, Lamson Cutlery Complex Master Plan, Shelburne Falls Market Study, Shelburne Falls Handicap Access Study, Shelburne Falls Streetscape Design Guidelines, and the Buckland Railyard Master Plan.

The SFABA also provides its members and Shelburne Falls with business district improvements including a $50,000 annual marketing program, promotional events and activities, training courses for area businesses and public bathrooms. The SFABA also coordinates activities with other civic groups including the historic commissions to make sure the historic district is improved without impairing historic resources.

Currently, the SFABA has requested proposals from planning and landscape architect firms for a redevelopment plan for Lamson and Goodnow Mfg. Buildings and for the Shelburne Falls Trolley Museum Feasibility Study. The purpose of the Lamson and Goodnow study is to plan for the renovation and reuse of several buildings in the complex to provide "business incubator" space. The second study will assess the development of the Trolley Museum in the Buckland Railyard as a tourist destination. The Buckland Railyard represents an underutilized resource and could provide a destination point for tourists with the further development of the existing museum and creation of associated parking facilities. This would aid in improving parking availability in the core business district along Bridge Street and State Street if the restored 1896 trolley car were used as a "people mover" between the Buckland Railyard and the core business district.

### Transportation

For both Buckland and Shelburne, the major transportation links are Route 2, which runs east-west across northern Massachusetts and the Interstate 91, which travels north-south, intersecting at an interchange in Greenfield. The Guilford Rail System lines run parallel to the two major highway routes. Buckland and Shelburne are both members of the Franklin Regional Transit Authority.

## Traffic and Parking Study

The Franklin Regional Council of Governments Planning Department produced an analysis of the parking in Shelburne Falls for the Shelburne Falls Area Business Association in 1999. The parking study focused on the downtown area. Planning Department staff identified three, core parking areas. The State Street area in Buckland is across from the iron trestle bridge and the Bridge of Flowers. Another area occurs on Bridge Street from the iron trestle bridge to Main Street. The 'Keystone Lot' is located behind the Keystone Market and the two banks, and between Water Street and Main Street. There were also six peripheral parking areas located in Shelburne Falls including the Trolley Museum lot and the lot on State Street across from the laundromat in Buckland. In Shelburne they include the cul-de-sac at the end of Deerfield Avenue, on Main Street just north of the Keystone Lot, the lot near the intersection of Mechanic Street and Cross Street; and the lot at the corner of Bridge Street and Mechanic Street. The study determined that the core lots were used the most, with people respecting the 2 hour limits, except for the 'Keystone lot' where nearly half of the spaces were taken up by the cars of employees, which would use each space for on average six hours. The peripheral lots were under-utilized. Ideally, the core lots would have the highest turnover rates as customers of area businesses made purchases and moved on. The peripheral lots would be most appropriate for the long-term parking needs of employees.

## Taxes

Shelburne residents moved to Shelburne based on a lot of factors. Of those, lower taxes were rated more important than job opportunities. The Survey respondents' perceptions hold that the level of taxes has either stayed the same or, increased, while the majority of respondents view the level of job opportunities has stayed the same. Buckland residents pay more in property tax than Shelburne residents do. On the other hand, commercial and industrial enterprises also pay the same tax rate. If Buckland's tax rate continues to climb they will need to further diversify their tax base and add additional businesses. Studies have shown that commercial and industrial uses generate more tax revenues than they consume in municipal services, thereby having a positive fiscal impact.

**Table 6-17: Tax Rates per $1,000 of Valuation in Buckland and Shelburne 1999**

| Town | Residential | Commercial | Industrial |
|---|---|---|---|
| **Buckland** | $18.88 | $18.88 | $18.88 |
| **Shelburne** | $14.66 | $14.66 | $14.66 |

Source: http://www.state.ma.us/dhed/iprofile

## Utilities

Utilities provide a foundation for future development. Industry, commercial and businesses establishments require water and sewer services. State-of-the-art telecommunications are also an important utility for high-end users such as financial, health services, engineering and other business concerns. The water distribution system was initially constructed in 1911, the wastewater collection system in 1875. Both systems are in need of upgrades. Portions of the water and sewer lines in Buckland are scheduled for upgrades in the years 1998 and 1999 in the Capital Improvements Plan.

However, to service new industrial development, additional water and sewer lines and capacity would be needed.

**Table 6-18: Utilities in Buckland and Shelburne in 1993**

| Utility | Buckland | Shelburne |
|---|---|---|
| **Electric** | Western Mass. Electric Co. | Western Mass. Electric Co. |
| **Gas** | No Service Available | No Service Available |
| **Sewer** | Shelburne Falls WWTP | Shelburne Falls WWTP |
| **Water Sources** | Ground, Surface | Ground, Surface |

Source: http://www.state.ma.us/dhed/iprofile

### Access to state-of-the-art telecommunications

State-of-the-art telecommunications may be required for businesses and institutions to stay competitive in an increasingly complex technological era. The demand for these types of infrastructure is currently being assessed in the entire Franklin County region. Currently, fiber optic lines have been established, by phone companies, running east to west along the Massachusetts Turnpike. The University of Massachusetts and the downtown's' of Westfield, Easthampton and Northampton have been outfitted with state-of-the-art telecommunications circuitry. It appears as if the telephone companies will provide the access when sufficient demand for such infrastructure by high-end users is apparent. Therefore, a survey of the region's major employers may be the first step towards demonstrating demand. Current Shelburne Falls Area businesses, as well as future employers, located in either Buckland or Shelburne would be well served by access to advanced telecommunications infrastructure. Home businesses outside of the downtown area in Shelburne Falls could also receive access to the circuitry using long distance hook-ups but the cost for this service may prove prohibitive to start-ups.

## Economic Development Issues

Any plan that would guide the development of the economies of both Buckland and Shelburne must take into account several key issues that require attention: property tax rates, the future of farming, site and building availability, infrastructure, the labor force, and the coordination of industrial development and capacity building.

### Property Tax Rates

As was mentioned in the previous section, the local property tax rates for Buckland and Shelburne are $18.88 and $14.66, respectively. This is important to note for several reasons. Property tax rates are typically calculated based upon a simple formula. Basically, the cost of all the municipal services provided by the town is divided by the total value of the residential, commercial, and industrial property. It has been shown through studies done by the American Farmland Trust (AFT) and others that based on the amount of municipal services used by the different types of land uses whether it be residential,

commercial, industrial, or privately owned open space, residential uses cost towns the most money. The more houses that are built in Buckland and Shelburne, the higher the tax rate will likely go. Residential uses require a variety of town services, particularly schools, the most expensive item in both towns' budgets. In contrast, the AFT found that commercial and industrial land uses, on average, have a positive fiscal impact by generating more tax revenues than the cost of services consumed. Privately owned open space also provides a positive fiscal impact for the town given that minimal or no services are needed.

In many ways, the property tax issue has fueled the interest in encouraging commercial and industrial expansion by Buckland and Shelburne municipal officials. They understand the cost of services, to land use, to property taxes connection. By encouraging economic development that supports local businesses and potentially attracts new light industry and commercial businesses, the pressure on residential property taxes may ease. The fact that a regional labor pool could meet new employment needs should cancel the indirect effect of an increase in housing for new workers. To address the tax issue, residents of both communities must understand and accept that a bedroom community has little chance of controlling its own property tax rates. The importance of expanding opportunities for light industry, commercial uses, and office space cannot be overstated.

### The Future of Farming and Buying Local

Farming in Buckland and Shelburne clearly encompasses aspects of the quality of life that the area provides for its residents. Open spaces, pastoral views, access to fresh produce and the retention and continued maintenance of some of the area's most significant historic structures and landscapes are some of the things people associate with farming but often take for granted. In the previous section, it was shown that agriculture, as a sector of the local economy is vital. Some of the strategies mentioned were regulatory, promotional, and conservation oriented. There are many zoning and non-zoning tools and techniques that are available that help to protect both farmland and the business of farming. One strategy that deserves further discussion here is especially relevant given that it transcends every type of business in Buckland and Shelburne. Buying locally produced goods and services help support the local economy. It is a conscious choice for many people who understand that spending their money in their community whenever possible helps to build a vibrant community. If as a resident you enjoy the convenience of being able to shop in Shelburne Falls, if you enjoy the pastoral views and the idea that land in the area is being worked, farmed and pastured, it is imperative that you support these uses in the ways you can. One of the most effective ways is choosing to buy locally produced farming produce, goods and services.

### Site and Building Availability

Site and building availability is a critical issue for Buckland and Shelburne. For existing businesses to be able to expand, or for new businesses to relocate to Buckland or Shelburne, there must be vacant land appropriately zoned with adequate water, sewer and transportation infrastructure, or space within existing structures served by existing infrastructure. In Shelburne Falls, a parcel level analysis identified very few land vacancies. However, there are several opportunities that may satisfy the need for extra space for light industrial, commercial and office uses:

Buckland

Short Term

- Buckland Rail Yard Redevelopment
- Lamson & Goodnow Complex Redevelopment
- Reuse of farm buildings

Long Term

- An Industrial Park district off of Creamery Ave.

Shelburne

Short Term

- Reuse of top floors of blocks in downtown
- Reuse of farm buildings

Long Term

- Light Industrial uses off of Rt. 112
- Identify a potential location for an eco-industrial park located on Route 2

The first two of Buckland's short-term options were mentioned under the activities of the Shelburne Falls Area Business Association. Redevelopment of the Buckland Railyard at the site of the Trolley Museum and the Lamson and Goodnow complex are both opportunities for providing space for new and expanding businesses. The Economic Development projects listed in the Capital Improvement Program (CIP) included plans for both the Buckland Railyard and the Lamson and Goodnow Buildings. The CIP identified the Community Development Block Grant as a potential source of funding for site acquisition, construction and the demolition of the abandoned buildings. The Lamson and Goodnow Redevelopment Site Plan is also included and funding for the expenses of planning and design are yet to be determined. Funding sources for the rehabilitation of the buildings in the Lamson and Goodnow complex may include the State, the Franklin County Community Development Corporation, and the Federal Economic Development Administration. The reuse of farm buildings for light industrial, commercial, and office space received support from 55% of the Community Survey respondents. This would require a Town Meeting vote to amend both towns' current zoning bylaws.

Shelburne's short term options for creating space for light industry, commercial and office uses are limited to the reuse of the top floors of buildings downtown as well as to the reuse of farm buildings. Several, possibly eight, floors of existing buildings in Shelburne Falls are vacant. These could be the next spaces that expanding businesses could move into except for the challenges that the Americans with Disabilities Act (ADA) creates. Basically, the ADA states that if renovations to an existing multi-floored dwelling, or structure, constitutes more than 40% of the value of the structure, then steps must be taken to make the structure handicapped accessible. For a second story office, that may mean an elevator. Overall, 87% of the Community Survey respondents in Shelburne stated that they would rather have new commercial development located in existing vacant or underutilized buildings in the downtown area.

Longer term strategies in the Land Use and Zoning section of this Master Plan call for the identification and rezoning of additional industrial areas in both Buckland and Shelburne. These areas could have a mix of uses including light industrial use and office space. The area in Buckland that has been

preliminarily identified as being appropriate for industrial development is north of Rt. 2, where the Deerfield River loops around a peninsula of high land. However, substantial infrastructure improvements would be required including an extension of the sewer and water lines and construction of a new access road. In addition, Town Meeting would need to vote to expand the Industrial Zone to include the additional land area shown on the Potential Zoning District map in the Land Use section. In Shelburne, the area off of Route 112 north of Route 2 has some available land although acreage is limited. Shelburne can also explore the possibility of rezoning a portion of the commercial district along Route 2 for a Planned Industrial Park district if a suitable parcel can be identified. Given that water and sewer infrastructure is not available, an eco-industrial park approach which minimizes waste streams and water consumption would be needed. This approach requires that a cluster of desirable businesses be identified which use each other's waste products. Detailed planning and feasibility studies are needed to determine if this approach could work for a site in Shelburne.

**Infrastructure**

The infrastructure issues are mainly the constraints of available developable land, available water and sewer lines, and roadways with acceptable access points along Route 2 or 112. The prospective site, in Buckland, north of Route 2 has between 40-50 acres of developable land that is relatively flat and would not require extensive grading. The current zoning of the majority of this parcel is rural/agriculture; thus a zoning change would need to be authorized through a Town Meeting vote. Another issue is the fact that any industrial park in this location would require an access road that would traverse the aqueduct and significant structural improvements would be needed. Similar issues exist for Shelburne except that its sites for future industrial park development would be limited to existing industrial and commercial zones. Each of the towns' sites would require significant performance standards so that the recreational, wildlife and aesthetic resources would be conserved. If commercial development was going to take place along Route 2, the majority of Community Survey respondents felt that it should be consistent with the historic rural character of Shelburne. This may be accomplished by clustering shops and businesses between protected land to maintain the rural character of Route 2 and avoid unbroken strip development with numerous curb cuts. Also, the types of industries that ultimately locate in each area may be targeted so that the waste streams produced by each industry are utilized as inputs by the other industries. This is known as an "eco-industrial park." It is important to note however, that to design an eco-industrial park would require considerable professional staff capacity (see Coordination of Industrial Development and Capacity Building below).

**Labor Force**

Labor force issues relate to whether an incoming business or an expanding local business can find workers with appropriate skills within the regional labor pool. Ideally, an industrial park would be employing residents of Buckland or Shelburne. However, on average employers like to have a 10 to 1 ratio between the amount of workers available to the one they will finally hire. At a minimum, they prefer a 5 to 1 ratio. In 1997, the Buckland Shelburne area had a 4.8% unemployment rate which means with 2,066 people employed, there were only about 99 people unemployed. In essence, this would mean that additional potential employees would require either the currently employed to be considered as part of the pool, or workers from surrounding towns would need to be also considered. On a regional basis,

there were 282 people unemployed in the towns of West County in 1997. Based on these simple ratios and the available labor pool, new and expanding businesses could count on 28 to 56 new hires.

### Coordination of Industrial Development and Capacity Building

Many of the issues relating to the long term options of developing new industrial parks in each community could be addressed through the formation of an Economic Development and Industrial Corporation (EDIC). The EDIC's activities would be different yet complimentary to the activities of the Shelburne Falls Area Business Association. EDIC's are economic development organizations created on the municipal level that focus on industrial and manufacturing development. They are quasi-public entities that are established by the municipality either through Chapter 121C of the Massachusetts General Laws added in 1972 or, through a Special Act of the legislature through Home Rule Petition. Section 3 of Chapter 121C authorizes the formation of an EDIC by two or more municipalities. In this way, a Buckland and Shelburne EDIC could work together to recruit companies, lessen adverse regional impacts to siting the development, and to share the costs of infrastructure improvements, marketing, technical assistance and firm retention.

EDIC's are primarily industrial real estate developers. Specifically, they are authorized by the above legislation to undertake economic development project planning and acquire land through eminent domain. To acquire land by eminent domain would require a two-thirds vote by town meeting, a public hearing, and the counsel of the Massachusetts Department of Housing and Community Development. An EDIC could also buy, develop, sell, lease, mortgage, transfer, or exchange property. They could also borrow and invest money; issue corporate and revenue bonds; receive grants, loans or advances from federal, state, and local governments; pledge the credit of the municipality; finance pollution control facilities; manage projects; and act as an Urban Redevelopment Corporation under Chapter 121A. The establishment of an EDIC is itself a long-term project that will depend upon the leadership of the Select Board and SFABA. A professional staffperson to the EDIC will be needed to attract industries to the most appropriate locations in each town. However, what must be reiterated is that an EDIC is a long-term strategy that is possible if the communities of Buckland and Shelburne support its activities, the development of new industrial and commercial space, infrastructure and capacity.

## Recommendations

**Explore the feasibility of developing a barn/outbuilding reuse zoning bylaw that would allow farm buildings in areas zoned residential/agriculture to be used as artisan studios or office space.**

Under the current zoning the majority of land in both towns is zoned residential/agriculture. Many farm buildings and barns are no longer being used as intensively as they had been during the hey-day of agriculture in the region. However, these buildings and barns may still have a valuable use as sites for artisan space or small professional or business office space. Ideally, any reuse would take into consideration the recent and historical use of the land and landscape. The bylaw will need to incorporate performance standards addressing traffic, hours of operation, etc. in order to minimize impacts to neighboring residents.

**Support the redevelopment of both the Buckland Rail Yard and the Lamson & Goodnow Complex.**

These two areas are the best options for economic development in Shelburne Falls. The railroad spur that exists at the rail yard provides an opportunity for light to medium industries to gain access to the Guilford Rail System. Plus its location, so close to downtown, provides future employees with access to the amenities of Shelburne Falls. The Lamson Goodnow Complex contains space which can be redeveloped as incubator space for light industry, design firms, computer software companies, artisans, etc. A small business incubator is a program where small business owners can receive technical and financial assistance as well as the space required to expand.

**Develop and implement a "Buy Local" campaign to support both local farms and Shelburne Falls businesses.**

The Shelburne Falls Area Business Association may be the ideal initiators of this campaign, though it would require most likely the input and grass-roots effort of many parties from schools to scouts, selectmen, and farmers, to area businesses themselves. The effort may be more effective if the role of the promoters is educational. In particular, simplifying and clarifying the relationships between taxes, local businesses, farms, and development may be more useful in the long term to the communities as a whole than any other recommendation.

**Encourage and support the export of products and produce from all levels of commercial and industrial businesses.**

The Shelburne Falls Area Business Association and the EDIC should explore the methods available to local businesses and industries to enter into the export markets. Exporting products outside of the region, outside of the state, and country brings money into the country, state, region, and town. Exporting goods and services is beneficial to the local economy and should be supported.

**Explore the feasibility of expanding state-of-the-art telecommunications services to area businesses.**

Follow-up on the telecommunications survey to determine the expressed need by Shelburne Falls Area businesses for state-of-the-art telecommunications circuitry. The SFABA should work in conjunction with the Franklin Regional Council of Governments to plan for the circuitry in the commercial and business district.

**Establish a Cooperative EDIC for Buckland and Shelburne.**

Both communities would benefit from having an independent non-profit corporation of this type working to establish well-planned industrial parks in both communities. The benefits of its status as a

quasi-public body include access to a wide range of funding sources and areas of influence. The work of the EDIC would focus almost entirely on the development and maintenance of new industrial parks.

# CHAPTER 7

# HOUSING

Housing has been identified as an important or very important topic to be discussed within the master plan by 74% of the survey respondents in Shelburne and 65% of the respondents in Buckland. This section includes an assessment of current housing stock and identifies the types of housing and housing programs that are needed in the future.

Of the survey respondents from Shelburne, 42% live in Shelburne Falls, and 53% live in the outlying rural residential areas; 79% own their own home and 16% rent. In Buckland, 88% of the survey respondents own their home and 10% are renters. The primary housing issues identified by Shelburne respondents are compliance with the state's title 5 septic system (57%), lead paint removal in homes to meet state mandates (54%), and need for rehabilitation of low and moderate income housing (52%). In Buckland, 82% of the survey respondents think that compliance with the new Title 5 regulations is an important or very important housing issue. Lead paint removal is identified as an important or very important issue by 66% of Buckland respondents. Development of programs that support first-time homebuyers is favored by 45% of the Shelburne respondents and 67% of Buckland respondents consider it important or very important. Development of elderly housing is identified as important or very important by 70% of Buckland's respondents and is favored by 43% of the respondents from Shelburne.

Shelburne respondents are evenly divided on the issue of development of affordable housing for low and moderate income families, with 35% in favor and 41% opposed to the idea. Similar results were exhibited in the Buckland survey. Housing is considered "affordable" when households spend no more than 30% of their gross income on housing costs. The sectors of the population, which are often in greatest need of affordable housing are elders living on fixed income and young families starting out. Of the respondents, 49% feel that development of low and moderate income housing to meet State goals is important or very important, whereas 47% do not consider it important. The number of units which count towards a municipality's 10% goal established by the State for low and moderate income housing only includes units that receive subsidies from state or federal housing assistance programs and does not include other affordable housing units based on the "30% of gross income" criteria.

Of the Survey respondents, 76% found that affordable housing was an important or very important factor affecting their decision to live in Shelburne. The majority of respondents (57%), feel that the affordability of housing in Shelburne has remained constant during their stay in Shelburne. However, 26% feel that affordable housing has deteriorated since they moved to Shelburne, while only 4% feel that it has improved.

The Shelburne survey asked respondents their views on various kinds of development in town. The responses regarding additional residential development were inconclusive. Of the respondents, 35% oppose additional residential development, 26% favor it, while 28% are

undecided. Nevertheless, it is clear that respondents approve of a residential and commercial mix similar to Shelburne Falls village center, with 48% of the respondents in favor and 22% opposed.

The types of residential development that received support from Shelburne survey respondents are single family residential of 2 acre or larger lots (54%), single family residential of ½ to 1 acre lots (46%), and development of houses in clusters on a small part of the property so that the remaining land is protected as open space (53%). Conversion of single family housing to multi-family units is opposed by 48% of the respondents, while 47% of the respondents oppose single family residential development of less than ½ acre lots and multi-family residential with three or more units. We suspect that this response refers to residential development in the rural areas and not to development within the village. This is based on the fact that 70% of the respondents cited the village as one of their reasons for moving to and staying in Shelburne and house lots in the village of Shelburne Falls are typically 1/4 acre or less. The supporters and detractors of apartments such as Highland Village and condominiums such as Dragon Hill are approximately equal.

Site Plan Review addresses the layout of new development on a parcel of land including location and height of structures, parking, traffic, roadways, landscaping, lighting and types of building materials in order to arrive at the best possible design for a specific location. Site Plan Review does not prevent development. It only shapes it by creating a process for community input. Site Plan Review for multiple housing lot residential subdivision development is supported by 72% of the Buckland respondents and is favored by 67% of the Shelburne respondents, with only 14% opposed to it.

A clear consensus could not be determined from the Shelburne survey results with respect to other residential zoning approaches. Development of houses in the back of a property so that land along the roads may be protected as agricultural land, forest or open space is favored by 39% of the respondents. Buckland's zoning bylaws already contain a provision for such back lot development with open space set-aside. Overall, 65% of Buckland's respondents support development of houses in clusters on a small part of the property so that the remaining land is protected as open space. This is also favored by 36% of the Shelburne respondents.

## Goals

- To provide fair, decent, safe, affordable housing for rental or purchase that meets the needs of Shelburne and Buckland residents.
- To work towards raising the affordable housing stock to 10% of all housing units.
- To provide for residential development which is consistent with the rural and historic character of the community.
- To encourage a mix of housing densities, ownership patterns, prices, and building types to serve diverse households.

- To provide financial assistance to homeowners for state mandates and encourage compliance with Board of Health Code with respect to Title 5, removal of lead paint etc.

**Strategies**

- Support a mix of residential and commercial development in Shelburne Falls village center similar to what currently exists.

- In the rural area, encourage homes to be clustered on a small part of the property so that the remaining land is protected as open space.

- Support state-sponsored programs that provide financial assistance for homeowners to comply with Title 5 septic system and lead paint removal mandates by the state.

- Work with the Shelburne Housing Authority, the Franklin County Housing and Redevelopment Authority, and non-profit agencies to help homeowners obtain access to financial assistance for Self-Help building funds, septic upgrades, and home improvement financing.

- Initiate pro-active housing projects to meet the low-and moderate income housing requirements of the State in order to maintain control of development scale and style compatible with community character.

- Pursue public grants and other sources of funding to enhance the financial feasibility of affordable housing development, both rental and owner occupied, for elders and young families.

- Support grants for rehabilitation of vacant or underutilized buildings for residential use.

- Preserve existing affordable housing stock rather than converting it to other uses and work with legislators to have the State expand its definition of "affordable" to meet the 10% goal.

- Ensure effective code enforcement for affordable housing.

- Support the Shelburne Housing Authority in efforts to encourage major employers to implement programs which contribute towards meeting their employees' affordable housing needs, such as mortgage assistance plans, mortgage guarantee programs and assistance with down payments and closing costs.

## Assessment of Current Conditions

Housing in Buckland and Shelburne has traditionally consisted of compact single and two-family housing in Shelburne Falls village center and single family homes on frontage lots in the rural areas. There are few subdivisions and multi-family developments. Housing data for the two towns is provided below.

### Buckland

According to the United States Census Bureau, Buckland had a total of 731 housing units in 1980. By 1990, this number had grown to 786 housing units. Of these, 42 units were vacant, creating a vacancy rate of 5.3%. The median value of owner-occupied housing units had increased from $33,300 in 1980 to $108,000 in 1990. Value is the Census respondent's estimate of how much the property, including the lot, would sell for. Of the total housing units in Buckland, 565, or 72% were owner occupied. An additional 179, or 23% were rental units. Of the vacant units, 10 were for sale, and 1 was for rent. The remaining 31 units were vacant for other reasons.

**Table 7-1: Housing Units in Buckland**

| | Owner Occupied | Renter Occupied | Vacant | Total |
|---|---|---|---|---|
| **Number of Units** | 565 | 179 | 42 | 786 |
| **Vacancy Rate** | 1.7% | 0.6% | N/A | 5.3% |

**Median Value** $108,000
**Median Contract Rent** $370
Source: U.S. Census Bureau, 1990

According to the 1990 Census data, Buckland has a healthy diversity of housing types. Over 23% of the housing stock was available for rent. In addition, over 26% of the town's housing structures were two-family housing or greater (see Table 7-2). These numbers may be too high according to the Assessor, who estimates that only 11% of Buckland's structures in 1999 were two-family housing or greater. If the sample for the Census was primarily taken in Shelburne Falls, this may account for the higher percentage of two-family or greater structures. In addition, according to building permit information compiled by the U.S. Census Bureau (see Table 7-3), only single family units were constructed between 1990 and 1994. This shows a movement away from the housing diversity exhibited in the housing stock in 1990. Even assuming the lower figure estimated by the Assessor is correct, Buckland still has a favorable mix of housing types for a small rural community.

Table 7-4 presents information on housing in Buckland considered to be affordable according to the narrow definition of the State. According to data from the Department of Housing and Community Development (DHCD), there are only six subsidized housing units that are supported by state or federal housing assistance programs. Diversity in housing types provides

opportunities for the town's elderly and young families to find accommodation locally. The town should continue to encourage and support a diversity of housing options.

**Table 7-2: Type of Housing Structure**

| | Units | % |
|---|---|---|
| **Single Unit** | 576 | 73.3 |
| **2-4 Units** | 149 | 19.0 |
| **5 or More Units** | 19 | 2.4 |
| **Other** | 42 | 5.3 |

Source: US Census Bureau, 1990

**Table 7-3: Residential Building Permits**

| | Single Family | Multi Family |
|---|---|---|
| **1990** | 4 | 0 |
| **1991** | 6 | 0 |
| **1992** | 5 | 0 |
| **1993** | 7 | 0 |
| **1994** | 7 | 0 |

Source: US Census Bureau, 1994

**Table 7-4: Units Receiving State or Federal Housing Assistance**

| Subsidized Housing Units* | % Subsidized | Public Housing Units** | | Rental Assistance*** | |
|---|---|---|---|---|---|
| | | Conventional State | Conventional Federal | State (MRVP) | Federal (Section 8) |
| 6 | 0.78 | 3 | 0 | 0 | 0 |

* Subsidized Housing Units: The number of housing units which count toward the municipality's 10% goal for low- and moderate-income housing. It includes both subsidized affordable units and market rate units in certain eligible subsidized developments.
** Source: DHCD 1993
*** Source: DHCD 1994

Based on data from 1990, most of Buckland's housing stock is over fifty years old. Over 58% of the town's housing units were constructed prior to 1939, as can be seen in Table 7-5. The use of lead paint was prevalent during this time, and continues to be a problem for families with small children.

**Table 7-5: Age of Housing Structures**

| | Units | % |
|---|---|---|
| **1989-March 1990** | 11 | 1.4 |
| **1980-1988** | 59 | 7.5 |
| **1970-1979** | 75 | 9.5 |
| **1960-1969** | 82 | 10.4 |
| **1950-1959** | 68 | 8.7 |
| **1940-1949** | 33 | 4.2 |
| **1939 or earlier** | 458 | 58.3 |

Source: US Census Bureau, 1990

## Shelburne

According to the United States Census Bureau, Shelburne had a total of 772 housing units in 1980. By 1990, this number had grown to 855 housing units. Of these, 61 units were vacant, creating a vacancy rate of 7.1%. The median value of owner-occupied housing units had increased from $44,095 in 1980 to $123,100 in 1990. Of the total housing units in 1990, 488, or 57% were owner occupied. An additional 306, or 36% were rental units (see Table 7-6). The median rent was $381. Of the 61 vacant units, 11 were for sale, and 6 were for rent. The remaining 44 units were vacant for other reasons.

**Table 7-6: Housing Units in Shelburne**

| | Owner Occupied | Renter Occupied | Vacant | Total |
|---|---|---|---|---|
| **Number of Units** | 488 | 306 | 61 | 855 |
| **Vacancy Rate** | 2.2% | 1.9% | N/A | 7.1% |

**Median Value** $123,100
**Median Contract Rent** $381
Source: U.S. Census Bureau, 1990

Shelburne has a healthy diversity of housing based on 1990 Census data. Approximately 36% of the housing stock was available for rent. In addition, over 42% of the town's housing structures were two-family housing or greater (see Table 7-7). Similar to Buckland, this estimate of two-family housing or greater may be too high, although the Shelburne Assessor could not provide more recent information. If the sample for the Census was primarily taken in Shelburne Falls, this may account for the high percentage of two-family or greater structures. Even assuming that the percentage is overstated, it is clear that Shelburne has a healthy diversity of housing stock for a rural community. However, according to building permit information compiled by the U.S. Census Bureau (see Table 7-8) only single family units were constructed between 1990 and 1994. This shows a movement away from the housing diversity exhibited in the housing stock in 1990. The town should continue to encourage and support a diversity of housing options.

Table 7-9 compiles information on housing in Shelburne considered affordable according to the State's narrow definition. Most of these units are within the Highland Village elderly housing complex. According to data from DHCD, there are 46 subsidized public housing units in the town of Shelburne, and nine units that receive rental assistance under the State Housing and Rental Subsidy Program, now known as the Massachusetts Rental Voucher Program. However, it is important to note that this information considers only the units that are supported by state or federal housing assistance programs. Diversity in housing type provides opportunities for the town's elderly and young families to find accommodation locally.

**Table 7-7: Type of Housing Structure**

| | Units | % |
|---|---|---|
| **Single Unit** | 494 | 57.8 |
| **2-4 Units** | 245 | 28.7 |
| **5 or More Units** | 83 | 9.7 |
| **Other** | 33 | 3.9 |

Source: US Census Bureau, 1990

**Table 7-8: Residential Building Permits**

| | Single Family | Multi Family |
|---|---|---|
| **1990** | 4 | 0 |
| **1991** | 6 | 0 |
| **1992** | 2 | 0 |
| **1993** | 4 | 0 |
| **1994** | 5 | 0 |

Source: US Census Bureau, 1994

**Table 7-9: Units Receiving State or Federal Housing Assistance**

| Subsidized Housing Units* | % Subsidized | Public Housing Units** | | Rental Assistance*** | |
|---|---|---|---|---|---|
| | | State | Federal | State (MRVP****) | Federal (Section 8) |
| 46 | 5.53 | 46 | 0 | 9 | 0 |

* Subsidized Housing Units: The number of housing units which count toward the municipality's 10% goal for low- and moderate-income housing. It includes both subsidized affordable units and market rate units in certain eligible subsidized developments.
** Source: DHCD 1993
*** Source: DHCD 1994
**** MRVP: State Housing Rental Subsidy, now known as the Massachusetts Rental Voucher Program

Based on data from 1990, most of Shelburne's housing stock is over fifty years old. Almost 62% of the town's housing units were constructed prior to 1939, as can be seen in Table 7-10. The use of lead paint was prevalent during this time, and continues to be a problem for families with small children.

**Table 7-10: Age of Housing Structures**

| | Units | % |
|---|---|---|
| **1989-March 1990** | 10 | 1.2 |
| **1980-1988** | 66 | 7.7 |
| **1970-1979** | 123 | 14.4 |
| **1960-1969** | 54 | 6.3 |
| **1950-1959** | 43 | 5.0 |
| **1940-1949** | 30 | 3.5 |
| **1939 or earlier** | 529 | 61.9 |

Source: US Census Bureau, 1990

## Affordability

Housing is considered 'affordable' when households spend no more than 30% of their gross income on housing costs. Households spending more than 30% of their income on housing are considered 'cost burdened.' For renters, housing costs include rent and utilities (heat, hot water, trash disposal, and electricity). For homeowners, the housing costs include the principal, interest, property taxes, and property insurance.

According to an analysis of the 1990 Census of Population and Housing conducted by the Housing Assistance Council, Massachusetts had one of the highest percentages of cost burdened

rural residents in the country. In 1990, the state had the third highest rural median monthly rent at $588. The rural median monthly owner cost was $1,140, and was the fourth highest in the country. The total percentage of cost-burdened rural households in the state was 28%.

**Table 7-11: Income and Housing Data**

| | Buckland | Shelburne |
|---|---|---|
| **Median Household Income** | $32,663 | $27,639 |
| **95% MHI*** | $31,030 | $26,257 |
| **80% MHI**** | $26,130 | $22,111 |
| **Median House Value** | $108,000 | $123,100 |
| **Median Gross Monthly Rent***** | $370 | $381 |

Source: U.S. Census data 1990

* Owner occupied units occupied by households with income of no more than 95% of the Median Household Income for the town are eligible for assistance under affordable housing programs.

** Rental units occupied by households with income no greater than 80% of the Median Household Income for the town are eligible for assistance under the affordable housing programs.

*** The gross monthly rent figures for both Shelburne and Buckland seem low compared to current rents. Reviewing the advertisements for rental properties in the Greenfield Recorder in two weeks in March 1999 revealed a rent range from $425 to $525 for apartments in Shelburne Falls.

Based on 1990 data (see Table 7-11) the median income household in Buckland could afford a house costing $90,000 and in Shelburne $75,000, assuming an 8.5% fixed interest rate mortgage. These housing costs have been obtained from a worksheet used by the Franklin County Regional Housing and Redevelopment Authority. The assumptions used for this calculation are that monthly payments include principal, interest, taxes, and insurance based on a 10% down payment; a 30 year term; fire and hazard insurance equaling 5/12% of purchase price; a tax rate equaling 15 dollars per thousand of purchase price; private mortgage insurance (PMI) equaling .00031250 of a point of mortgage value; no homeowners fee; and a minimum income based on allowing 30% of gross income towards monthly cost. The 1990 average cost of a house was $108,000 in Buckland and $123,100 in Shelburne. This shows a gap of $18,000 in Buckland and $48,000 in Shelburne. While the U. S. Census has not yet updated projected increases in median household incomes, the Franklin-Hampshire Board of Realtors noted that high housing costs have corrected themselves slightly. The natural beauty and traditional community character of Buckland and Shelburne make the towns attractive to people from outside the region for vacation homes. A large gap between the affordability for local residents and the cost of housing could result in property being more susceptible to purchase for second homes and vacation homes.

For rental properties in 1990, the median income households in Buckland and Shelburne could afford to spend $816 and $690 for monthly rent and utilities. This compares favorably with the median gross monthly rent of $370 (Buckland) and $381 (Shelburne) identified by the U.S. Census. The gross monthly rent figures for both towns seem low compared to current rents. Reviewing the advertisements for rental properties in the Greenfield Recorder in two weeks in March 1999 revealed a rent range from $425 to $525 for apartments in Shelburne Falls.

**Table 7-12: Home Sales: Buckland**

| Year | Number | % Change | Median Sale Price ($) | % Change |
|---|---|---|---|---|
| 1990 | 22 | -56.9 | 91,300 | +1.4 |
| 1991 | 24 | 9.1 | 82,000 | -10.2 |
| 1992 | 27 | 20.8 | 86,000 | +4.9 |
| 1993 | 26 | -10.3 | 95,000 | +10.5 |
| 1994 | 36 | 38.5 | 82,000 | -13.7 |

Source: Banker and Tradesman

Note: Home Sales & Home Prices: Data for all transactions between $25,000 and $1,000,000. Condominium sales and prices are included.

**Table 7-13: Home Sales: Shelburne**

| Year | Number | % Change | Median Sale Price ($) | % Change |
|---|---|---|---|---|
| 1990 | 31 | -8.8 | 105,000 | -8.7 |
| 1991 | 34 | 9.7 | 105,000 | 0.0 |
| 1992 | 27 | -20.6 | 102,500 | -2.4 |
| 1993 | 32 | 18.5 | 95,000 | -7.3 |
| 1994 | 33 | 3.1 | 79,900 | -15.9 |

Source: Banker and Tradesman

Note: Home Sales & Home Prices: Data for all transactions between $25,000 and $1,000,000. Condominium sales and prices are included.

Housing costs in both Shelburne and Buckland experienced a major increase between 1980 and 1990. The towns are well connected by Route 2 to regional employment centers such as Greenfield and Montague. This makes the towns attractive to commuters. Other factors contributing to the increase in housing prices include increasing costs of labor and building supplies. The small scale of development, costs related to building permits, and costs related to the provision of septic systems, water wells, and utilities to meet state standards also add to the cost of development. Tables 7-12 and 7-13 show information on sales of homes between 1990 and 1994. Median sale prices in Buckland fluctuated during this period but were under $95,000. In Shelburne, median sale prices exhibited a steady decrease from $105,000 to $79,900. The housing market in the region has once again begun to gain momentum after the recession in the earlier part of the decade. This often results in higher sale prices of homes, as demand increases, but more recent data is not yet available.

The Massachusetts Executive Order 215 of 1982 directs that every town should offer 10% of its housing stock for low and moderate income households. The current number of affordable units in the two towns that are on record with the Department of Housing and Community Development (DHCD) are listed in Table 7-14. These numbers are small for both towns. This is because the only units considered by DHCD are the ones that receive assistance from state or federal housing assistance programs. The towns should work with the Franklin County Regional Housing and Redevelopment Authority to devise ways to have the state recognize the presence of affordable units that do not utilize assistance from state or federal programs.

**Table 7-14: Affordable Housing Units**

| | Buckland | Shelburne |
|---|---|---|
| **Total Housing Units** | 766 | 832 |
| **Chapter 40B Units*** | 6 | 46 |
| **Total State-Designated Affordable Units** | 9 | 46 |

Source: Massachusetts Department of Housing and Community Development Chapter 40B Subsidized Housing Inventory – Current through July 1, 1997

Notes:

1) Chapter 774 of the Acts of 1969 (also known as Chapter 40B of the Massachusetts General Laws or the Anti-snob Zoning Act) is a process established by the Legislature to help address the state's housing needs through locally granted permits. This law enables the local Zoning Board of Appeals to grant a single permit to an eligible developer proposing state or federally subsidized low or moderate income housing.

2) While the Chapter 40B Housing Inventory is an indication of the effort communities have made to provide affordable housing, it does not reflect the presence of tenant based subsidies or other affordable rental apartments.

## Housing Issues

### Removal of Lead Paint

The majority of houses in Buckland and Shelburne were constructed prior to 1939, when lead paint was widely used. Removal of this paint is often expensive and many property owners do not have adequate funding to undertake removal. Therefore, a large number of rental apartments remain untreated. Low income families with young children often experience difficulty finding an apartment without lead paint.

### Title 5

Revised Title 5 rules were instituted in Spring of 1995. Approximately half the population of Buckland and Shelburne lives in Shelburne Falls and is served by the sewer system. Compliance with the Title 5 regulations is an important issue for the remaining rural households that have individual septic systems. Statewide, three-quarters of the systems reviewed by 1996 passed inspection. Figures for Buckland and Shelburne were not available. For the systems that did not pass inspection, repair costs averaged about $6,200. The DEP's Homeowner Septic Loan Program, instituted in 1996, utilizes funds from a FHA Title I loan program and from the Open Space Bond Bill. The FHA program creates a private bank-funded capitalization of septic system loans available for all income earners. The criteria for a loan is based on the credit history of the borrower, and allows a maximum debt-to-income ratio of 45%. The advantage to the bank is that these loans will be backed by a 90% federal guarantee, and are saleable to secondary market portfolio players. State funding subsidizes the low and moderate income (LMI) homeowner interest rate from market rate to 5%.

## Executive Order 215

Since 1982, the Massachusetts Executive Order 215 has directed that every town should offer 10% of its housing stock for low and moderate income households. Towns that initiate a proactive stance regarding this policy have the opportunity to develop a scale and style of construction that fits their traditional small town character.

## Elders and Young Families

A diverse housing stock with a wide range of costs is a necessary component of the social and economic health of the towns. Young families and the elderly population often need assistance to continue to reside in the town they grew up in. These are often the demographic sections with lower or fixed incomes, as they make their way up in the world or wind down after a fruitful life. Affordability thus is lower for these groups. The high cost of land and development makes it difficult for the private housing market exclusively to provide an adequate number of affordable rental and home ownership opportunities. General demographic trends across the country suggest that elders, single persons and couples who are just starting out are all seeking housing with less space and fewer maintenance responsibilities than the single family home. There is a need for a wider variety of housing types beyond the traditional single family house.

## Shelburne Housing Authority

The Franklin County Regional Housing and Redevelopment Authority (HRA) was created in recognition of the fact that in the absence of an agency dedicated to housing issues, Franklin County was underserved in terms of housing assistance. The HRA provides deferred payment loans to maintain quality affordable housing in the area and to stimulate the local building economy. It also supports the Self-Help building program, energy efficient improvements, Title 5 septic upgrades and trailer park resident buy-outs. New housing programs are directed at adaptive reuse of buildings, financial assistance to low and middle income households, and neighborhood redevelopment to eliminate absentee landlord problems. The Shelburne Housing Authority is the local wing of the HRA. It was instrumental in the construction of Highland Village in Shelburne.

In the past decade, federal and state support for housing programs has diminished in attempts to control budget deficits. However, the need for affordable housing remains. Buckland and Shelburne need to proactively develop more affordable housing so local residents, particularly elders and young families, can remain in the area.

## Recommendations

- Buckland should consider working with the Franklin Regional Housing Authority to identify a location in the Village District for affordable elderly housing to increase the number of units meeting the requirements of Executive Order 215.

- The towns should work with local legislators and the Franklin Regional Housing Authority to have the State expand its narrow definition of "affordable" to meet the State mandated goal of 10%.

CHAPTER 8

# LAND USE AND ZONING

The towns of Buckland and Shelburne are rural communities with a thriving village center. The village center of Shelburne Falls straddles the Deerfield River and comprises land from both Shelburne and Buckland. Shelburne Falls contains a mixture of manufacturing facilities, retail stores, office buildings, and restaurants, and serves as a regional employment and shopping center. It is also one of the major tourist destinations in Franklin County. Outside Shelburne Falls, forest and agricultural land, orchards and dairy farms dominate the landscape in both communities. Each of the towns has an historic rural village center in addition to Shelburne Falls, with concentrated residential development and civic activities.

The following land use goals were devised by each town based on the results of the Community Surveys (conducted by Buckland in 1996 and Shelburne in 1997). They were adopted by the towns at their respective Town Meetings. Recommended land use and zoning strategies are found at the end of this chapter. The strategies incorporate many of the recommendations identified in previous chapters. In many ways, the Land Use and Zoning chapter represents a synthesis of the work presented in previous chapters as it relates to land use and zoning.

**Goals**

- To protect the rural and historic character of Shelburne and Buckland.
- To protect the towns' natural resources and open space through appropriate zoning measures.
- To encourage small and medium scale commercial and light industrial development to locate in appropriate areas in town.

## Use of Land in Buckland and Shelburne

In 1985 the University of Massachusetts compiled land use statistics and maps for Franklin County based on aerial photographs. This information is displayed visually on the 1985 Land Use Map to show the areas in the towns where various land uses were concentrated. This map also shows the relationship of land use to the road network and the water bodies. However, a more recent land use datalayer was needed for the Master Planning process and the University of Massachusetts was hired to compile and update land use data for Buckland and Shelburne as part of this Master Planning project. These are based on aerial photographs taken in 1995 and 1997. The 1995/97 Land Use Map displays this information visually. The Land Use Change Map uses the 1995/97 land use information and identifies the change in land use since 1985. This map

shows the location and nature of land use change as well as the overall acreage of change in various categories. Land use data from 1985 and 1995/97 is summarized in Tables 7-1 and 7-2.

**Buckland**

According to land use data generated by the University of Massachusetts using aerial photographs from 1995 and 1997 the town of Buckland is predominantly forested with 10,043 acres or 79% of its land area under forest. Twenty-five acres in town are occupied by commercial development and fifteen acres are in industrial development. According to the U.S. Census Bureau, Buckland had a population of 2,165 as of July 1, 1994. According to the 1995/97 land use data, residential development occupies a total of 715 acres in the town, with the predominant category being sparse development of housing lots greater than half an acre. Sparse residential development increased from 424 acres in 1985 to 575 acres in 1995/97. This represents a 36% (151 acres) increase in sparse residential development between 1985 and 1995/97. The increase has been primarily at the expense of forest land which decreased by 188 acres between 1985 and 1995/97 (see Table 7-1).

**Table 7-1: Land Use Change – Buckland**

| Land Use Category | 1985 Acreage | 1995/97 Acreage | Land Use Change (Acres) |
|---|---|---|---|
| Sparse Residential -- greater than ½ acre lots | 424 | 575 | 151 |
| Residential -- ¼ - ½ acre lots * | 120 | 110 | -10 |
| Residential -- less than ¼ acre lots * | 31 | 30 | -1 |
| Multi-family residential | 0 | 0 | 0 |
| Commercial | 19 | 25 | 6 |
| Industrial | 14 | 15 | 1 |
| Mining, sand and gravel pits | 8 | 10 | 2 |
| Waste disposal | 4 | 15 | 11 |
| Transportation facilities | 22 | 26 | 4 |
| Water based recreation | 1.5 | 1.5 | 0 |
| Spectator recreation | 28 | 7 | -21 |
| Participation recreation | 8 | 32 | 24 |
| Parks, cemeteries, green-space, and open urban land | 29 | 22 | -7 |
| Forest | 10,231 | 10,043 | -188 |
| Orchard, nursery, etc. | 115 | 145 | 30 |
| Pasture | 628 | 638 | 10 |
| Cropland | 752 | 752 | 0 |
| Open land | 83 | 89 | 6 |
| Wetland* | 20 | 31 | 11 |
| Total town acreage including water bodies | 12,679 acres | | |

* Change is a result of improvements to land use and hydrology delineation, improvements in road data, and new geographic referencing system.

Agricultural land use in Buckland has increased somewhat during the period from 1985 to 1995/97. It now occupies 12% of the town's total land area. Cropland has remained constant at 752 acres. Land under pasture has shown a small expansion, increasing from 628 acres in 1985

to 638 acres in 1995/97. The Clesson Brook valley is one of the most fertile agricultural areas in Buckland and is dominated by three large dairy farms along scenic Route 112. Other agricultural uses such as orchards and nurseries have increased from 115 acres in 1985 to 145 acres in 1995/97, representing a 26% increase. Detailed land use data for Buckland, including overall change in acreages from 1985 to 1995/97 is provided in Table 7-1.

**Shelburne**

Like Buckland, the town of Shelburne is dominated by forest. According to the 1995/97 data forest land occupies 10,185 acres or 68% of the total land area. The U.S. Census Bureau information states that Shelburne had a population of 1,887 as of July 1, 1994. Residential development covers 642 acres in the town, with the majority (518 acres) devoted to sparse residential development of 1/2 acre or more. This land use category showed an increased of 163 acres or 46%, from 355 acres in 1985 to 518 acres in 1995/97. Residential development on 1/4 acre to 1/2 acre lots increased by 7 acres or 10%, from 72 acres in 1985 to 79 acres in 1995/97. Residential lots of less than 1/4 acre probably remained constant, occupying about 45 acres, but changes in the geographic referencing system resulted in a slight decline in this category between 1985 and 1995/97. The increase in residential development was offset by a corresponding decrease in forest land, which declined by 250 acres or 2%, from 10,435 acres in 1985 to 10,185 acres in 1995/97 (see Table 7-2).

**Table 7-2: Land Use Change – Shelburne**

| Land Use Category | 1985 Acreage | 1995/97 Acreage | Land Use Change (in acres) |
|---|---|---|---|
| Residential -- greater than ½ acre lots | 355 | 518 | 163 |
| Residential -- ¼ - ½ acre lots | 72 | 79 | 7 |
| Residential -- less than ¼ acre lots * | 48 | 45 | -3 |
| Multi-family residential | 0 | 0 | 0 |
| Commercial | 44 | 54 | 10 |
| Industrial * | 3 | 0 | -3 |
| Mining, sand and gravel pits | 3 | 0 | -3 |
| Waste disposal | 1 | 1 | 0 |
| Transportation facilities * | 8 | 5 | -3 |
| Water based recreation | 0 | 0 | 0 |
| Spectator recreation | 9 | 0 | -9 |
| Participation recreation | 74 | 84 | 10 |
| Parks, cemeteries, green-space, and open urban land | 49 | 40 | -9 |
| Forest | 10,435 | 10,185 | -250 |
| Orchard, nursery, etc. | 511 | 522 | 11 |
| Pasture | 1,289 | 1,315 | 26 |
| Cropland | 1,381 | 1,395 | 14 |
| Open land | 434 | 462 | 28 |
| Wetland* | 147 | 134 | -13 |
| Total town acreage including water bodies | 14,966 acres | | |

* Change is a result of improvements to land use and hydrology delineation, improvements in road data, and new geographic referencing system.

Agricultural land in the town covers 3,232 acres, which equates to 22% of the land area. This includes cropland, pasture, and other agricultural uses such as orchards and nurseries. Each of these categories has shown a slight increase between 1985 and 1995/97. Cropland increased by 14 acres or 1%, pasture by 26 acres or 2%, and orchards and nurseries by 11 acres or 2%. Shelburne has a considerable number of retail and service businesses within its commercially zoned area along Route 2 as well as business and commercial development in Shelburne Falls. Commercial land in the town increased by 10 acres between 1985 and 1995/97, standing at 44 acres in 1985 and 54 acres in 1995/97. Table 7-2 lists Shelburne's land use in 1985 and 1995/97 and overall change in acreage in various land use categories.

## Existing Patterns of Development

Over the years, Buckland and Shelburne have successfully maintained their traditional rural character. However, the towns are experiencing residential and commercial development pressure due to the proximity of Greenfield, a major regional employment center, and the location of Route 2, a major east-west highway and a significant tourist travel route.

The development pattern in both Buckland and Shelburne is characterized by village centers with compact mixed-use development, surrounded by rolling hills covered with mixed forests, and dairy farms, orchards, and farmhouses in the outlying rural areas. Residential development dots all the major roads in the towns. Both towns also have small rural village centers as well as the shared village of Shelburne Falls. Buckland and Shelburne both have pockets of industrial development in the Shelburne Falls Village District, and along Route 112 and the Deerfield River. Commercial development is concentrated in the Shelburne Falls village center and along the Route 2 corridor in Shelburne.

### Village Centers

Early development in the towns occurred along the Deerfield River, which provided the towns with power and a transportation channel, fostering the industrial base, and hence the economy of the towns. Shelburne Falls village developed in a flat area in the river valley. Residential, commercial, and industrial development was concentrated in the village on small, compact lots. Manufacturing buildings of the industrial era like the Lamson - Goodnow complex still remain. Shelburne Falls village also retains many historic residential and commercial structures (see Chapter 2 - Historic & Scenic Resources).

This development pattern characterizes the traditional New England mill town. Most of the residential and commercial development in the village is on small parcels with narrow frontages and little or no setbacks. This pattern of development is non-compliant with the current zoning bylaws. Both Buckland and Shelburne require larger frontage, as well as front and side setbacks. In other words, under the current bylaws, any new development in Shelburne Falls would have to

be on wider lots, with front and side setbacks, and would not easily conform to the character of the village. One way to encourage compact development in Shelburne Falls is to use it as a receiving zone for a Transfer of Development Rights. This is discussed in greater detail in the section 'Transfer of Development Rights and Shelburne Falls Parcel Level Analysis.' In addition to the shared village center of Shelburne Falls, Buckland and Shelburne also have separate rural village centers that contain houses clustered around churches and civic buildings such as libraries.

### Outlying Residential Development

As discussed in the Land Use Data section, residential development in both Buckland and Shelburne has increased considerably between 1985 and 1995/97. Sparse residential development was the land use category with the largest increase in both towns (151 acres in Buckland and 163 acres in Shelburne). Residential development in the towns occurs mainly through Approval Not Required (ANR) development. According to the Massachusetts Subdivision Control Law, M.G.L. Chapter 41, Sections 81-K through 81-GG land can be legally subdivided and recorded without approval of the Planning Board if it meets the following conditions:

- The lots shown on the plan must front on a way which the town clerk certifies is maintained and used as a public way, or a way shown on a plan approved and endorsed in accordance with the subdivision control law, or a way in existence when the subdivision control law became effective in the city or town in which the land lies, having in the opinion of the Planning Board sufficient width, suitable grades and adequate construction to provide for vehicular traffic in relation to the proposed use;
- The lots meet the minimum frontage requirements according to the town's zoning by-law; and
- Vital access to such lots exists to protect public safety and welfare.

Prior to receiving a building permit, the lots must also meet the requirements of a town's zoning bylaws including acreage. Approval Not Required development can lead to sprawling development along the towns' roads. Such sprawling development leads to fragmentation of wildlife habitat, farmland, forest land and scenic resources. It also requires new infrastructure, lengthens service routes for police, fire, and emergency service vehicles, creates more air pollution from automobiles, and increases road management costs including snow plowing.

### Industrial and Commercial Development

In 1991 the American Farmland Trust conducted studies that found that industrial development is one of the most efficient forms of development in terms of tax revenue generated. The American Farmland Trust (AFT) studies found that the median ratio of dollars generated by industrial development to services required was $1:$0.40. The median ratio for residential development was found to be $1:$1.16. Some of the towns studied by the American Farmland Trust were near

Buckland and Shelburne. Table 7-3 shows the cost of community service ratios (in $) for these towns.

**Table 7-3: Cost Of Community Service Ratios (In $)***

| | Residential | Commercial/ Industrial | Farm/Open Land |
|---|---|---|---|
| Deerfield | 1:1.16 | 1:0.38 | 1:0.29 |
| Gill | 1:1.15 | 1:0.41 | 1:0.29 |

* American Farmland Trust, 1991

The industrial base of Buckland and Shelburne has largely remained intact, although there are some unused industrial structures such as a few of the Lamson - Goodnow buildings. Buckland has three areas zoned as General Industrial zones, all three along the Deerfield River. The first is in the Shelburne Falls village, the second in the northeast end of the town, along the Shelburne border, and the third is in the floodplain along the Buckland - Charlemont town line. Shelburne has two areas classified as Industrial, also along the Deerfield River. The first is in the Shelburne Falls village and the second is in the northwestern end of town, across the river from one of Buckland's industrial zones. The Current Zoning Map shows these areas graphically. The areas zoned for industry in both towns are largely built out with the remaining land having limited potential for industrial development due to environmental constraints such as steep slopes and floodplain considerations. Currently both towns allow residential development to occur in industrial areas. This puts conflicting land uses in close proximity. Industrial development may create some disturbances such as increased sound, light, or truck traffic. This is undesirable in or adjacent to residential areas. The steep and undulating topography of Buckland and Shelburne makes industrial development difficult and expensive in most parts of the towns. Flat areas and areas with shallow slopes that are not prime farmland are rare, and therefore should be reserved for industrial development. One method of ensuring that scarce land that is suitable for industrial use is retained for industrial development is to restrict residential development from areas zoned for industry.

In their responses to the Community Surveys, 68% of survey respondents from Buckland and 60% of survey respondents from Shelburne were of the opinion that zoning should segregate conflicting uses such as residential and industrial development. In Buckland, 77% of survey respondents felt that adaptive reuse of existing buildings was suitable for new business growth. In Shelburne 87% of survey respondents favored the reuse of existing buildings for commercial development and 57% for industrial development.

Buckland contains five pockets of land zoned Commercial, three along Route 112, and two in the Central Village District. If this development pattern were followed it would result in small commercial pockets fragmenting the rural landscape along scenic Route 112. However, in their response to the Community Survey, 52% of Buckland respondents thought that the commercially zoned areas along Route 112 are suitable for future commercial development. The Land Use Subcommittee considered consolidating some of these pockets to create one larger commercial area.

Shelburne has a Commercial zoned area along Route 2, the Scenic Mohawk Trail, from the town border on the east to the Village District on the west and a Commercial area in the village center along the Deerfield River. Commercial development in the commercially zoned area along Route 2 has more than tripled in ten years, increasing from 10 acres in 1985 to 33 acres in 1995/97. In response to the Community Survey, 76% of survey respondents from Shelburne expressed concern about potential negative impacts of commercial growth along the Route 2 corridor. Of the Shelburne residents that responded to the survey, 67% were concerned about loss of scenic character, 62% feared the creation of an unbroken strip of commercial development, 45% were worried about the type of business that may locate there, and 38% about traffic impacts. The Level of Service Analysis completed indicates that Route 2 is experiencing a considerable degree of traffic congestion, particularly during the fall foliage season and efforts should be made to minimize future impacts (see Chapter 3 – Transportation Resources).

## Future Patterns of Development

Future patterns of development will be determined by each town's zoning and the nature of land available for development. Both Buckland and Shelburne are divided into three zoning districts: Residential / Agriculture, Commercial, and Industrial. Acreages associated with the various zoning categories in Buckland are listed in Table 7-4 and for Shelburne in Table 7-5. Shelburne has established a Village Center District, which overlays the village of Shelburne Falls and permits smaller acreages and lot frontages than the surrounding Rural area. These are shown in Table 7-6. The town of Buckland allows reduced frontages and acreages in areas served by public water and sewer. Table 7-6 lists the dimensional requirements. Since this is largely within Shelburne Falls, it is referred to as the Village for the purpose of this Master Plan. The Current Zoning and 1995/97 Land Use Maps show the zoning districts and recent land use information.

**Table 7-4: Zoning Districts - Buckland**

| Zone | Acreage in District |
|---|---|
| Residential/Agriculture Zone | 12,367 acres |
| Commercial Zone | 60 acres |
| Industrial Zone | 252 acres |
| Total | 12,679 acres |

**Table 7-5: Zoning Districts - Shelburne**

| Zone | Acreage |
|---|---|
| Residential/Agriculture Zone | 14,270 acres |
| Central Village District | 409 acres |
| Commercial Zone | 628 acres |
| Industrial Zone | 68 acres |
| Total | 14,966 acres |

**Table 7-6: Dimensional Requirements – Buckland**

| Zone | Minimum Frontage | Minimum Lot Size |
|---|---|---|
| Rural (without public water and sewer) | 200 feet | 2 acres (87,120 sq. feet) |
| Village (with public water and sewer) | 100 feet | 20,000 sq. feet |

**Table 7-7: Dimensional Requirements – Shelburne**

| Zone | Minimum Frontage | Minimum Lot Size |
|---|---|---|
| Rural | 250 feet | 86,000 sq. feet |
| Central Village District | 100 feet | 20,000 sq. feet |

The Residential/Agriculture zone comprises the largest zoning district in both towns. It occupies 94% of Buckland's and 93% of Shelburne's total land area. The roadside frontage in this area, with two-acre lot size and 200 - 250 foot frontage requirements, is the most susceptible to ANR residential development. The Village District in Buckland, which allows more compact development, is determined by water and sewer lines and is approximately 404 acres in area. A similar amount, 409 acres, is designated as the Central Village district in Shelburne. The Commercial zone in Buckland totals 60 acres and is divided into five distinct areas, two in Shelburne Falls and the remaining three strung along Route 112. Shelburne's Commercial zone occurs as a small parcel in Shelburne Falls village center and a long strip along most of Route 2, totaling 628 acres. Buckland has 252 acres of Industrial zoned land, while Shelburne has only 68 acres of land zoned Industrial. As discussed in the Existing Development Patterns section, a large percentage of this land is unsuitable for industrial development due to steep slopes or location in the floodplain or on prime farmland.

## Build-out Analysis

Based on current zoning and development trends discussed in the previous section, the major impact to the towns is likely to occur through residential development. This finding is confirmed by the Build-out Analysis conducted as part of a Growth Management Study by the Franklin Regional Council of Governments in 1997 to identify potentially developable areas in various towns in Franklin County. Potentially developable land is that which does not have environmental constraints or steep slopes and that which is not permanently protected such as state forest or conservation land. The study included a residential, commercial and industrial Build-out Analysis of potentially developable land to estimate the gross acreage of industrial, commercial, and residential development which could be developed under present zoning.

The Growth Management Study employed Geographic Information System technology, specifically PC Arc/Info software. Figure 7-1 is a generalized flow chart showing the steps taken

to conduct the Build-out Analysis. Please note that the word "coverage" is an Arc/Info term that describes the data layer containing both the digital map and associated database. The digital data layers utilized for this analysis are regional in scale, typically 1:25,000 (1 inch = 2,083.33 feet), and therefore provide only a general estimate. The analysis is not parcel based and the accuracy of the estimates provided is limited by the scale of the data layers used to perform the Build-out Analysis. For example, a regional wetland data layer at a scale of 1:25,000 will have wetland boundary lines with a maximum locational accuracy of +/- 20 feet. Also, digital datalayers of soils and floodplain data were not available and therefore could not be incorporated into the methodology.

**Figure 7-1: Build-out Analysis Methodology**

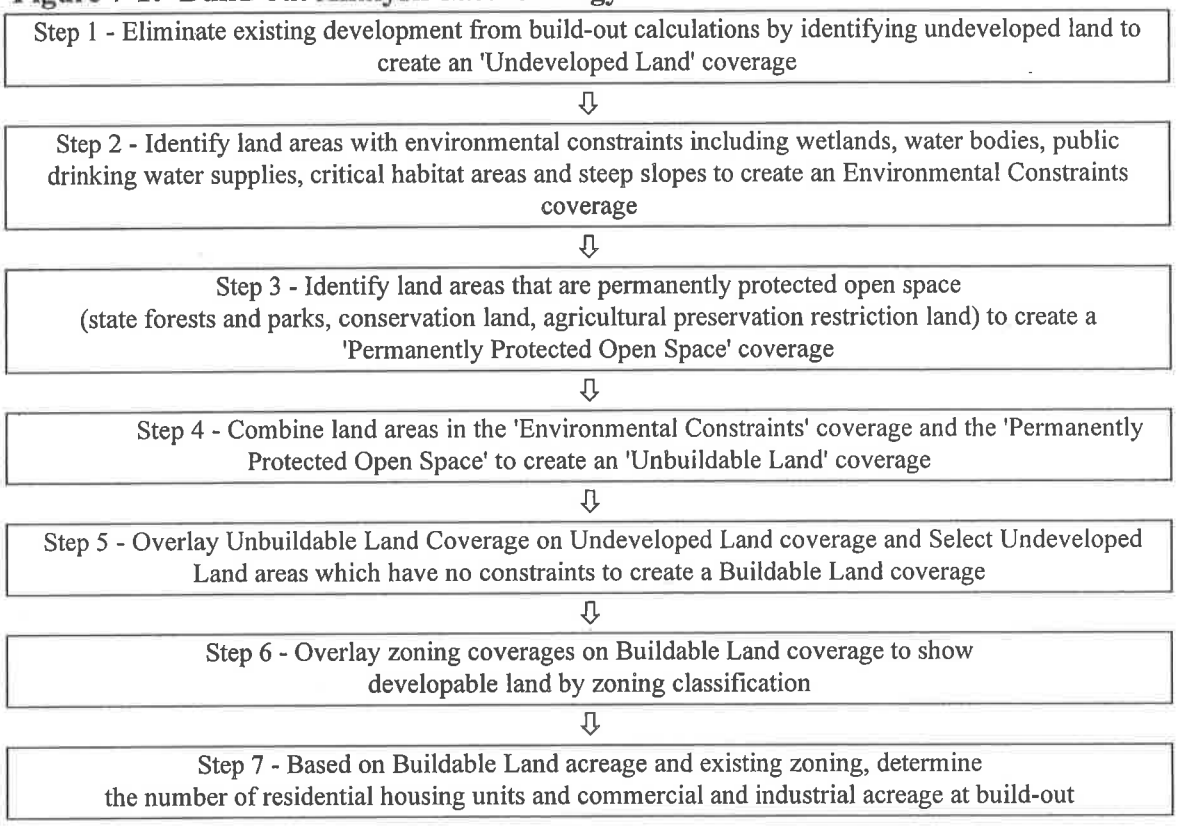



**Table 7-8: Potentially Buildable Land Areas in Buckland***

| | Acreage | Estimated Square Footage | Estimated Number of Residential Units | |
|---|---|---|---|---|
| | | | Minimum** | Maximum*** |
| Commercial | 21 | 185,430 | N/A | N/A |
| Industrial | 128 | 1,047,040 | N/A | N/A |
| Residential (Village) | 121 | N/A | 242 | 484 |
| Residential (Rural) | 7977 | N/A | 2632 | 3989 |

* Source: Growth Management Study Technical Report, FRCOG, 1997

** Based on 4 acre lot size

***Based on 2 acre lot size

**Table 7-9: Potentially Buildable Land Areas in Shelburne***

| | Acreage | Square Footage | Estimated Number of Residential Units | |
|---|---|---|---|---|
| | | | Minimum** | Maximum*** |
| Commercial | 234 | 2,066,220 | N/A | N/A |
| Industrial | 23 | 228,620 | N/A | N/A |
| Residential (Central Village) | 126 | N/A | 252 | 504 |
| Residential (Rural) | 9384 | N/A | 3097 | 4692 |

* Source: Growth Management Study Technical Report, FRCOG, 1997
** Based on 4 acre lot size
***Based on 2 acre lot size

## Development Scenario for Selected Roads in Shelburne under Existing Bylaws

To supplement the Build-out Analysis, the Franklin Regional Council of Governments (FRCOG) Planning Department conducted a development analysis for four scenic roads in Shelburne. The purpose of the study was to graphically depict the impact on these scenic roads from ANR development using existing zoning requirements. As stated in previous sections of the chapter, Approval Not Required (ANR) development is the most common form of residential development in Shelburne.

The four roads were chosen based on their considerable scenic value as noted in the FRCOG Planning Department's inventory of historically significant landscapes accomplished in the early fall of 1998. They are: Reynolds Road, Little Mohawk Road (north of its intersection with Reynolds Road), and Zerah Fiske and Bardwell Ferry Roads (both south of their intersections with South Road).

The method for this analysis involved two main steps. A field survey of all existing buildings on these roads was used to update existing USGS topographical maps of the area. Shelburne's minimum lot size requirements were then used to create a template. The template represents the minimum frontage of 250 feet and the minimum lot size of 86,000 square feet, since all four roads are located within the Rural Area District. Using an enlarged copy of the USGS map as a base map, new "house lots" were drawn in as squares containing approximately the amount of acreage required by zoning. The squares were not placed within 200 feet of streams and existing residential lots were considered to have the same frontage. Squares were not located in areas where slopes were excessive (greater than 25%) or in permanently protected open space. The numbers of squares is a rough approximation of the number of ANR residential units that could be developed on these four roads under the existing zoning in Shelburne.

The results can be seen both graphically (see Figure 7-2 and Figure 7-3) and in tabular form (see Table 7-10). New ANR "house lots" are shown by the larger squares, existing houses and groups of buildings are left as they appear on the base map, usually small solid black squares. Each ANR lot is depicted by a rectangle with at least 250 feet of frontage. Some of the existing

buildings have a larger lot size. Given the current zoning, residential development of farm, pasture and forestlands could produce a relatively dense pattern of ANR lots. As shown below, the total number of houses, on these four road sections, could potentially increase by 480%. These four sections of roads, although some of the more sparsely populated, are in no way unique in Shelburne.

**Table 7-10: Results of the Development Analysis for Selected Roads in Shelburne**

| Road Name | Approximate Number of Existing Houses | Approximate Number of Additional ANR House Lots | Total Potential Number of Houses |
|---|---|---|---|
| Reynolds Road | 12 | 25 | 37 |
| Little Mohawk Road | 5 | 15 | 20 |
| Bardwell Ferry Road | 10 | 39 | 49 |
| Zerah Fiske Road | 3 | 35 | 38 |
| TOTALS | 30 | 114 | 144 |

Both Shelburne and Buckland should consider adopting alternative zoning bylaws that might prevent the cookie-cutter development of their prime farm and forestlands. The Land Use subcommittee is interested in encouraging development strategies that respect landowners' equity and reduce or eliminate dispersed residential development. Back Lot Development with Open Space Set-Aside provides an alternative to ANR Development. In addition, Cluster Development and Transfer of Development Rights can also be used to modify the development pattern to create more compact development patterns. A Transfer of Development Rights Bylaw can be used to encourage traditional development patterns with dense centers of mixed residential and commercial uses while protecting farmland and open space in the outlying rural areas. These zoning options are discussed below. However, they are only part of the answer and additional permanent protection of open space is needed.

**Figure 7-2**

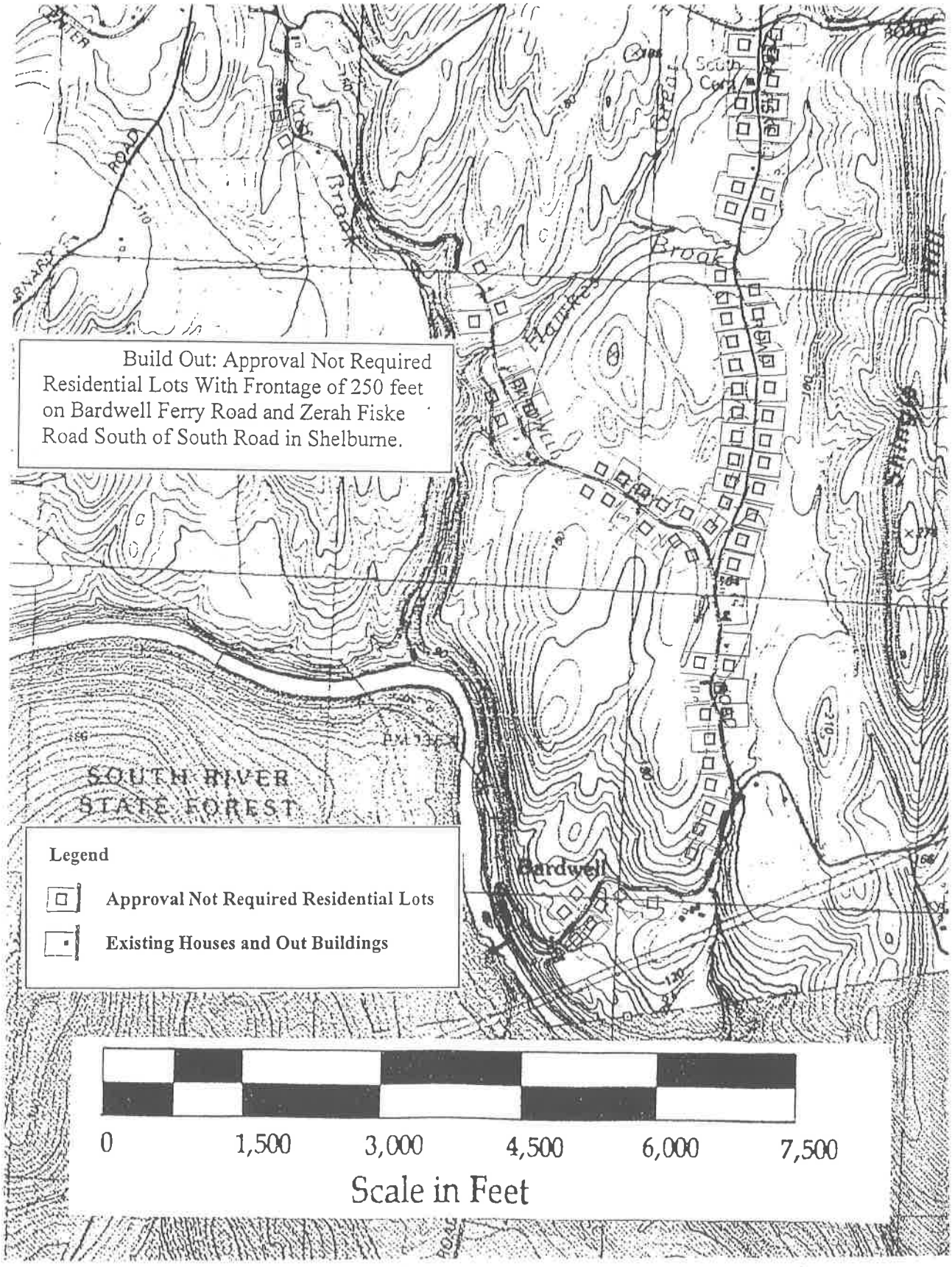
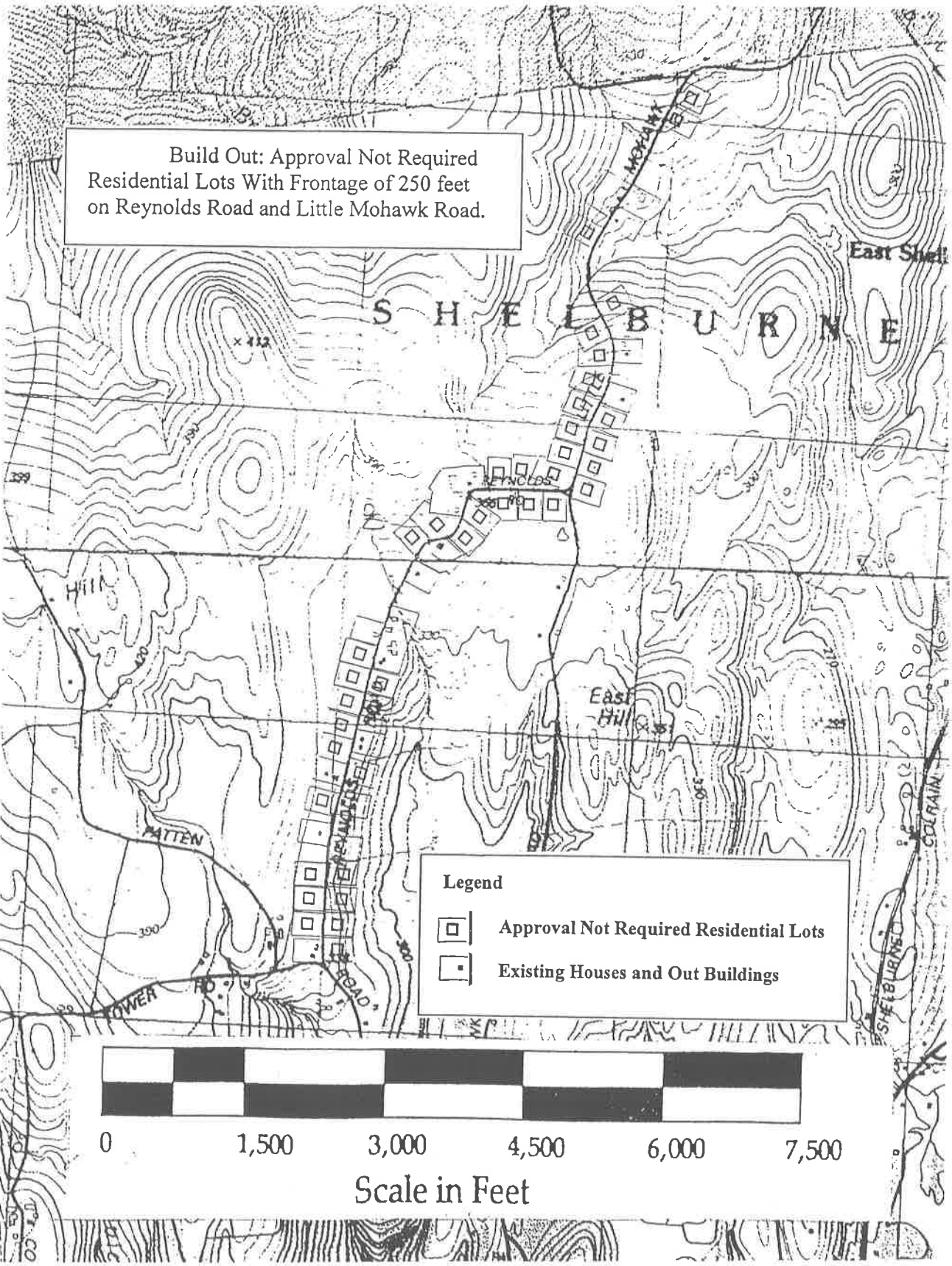

Build Out: Approval Not Required
Residential Lots With Frontage of 250 feet
on Bardwell Ferry Road and Zerah Fiske
Road South of South Road in Shelburne.
SOUTH RIVER
STATE FOREST
Legend
Approval Not Required Residential Lots
Existing Houses and Out Buildings
0
1,500
3,000
4,500
6,000
7,500
Scale in Feet

**Figure 7-3**


Build Out: Approval Not Required
Residential Lots With Frontage of 250 feet
on Reynolds Road and Little Mohawk Road.
SHELBURNE
East Shelb
LITTLE MOHAWK
REYNOLDS
East Hill
PATTEN
TOWER RD
COLRAIN
Legend
Approval Not Required Residential Lots
Existing Houses and Out Buildings
0
1,500
3,000
4,500
6,000
7,500
Scale in Feet

## Potential Zoning Options

### Back Lot Development with Open Space Set Aside

The Back Lot Development with Open Space Set Aside Bylaw provides an alternative to Approval Not Required (ANR) development. Buckland's zoning bylaws currently allow Back Lot Development with Farmland Set Aside. A Back Lot Development with Open Space Set Aside provision within the Zoning Bylaws allows a landowner to develop areas of his/her property without any road frontage in exchange for permanently prohibiting development of roadside land that is being actively farmed, forested or used recreationally. The maximum number of lots that can be developed as back lots can not exceed the number of lots allowed on the same tract using the ANR (Approval Not Required) subdivision and zoning requirements: buildable 2-acre lots with 200 or 250 feet of frontage depending on the zoning requirements of each town. Buckland already has a Bylaw that allows Back Lot Development with Farmland Set-Aside which can be used in areas with prime farmland such as the Clesson Brook Valley.

### Cluster Zoning

A Cluster Zoning Bylaw is an alternative to standard subdivision development. Cluster development bylaws can be mandatory, mandatory in certain defined sections of town, or optional. Cluster Development refers to residential development in which lots for buildings and accessories are grouped together in one or more clusters within the boundaries of a larger parcel of land. The building lots are reduced in size and concentrated together, taking up only a portion of the parcel of land. Land not included in building lots is shared by the development's residents as permanently preserved agricultural or forested land or can remain the property of the original landowner if a permanent conservation restriction preventing future development is placed on the land. The permanently protected land is usually required to be at least 40% of the total parcel. In Buckland, 65% of the respondents to the Community Survey were in favor of Cluster Development. The town has since adopted a Cluster Bylaw. In Shelburne, 53% of the survey respondents favor Cluster Development. Shelburne zoning bylaws contain a limited provision for allowing cluster development. This Bylaw should be reviewed and modified to provide more guidelines to landowners and to encourage its use.

### Village Center Districts

Both Buckland and Shelburne currently have village overlay districts in the Shelburne Falls area. The overlay district, in both cases, is defined by areas served by sewer and public water. Both towns allow reduced acreage and frontage requirements within the village area to 100 feet of frontage and 20,000 square feet minimum lot size.

Using the service infrastructure to define permitted dimensions will lead to an expansion of the high-density zone as the infrastructure expands. It would be appropriate to determine suitable

extents of sewer and water lines. The water lines currently serve a larger area than the sewer system. The Potential Zoning Districts Map shows Shelburne Falls divided into Village Center Residential A and Village Center Residential B districts based on existing infrastructure. Village Center District A is the area served by both sewer and public water. It is proposed that this be a residential district requiring 1/4 acre minimum lot area. The Village Center Residential B district is also proposed as a residential district, and is defined as the area served by public water supply, but not the sewer lines. The minimum lot size in this district would be 1 acre. The district lines may be reconsidered in the future, if warranted by growth needs.

### Transfer of Development Rights and Shelburne Falls Parcel Level Analysis

A transfer of development rights bylaw allows property owners in one area of town (sending zone) to transfer development rights to a property owner in a different area (receiving zone) of town. For example, a property owner in a rural agricultural area (sending zone) might sell their development rights to a landowner in a village center in order to permanently protect their farmland while realizing value for the development rights. The landowner in the village center (receiving zone) might purchase these development rights in order to increase the square footage of a commercial development or decrease the lot size requirements for residential homes beyond what is currently permitted under existing zoning. Transfer of development rights facilitates the protection of prime agricultural land and open space by allowing development to be concentrated in designated areas of town. In Buckland, 68% of people who responded to the Community Survey felt that Shelburne Falls village center is a suitable area to direct future development. In Shelburne, 40% of the respondents favored directing future commercial development to the Shelburne Falls village center. In August 1998, FRCOG Planning Staff conducted a parcel level analysis of vacant parcels of land within Shelburne Falls to determine where development could be directed. The results of this study are discussed below.

A parcel level analysis of Shelburne Falls' village was conducted in July, 1998 in order to assess development opportunities. This was done to determine whether a Transfer of Development Rights (TDR) zoning bylaw would be appropriate for consideration by one or both towns.

The analysis was accomplished in three stages. First, assessors' records and maps for all parcels within the Towns' village district were obtained. These records included parcel identification numbers, the parcel's State land use code, and the acreage of the lot. For the Town of Buckland, this list also identified the parcel's use with notes such as "Colonial" or, "Yard Items" which further described the parcels current use. Parcels that appeared potentially developable were identified based on this data. This category included parcels identified as vacant and large parcels with a residential structure that could be further subdivided. Next, a windshield survey of the parcels identified was conducted to verify the results of the initial analysis. Finally, a detailed analysis of all these parcels began with their organization into three sub-categories within each zoning district, for each Town (Parcels That Appear Developable, Parcels Requiring Further Investigation, and Parcels With Low Probability of Being Developed). Then, frontage lengths were identified for each parcel from the assessors' maps. Finally, the information was tabulated and total acreages were calculated. The detailed results of this study are listed in Table 7-11 through 7-16 and are summarized in Table 7-17.

**Table 7-11: Land Available for Development – Buckland (General Industrial Zone)**

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| ***Parcels That Appear Developable*** | | | | | |
| 3 - 1 | 1 | 101 | None | 27 | Approximately 1/3 of this 80 acre lot is zoned industrial. |
| 3 - 1 | 3 | 132 | 74 | 2.18 | Camping/Recreational Land. |
| 3 - 1 | 4 | 801 | 360+ | 2.03 | Camping/Recreational Land. |
| 3 - 1 | 17 | 101 | 1270 | 13.8 | Total area is 14.8 acres. Take out 1 acre for house on the property. |
| 3 - 1 | 19 | 901 | 270 | 4.25 | Total area is 5.25 acres. Take out 1 acre for office on the property. |
| 6 - 2 | 118 | 903 | 543 | 0.7 | This is vacant municipal lot. |
| 6 - 2 | 120 | 322 | 165 | 1.9 | Most of the lot is vacant w/ a Trolley Museum at the back. |
| 6 - 2 | 121 | 392 | 200 | 0.13 | This is a small rectangular vacant lot in back of the museum. |
| *Total* | | | | 51.99 | |

## Table 7-12: Land Available for Development – Buckland (Residential Zone – Rural)

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| ***Parcels That Appear Developable*** | | | | | |
| 3 - 1** | 1 | 101 | None | 52 | Approx. 2/3 of this 80 acre lot is zoned residential, and 1 acre is C. V. District. |
| 3 - 1** | 6 | 801 | 325 | 2.64 | Notes in Assessors list states this land is used for Camping/Recreation |
| 3 - 1** | 7 | 132 | 150 | 2.1 | |
| 3 - 1** | 8 | 101 | None | 48.9 | With 1 acre taken out for the existing house on the property. |
| 3 - 1** | 14 | 104 | 980 | 6.35 | With 1 acre taken out for the existing house on the property. |
| 3 - 1** | 15 | 101 | 286 | 22.32 | |
| 3 - 3 | 20 | 101 | 67 | 24 | With 1 acre taken out for the existing house on the property. |
| 6 - 7 | 1 - 1 | 106 | 730 | 25.69 | Coded as Accessory Land w/ Improvement. Woodland. |
| *Total* | | | | 184 | |
| ***Parcels Requiring Further Investigation*** | | | | | |
| 3 - 3 | 10 - 1 | 132 | None | 5.17 | See Assessors Maps for connection with 3 - 3 - 20. |
| 3 - 3 | 10 - 2 | 132 | None | 16.23 | Wooded parcel behind residential lots off of North St. with no frontage. |
| 6 - 4 | 52 | 106 | 360 | 8.2 | Coded as Accessory Land w/ Improvement. Woodland. |
| 6 - 4 | 3 - 1 | 101 | 100 | 10.7 | Most of property is located within residential zoning. |
| 6 - 4 | 65 | 101 | 140 | 10.07 | |
| 6 - 6 | 16 | 132 | 50 | 15.84 | Vacant woodland at end of Dungarvin Road. |
| *Total* | | | | 66.21 | |
| ***Parcels With Low Probability of being Developed*** | | | | | |
| 6 - 3 | 18 | 392 | None | 0.5 | Considered undevelopable. Located abutting B & M Railroad. |
| 6 - 3 | 21 | 392 | 120 | 0.37 | Considered undevelopable. Located abutting B & M Railroad. |
| *Total* | | | | 0.87 | |

** Note: These parcels fall within the area proposed to be rezoned 'Industrial.' If rezoned, these parcels would not be available for Transfer of Development Rights.

## Table 7-13: Land Available for Development – Buckland (Residential Zone – Village District)

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| ***Parcels That Appear Developable*** | | | | | |
| 3 - 3 | 12 | 131 | 90 | 6.6 | Wooded parcel behind residential lots off of North St. 90' frontage only. |
| 3 - 3 | 40 | 130 | 170 | 0.75 | Used as a parking area for cars on grass. |
| 3 - 3 | 49 | 131 | 70 | 0.5 | Used as a yard between State St. and the Deerfield River. |
| 6 - 1 | 18 | 130 | 132 | 0.52 | Wooded parcel at corner of Wall St. and Crittenden Hill. Has barn on it. |
| 6 - 2 | 107 - 1 | 130 | 66 | 0.2 | Lawn or yard of lot 107. |
| 6 - 4 | 35 | 132 | 220 | 2.2 | Vacant lot off of Elm Street in residential area. |
| 6 - 6 | 14 | 132 | 245 | 0.48 | Vacant lot at the corner of Dungarvin Drive and Elm Street. |
| 6 - 6 | 1 - A | 130 | 175 | 1.33 | Located off of Elm Street with 170' frontage. |
| *Total* | | | | 12.58 | |
| ***Parcels Requiring Further Investigation*** | | | | | |
| 3 - 2 | 10 - 2 | (not listed) | 327 | 3.5 | This lot is identified on the Assessors maps as # 10 - 2. |
| 3 - 2 | 8 | 310 | 500 | 1.5 | Near abandoned 'Old State Street'. Explained as 'Yard Items' |
| 6 - 1 | 77 - 1 | 132 | 50 | 0.13 | Part of yard to house lot # 77. |
| 6 - 2 | 147 | 131 | 100 | 2 | Steep wooded slope north of Hillside Ave, southeast of Crittenden. |
| 6 - 2 | 34 - 1 | 130 | Unknown | 1.44 | Not on Assessors map. Subdivided portion of lot # 34. |
| 6 - 2 | 75 - 2 | 130 | Unknown | 0.6 | 75-2, 3, and 5, subdivided portions of parcel # 75, not on Assessors maps. |
| 6 - 2 | 75 - 3 | 130 | Unknown | 0.6 | 75-2, 3, and 5, subdivided portions of parcel # 75, not on Assessors maps. |
| 6 - 2 | 75 - 5 | 130 | Unknown | 0.69 | 75-2, 3, and 5, subdivided portions of parcel # 75, not on Assessors maps. |
| 6 - 4 | 58 - 1 | 132 | Unknown | 0.43 | Probably a separated parcel from lot # 58. Vacant. |
| 6 - 5 | 5 | 131 | 120 | 5 | Abuts B & M Railroad and has 120' of frontage on South Street. |
| *Total* | | | | 15.89 | |
| ***Parcels With Low Probability of being Developed*** | | | | | |
| 3 - 3 | 31 | 132 | 105 | 0.07 | Wooded slope between railroad and Old State Street. Floodplain. |
| 3 - 3 | 33 | 132 | 1000 ± | 1 | Riparian edge between State St. and the Deerfield River. Floodplain. |
| 3 - 3 | 38 | 131 | 95 | 0.26 | Used as a yard between State St. and the Deerfield River. Floodplain. |
| 6 - 3 | 12 | 905 | 700 | 3.5 | This is exempt land owned by VFW and is a playground. |
| 6 - 5 | 4 | 390 | None | 1 | Abuts B & M Railroad. |
| *Total* | | | | 5.83 | |

## Table 7-14: Land Available for Development – Buckland (Commercial Zone)

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| ***Parcels That Appear Developable*** | | | | | |
| 3 - 2 | 13 | 131 | 220 | 0.57 | At end of accessible Old State Street. |
| 3 - 2 | 14 | 131 | 140 | 0.53 | Has outbuildings on it now. Abuts previous parcel. |
| 6 - 1 | 35 | 130 | 66 | 0.13 | This is a dirt lot behind a retail business possibly used as parking. |
| *Total* | | | | 1.23 | |
| ***Parcels With Low Probability of being Developed*** | | | | | |
| 3 - 2 | 10 | 132 | none | 0.21 | Near railroad, inaccessible except from Old State Street |
| 3 - 2 | 16 | 106 | 900+ | 0.6 | Sliver of vacant land between railroad and Old State Street. |
| *Total* | | | | 0.81 | |

## Table 7-15: Land Available for Development – Shelburne (Residential Zone – Central Village District)

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| ***Vacant Parcels That Appear Developable*** | | | | | |
| 40 | 22 | 130 | 75 | 0.23 | Level vacant lot adjoining home site off of Pleasant St. |
| 43 | 13 | 132 | 109 | 0.23 | Vacant lot off of Mechanic Street. |
| 43 | 47 | 131 | 100 | 0.49 | Vacant Lot off of Route 2. |
| 43 | 48 | 131 | 100 | 0.49 | Vacant Lot off of Route 2. |
| *Total* | | | | 1.44 | |
| ***Parcels Requiring Further Investigation*** | | | | | |
| 40 | 49 | 130 | 100 | 0.24 | Steep vacant lot off of High Street. |
| *Total* | | | | 0.24 | |
| ***Parcels With Low Probability of being Developed*** | | | | | |
| 41 | 10 | 130 | 47 | 0.07 | Riparian zone between Deerfield River and Water Street. |
| 41 | 11 | 130 | 90 ± | 0.11 | Riparian zone between Deerfield River and Water Street. |
| 41 | 13 | 130 | 60 ± | 0.06 | Riparian zone between Deerfield River and Water Street. |
| 41 | 14 | 130 | 90 ± | 0.09 | Riparian zone between Deerfield River and Water Street. |
| 41 | 15 - 1 | 130 | 50 | 0.06 | Riparian zone between Deerfield River and Water Street. |
| *Total* | | | | 0.39 | |

**Table 7-16: Land Available for Development – Shelburne (Commercial Zone)**

| Map No. | Parcel No. | Land Use Code* | Frontage (in feet) | Area (in acres) | Comments |
|---|---|---|---|---|---|
| *Vacant Parcels That Appear Developable* | | | | | |
| 41 | 4 | 130 | 30 | 0.09 | This land connects the Bridge of Flowers to Water Street. |
| 41 | 88 | 132 | 66 | 0.16 | Vacant lot between "main street" buildings on Bridge St. |
| *Total* | | | | 0.25 | |

* Land Use Codes: 101, Single Family; 104, Two-Family; 106, Accessory Land with Improvement; 130, Developable Land; 131, Potentially Developable Land; 132, Undevelopable Land; 310, Tanks holding oil and fuel products; 390, Developable Commercial Land; 392, Undevelopable Commercial Land; 801, Hiking trails and paths for hiking; 901, Exempt- Commonwealth of Mass; 903, Exempt- Municipalities; and 905, Exempt- Charitable Organizations.

**Table 7-17: Shelburne Falls Parcel Level Analysis**

| | Area (in acres) | |
|---|---|---|
| | **Shelburne** | **Buckland** |
| **Village District** | | |
| Parcels That Appear Developable | 1.44 | 12.58 |
| Parcels Requiring Further Investigation | 0.24 | 15.89 |
| Parcels with Low Probability of being Developed | 0.39 | 5.83 |
| **Residential Zone** | | |
| Parcels That Appear Developable | 0 | 184 |
| Parcels Requiring Further Investigation | 0 | 66.21 |
| Parcels with Low Probability of being Developed | 0 | 0.87 |
| **Commercial Zone** | | |
| Parcels That Appear Developable | 0.25 | 1.23 |
| Parcels with Low Probability of being Developed | 0 | 0.81 |
| **General Industrial Zone** | | |
| Parcels That Appear Developable | 0 | 51.99 |
| **Total** | **2.32** | **339.41** |

Based on the results of the parcel level analysis it appears that a Transfer of Development Rights (TDR) Bylaw would be feasible for Buckland given available acreage in the Shelburne Falls area. Limited acreage is available for development on the Shelburne side of the village, hence a TDR bylaw would be worthwhile only if an alternative 'receiving zone' is identified. The Land Use Subcommittee is considering the rural village center, Shelburne Center, as this is an area where traditionally residential and civic activities have been concentrated. However, additional analysis will be required to determine the suitability of this area as a 'receiving zone' for TDR in Shelburne.

## Protection of Community Character and Scenic Landscapes

The historic character of Buckland and Shelburne is one of the main attractions of the area, both for residents and visitors. Shelburne Falls, Buckland Center, and Shelburne Center have so far managed to retain their traditional character. This is partially because most new development in the towns has occurred in the outlying forested areas. However, as structures begin to need renovation, and if additional growth is directed to these historic centers, it is important that tools be in place to ensure that the traditional character is maintained. Overall, 57% of the residents of Shelburne who responded to the Community Survey, would like to see future commercial development along Route 2 that is consistent with the historic character of Shelburne. Voluntary or mandatory design guidelines are possible tools to protect community character.

### Personal Communication Services Antenna Siting

The Route 2 corridor is a major regional east-west link, and as such a potentially desirable corridor for telecommunications tower siting in the future. The siting of towers and antennas for Personal Communications Systems (PCS) may have a tremendous impact on ridge lines in Buckland and Shelburne. Creating a Bylaw to control the siting of PCS is an important issue to think about when considering preservation of the community character. This may be used to give the town some control over the appearance and visibility of the towers to lessen impacts on surrounding properties. The towns could also attempt to minimize the number of towers by requiring the maximum amount of hardware to be accommodated on each tower as is technologically feasible. The Federal Communication Act of 1996 has mandated that municipalities may not prohibit the siting of PCS equipment or do anything that has the practical effect of banning them. In other words, communities may not invoke Height Restriction Bylaws to prohibit the setup of PCS antennas within their town boundary. Towns do, however, have the right to regulate the siting of these towers. A **Ridge Protection Bylaw** could be used to ensure that the antennas are not located in highly visible parts of the town. Buckland has recently adopted a Telecommunications Bylaw and the Planning Board has expressed an interest in creating a Ridge Protection Overlay District and associated Bylaw. Shelburne has also recently adopted a Telecommunications Bylaw.

### Site Plan Review

The purpose of Site Plan Review is to protect the natural resources and historic rural character of a site and adjacent areas. Site Plan Review establishes criteria for layout, scale, appearance, safety and environmental impacts of residential, commercial or industrial development. Site Plan Review shapes a project and focuses on location and height of structures, parking, traffic, drainage, roadway construction, signage, utilities, landscaping, lighting and types of building materials in order to arrive at the best possible design for the location. Site Plan Review also addresses the natural resources of the site including prime farm and forest land, prime soils, slope, and critical habitat areas. Site Plan Review often operates in conjunction with a special permit process which authorizes uses and structures. However, Site Plan Review can also be attached to uses not requiring a Special Permit by the imposition of reasonable conditions before

the issuance of a building permit. Respondents to the Community Survey in Buckland and Shelburne expressed strong support for Site Plan Review. In Buckland, 72% supported Site Plan Review for multiple-lot residential developments and 79% favored Site Plan Review for large commercial and industrial developments. In Shelburne, 67% supported Site Plan Review for multiple-lot residential developments and 69% favored Site Plan Review for large commercial and industrial developments.

### Design Guidelines

The towns can adopt voluntary or mandatory design guidelines to ensure that future development in designated areas is consistent with the traditional character of the area. Design guidelines can provide information to landowners about suitable design elements such as roof pitches and building materials to help make their structures consistent with the local character. In their responses to the Community Surveys 45% of the respondents from Shelburne were in favor of voluntary architectural design guidelines in the village district and 42% were in favor of voluntary guidelines along Route 2.

## Protection of Natural Resources

Respondents to the Community Surveys in both Buckland and Shelburne strongly supported the protection of natural resources. In both towns 66% of the respondents felt that zoning should be used to protect important land such as wetlands and farmland. The Natural Resources Subcommittee recommended a number of zoning and non-zoning strategies to the Land Use Subcommittee for consideration. These were approved by the Master Plan Committee. The Land Use Subcommittee determined the following strategies to be important for adoption in the short term (1 to 3 years):

### Aquifer Protection

The adoption of Aquifer Protection Overlay Districts and associated zoning bylaws was recommended by the Natural Resources Subcommittee. This will ensure the protection of surface and ground water quality in those areas that have the potential to serve as future public water supplies for the towns (see Chapter 1 - Natural Resources for detailed discussion).

### Ridge Protection

The adoption of Ridge Protection Overlay Districts and associated zoning measures was recommended by the Natural Resources Subcommittee. This will help to direct telecommunications and other towers away from highly visible ridges in town, to protect important scenic and natural resources, and to prevent erosion (see Chapter 1 - Natural Resources for detailed discussion).

### Floodplain Bylaw

The National Flood Insurance Program has established guidelines for towns to incorporate into their Floodplain Bylaws in order to maintain their eligibility to receive Flood Insurance. The towns should review their Floodplain Bylaws and ensure that they provide the required protection of these areas and comply with the National Flood Insurance Program for flood insurance purposes.

## Recommendations

The recommendations of this chapter incorporate many of the recommendations identified in previous sections. In many ways, this chapter represents a synthesis of the previous work as it relates to land use and zoning. The strategies have been divided into two categories: short term and long term strategies. The intention is to implement the short term strategies within three years and to implement long term strategies within three to five years.

*Short Term Strategies (1-3 years):*

- Pursue zoning amendments that encourage the protection of open space and farmland.
  a) Update the Cluster Development Bylaw in Shelburne and encourage use of the Cluster Bylaws in Buckland and Shelburne to support open space protection. Consider strengthening incentives for use of the Cluster Development Bylaws such as a density bonus.
  b) Evaluate the adoption, in Shelburne, and expansion, in Buckland, of the Back Lot Bylaw with Open Space Set-Aside as an option for landowners to protect roadside farmland and open space where appropriate without fragmenting important forest and wildlife habitat.

- Pursue zoning amendments that encourage the protection of the rural and historic character of Buckland and Shelburne.
  a) Adopt a Ridge Protection Bylaw in Buckland that would serve to regulate development on the top of a ridge to control erosion and to ensure that uninterrupted views are protected.
  b) Support the Telecommunications Bylaws that address the siting of cellular and telecommunication towers.
  c) Adopt Voluntary Design Guidelines for commercial and industrial development in the Village District, along Route 2 and Route 112 and provide for density bonuses or parking reductions to encourage use.
  d) Consider variable front setbacks in the Shelburne Falls Village District to maintain consistency in historic neighborhoods with respect to new construction.

- Improve compliance with existing town bylaws and state regulations through public education and regular meetings between the Building Inspector, the Planning Board, the Board of Health, the Conservation Commission, and the Zoning Board of Appeals.

- Encourage the use of alternatives to Approval Not Required (ANR) development to protect the natural environment and the rural character. Some of the strategies that may be used are Scenic Easements, Conservation Restrictions and Back Lot Development with Open Space Set-Aside.

- Conduct a Scenic Byway Study and create a Corridor Management Plan for the historic Mohawk Trail (Route 2), which addresses protection of the scenic character and creates a strategy for commercial development that is consistent with the historic and scenic integrity of Shelburne.

- Revise allowed uses in industrial zones to prevent additional residential development.

- Revise allowed uses in commercial districts to eliminate drive-through restaurants and gas stations. Residential development and commercial uses such as offices, retail establishments, and restaurants without drive-through windows would be suitable for these districts.

- Create Aquifer Protection Overlay Districts and associated zoning bylaws for the protection of surface and ground water quality in those areas that have the potential to serve as future public water supplies for the towns.

- Rezone districts in Buckland to ensure that they include sufficient buildable area to accommodate future growth and to determine that they are appropriately located in areas with minimal environmental constraints (see Existing & Potential Zoning Districts Maps).

    a) Rezone Buckland's industrial zone in the floodplain along Depot road near Route 112 to Rural/Agriculture zone.
    b) Evaluate expanding the existing industrial zone north of Route 2 in Buckland. Preliminary reviews show that this area is not located in the floodplain, soils are acceptable, and topography is not excessively steep although some regrading would be required. Upgrades to the road would be needed to allow access by truck traffic beyond the aqueduct. Establish minimum 100-foot setbacks and buffer requirements as needed to maintain the scenic character of the Deerfield River.
    c) Convert existing Village Center Overlay district to Village Center Residential A & B Districts to delineate extension limits for water and sewer lines, therefore concentrating dense development within the Village Center and reducing sprawl.
    d) Consolidate the three commercial districts along Route 112 in Buckland to one mixed-use district and expand it to both sides of the road. Revise the existing Commercial Districts in Shelburne Falls to match the residential and commercial land use patterns that already exist. Residential development and commercial uses such as offices, retail establishments, and restaurants would be suitable for the proposed Commercial Districts.

- Rezone districts in Shelburne to ensure that they include sufficient buildable area to accommodate future growth and to determine that they are appropriately located in areas with minimal environmental constraints (see Existing & Potential Zoning Districts Maps).

    a) Rezone Shelburne's small industrial zone along Deerfield Street in the floodplain to Commercial and expand the existing Commercial zone further east along Bridge Street. Residential development and commercial uses such as offices, retail establishments, and restaurants would be suitable for this area
    b) Consider rezoning an area of the commercial zone along Route 2 for a planned eco-industrial park with minimum 100-foot setbacks and buffer requirements as needed to maintain the scenic character of Route 2.
    c) Convert the existing Village Center Overlay district to Village Center Residential A district to delineate extension limits for water and sewer lines, thereby concentrating dense development within the Village Center and reducing sprawl.

- Maintain the agricultural character of the area by creating a Farm Structure Reuse Bylaw that would allow the reuse of abandoned farm structures for artisans and appropriate businesses that are compatible with agricultural operations and the rural character of the area.

- Improve the existing Floodplain Bylaw to provide protection of these areas and to comply with the National Flood Insurance Program for flood insurance purposes.

- Give highest priority to open space protection and land conservation efforts in identified Wildlife Habitat Corridors to protect important habitat areas and facilitate the movement of species between them. Encourage the use of Back Lot Development with Open Space Set-Aside and Cluster Development to concentrate development in less sensitive parts of a site and protect important habitat areas, prime forest resources, and prime agricultural land.

- Consider applying to the Massachusetts Historic Commission to expand the existing Shelburne Falls National Historic District to include residential, civic, and industrial structures, and sites adjacent to the current district as defined in the Historic Resources section.

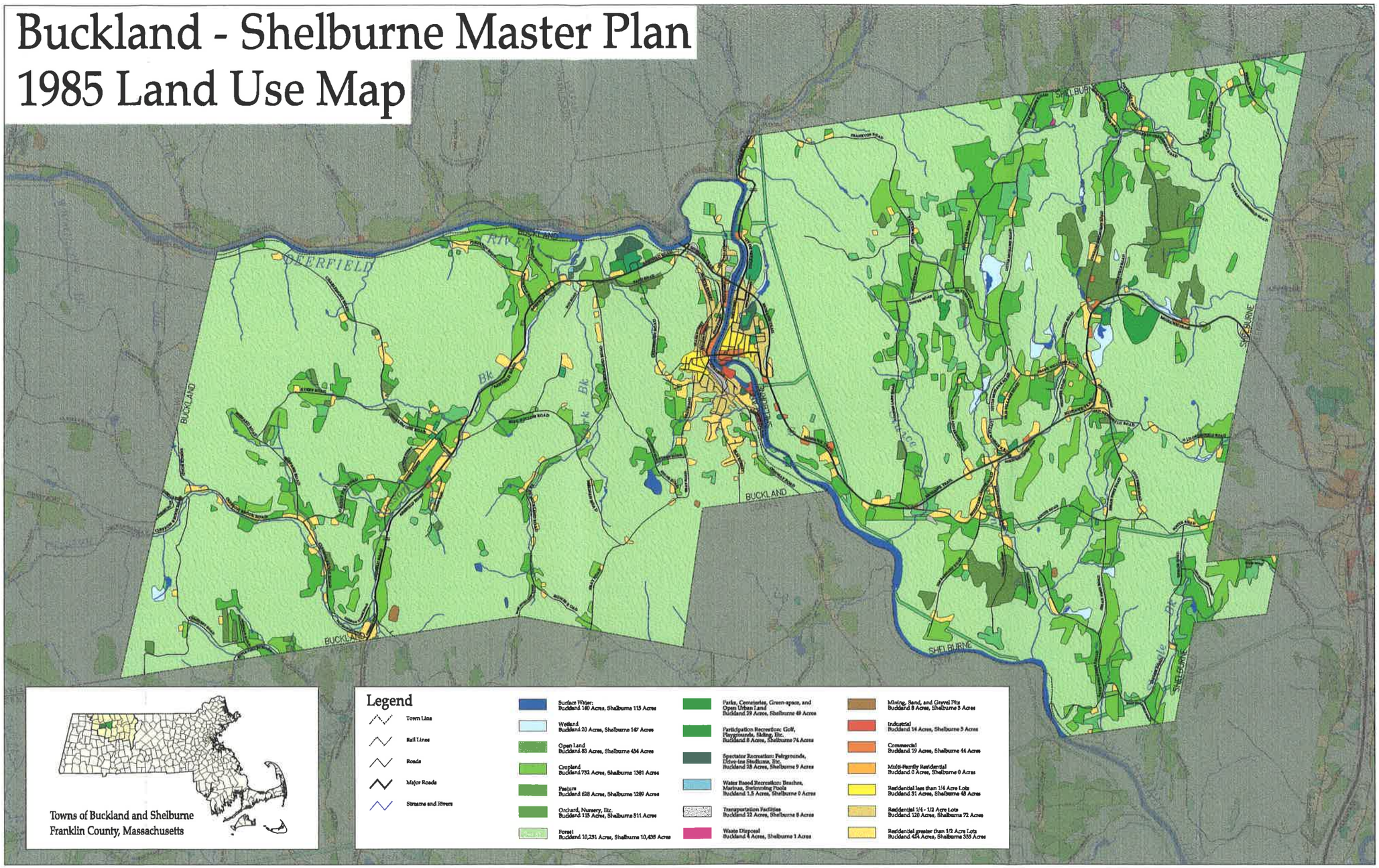
- Consider applying for a TEA-21 Enhancement grant to obtain funding for scenic easement acquisition with willing landowners for historic landscapes and Scenic Roads identified in Chapter 2 – Historic Resources.

- Consider applying to the Massachusetts Historic Commission to create a new National Historic District in Buckland Center.

- Consider adopting a Demolition Delay Bylaw to protect historic properties.

- Conduct a detailed analysis of buildable land in the commercially zoned section of the Route 2 corridor in Shelburne. Identify suitable development patterns such as commercial development concentrated in nodes separated by permanently protected open space. Encourage such growth patterns through the use of zoning strategies such as a TDR Bylaw and non-zoning strategies such as Scenic Easements.

# Buckland - Shelburne Master Plan
# 1985 Land Use Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers

- Surface Water: Buckland 140 Acres, Shelburne 115 Acres
- Wetland: Buckland 20 Acres, Shelburne 147 Acres
- Open Land: Buckland 83 Acres, Shelburne 434 Acres
- Cropland: Buckland 752 Acres, Shelburne 1381 Acres
- Pasture: Buckland 638 Acres, Shelburne 1289 Acres
- Orchard, Nursery, Etc.: Buckland 115 Acres, Shelburne 511 Acres
- Forest: Buckland 10,281 Acres, Shelburne 10,436 Acres
- Parks, Cemeteries, Green-space, and Open Urban Land: Buckland 29 Acres, Shelburne 49 Acres
- Participation Recreation: Golf, Playgrounds, Riding, Etc.: Buckland 8 Acres, Shelburne 74 Acres
- Spectator Recreation: Fairgrounds, Drive-ins Stadiums, Etc.: Buckland 38 Acres, Shelburne 9 Acres
- Water Based Recreation: Beaches, Marinas, Swimming Pools: Buckland 1.5 Acres, Shelburne 0 Acres
- Transportation Facilities: Buckland 22 Acres, Shelburne 8 Acres
- Waste Disposal: Buckland 4 Acres, Shelburne 1 Acres
- Mining, Sand, and Gravel Pits: Buckland 8 Acres, Shelburne 5 Acres
- Industrial: Buckland 14 Acres, Shelburne 5 Acres
- Commercial: Buckland 19 Acres, Shelburne 44 Acres
- Multi-Family Residential: Buckland 0 Acres, Shelburne 0 Acres
- Residential less than 1/4 Acre Lots: Buckland 51 Acres, Shelburne 48 Acres
- Residential 1/4 - 1/2 Acre Lots: Buckland 120 Acres, Shelburne 72 Acres
- Residential greater than 1/2 Acre Lots: Buckland 424 Acres, Shelburne 355 Acre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### Map Scale

0 1/2 1 1 1/2
Scale in Miles

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Scale in Feet

### Map Sources:

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

1985 MacConnell Land use Data created by Resource Mapping, Forestry and Wildlife Department, UMASS, Amherst. The 1985 Land Use data is distributed by MassGIS.
Roads data provided by Massachusetts Highway Department
MassGIS provided the following additional data: Town lines,

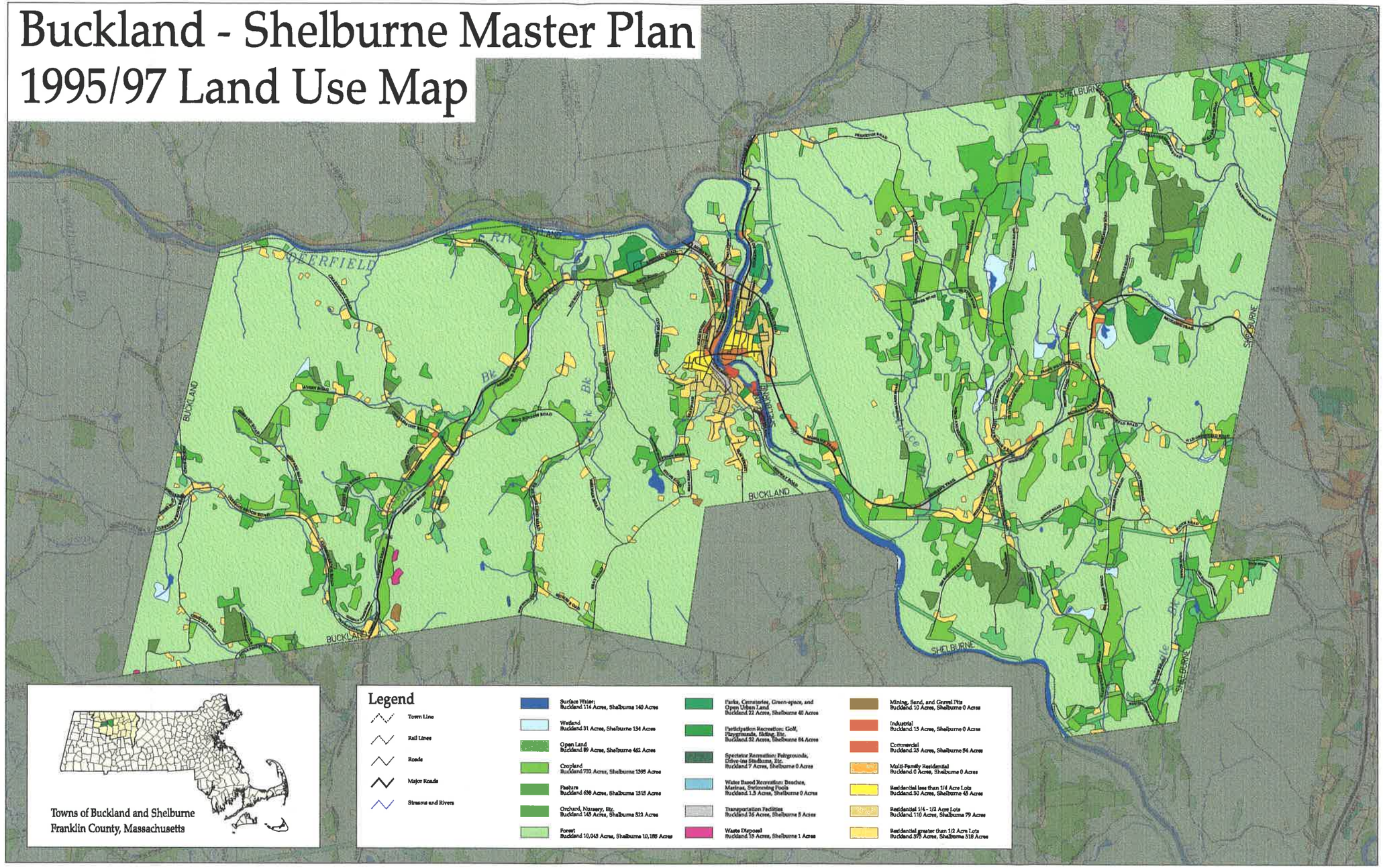
Note:
Depicted boundaries are approximate and are intended for planning purposes only.

Portions of the source data were obtained from 1:100,000 scale maps, therefore the accuracy

July 1998

NORTH

# Buckland - Shelburne Master Plan
# 1995/97 Land Use Map





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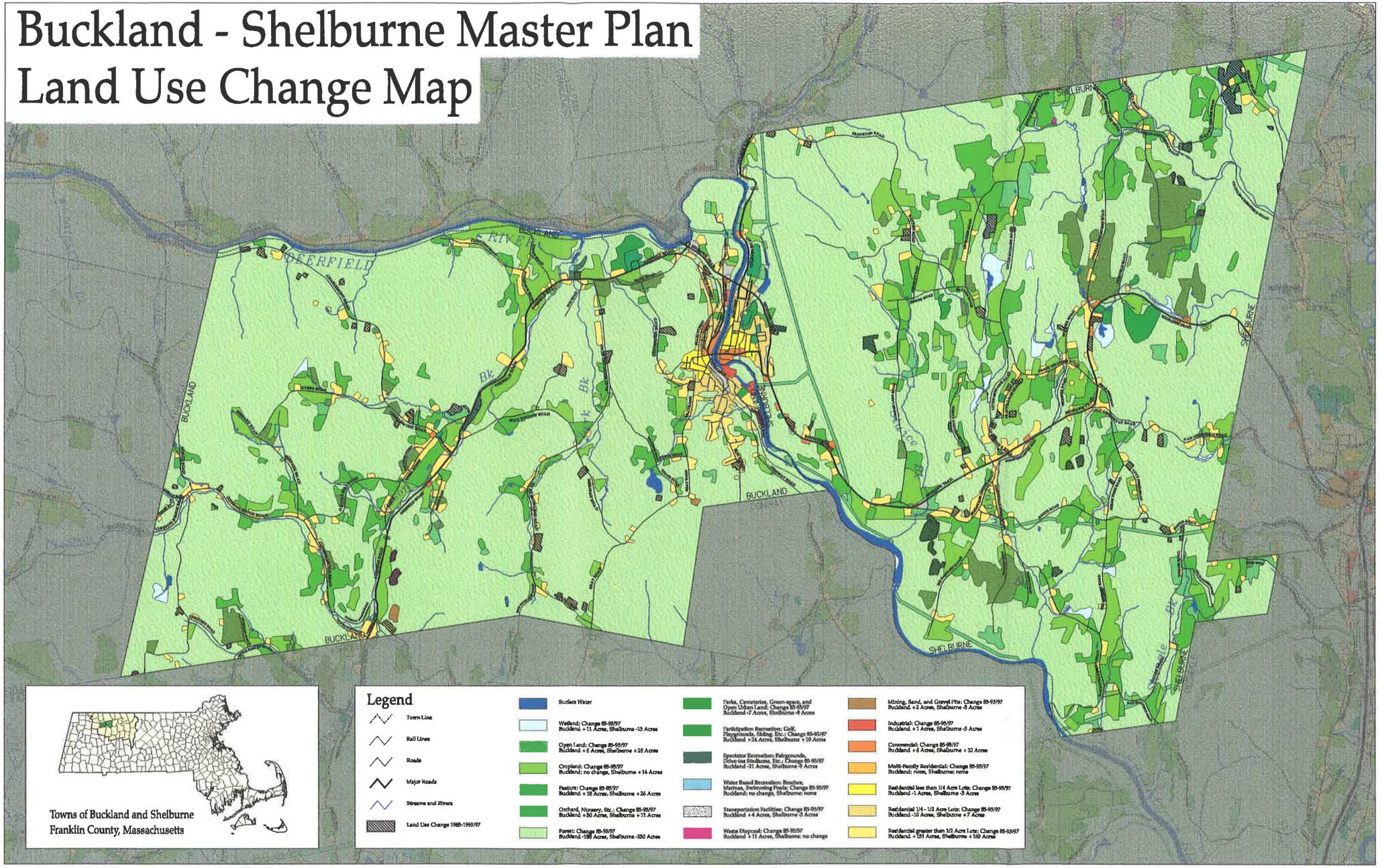
# Buckland - Shelburne Master Plan
# Land Use Change Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

## Legend

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Land Use Change 1985-1995/97

- Surface Water
- Wetland: Change 85-95/97 Buckland +11 Acres, Shelburne -13 Acres
- Open Land: Change 85-95/97 Buckland +6 Acres, Shelburne +28 Acres
- Cropland: Change 85-95/97 Buckland: no change, Shelburne +14 Acres
- Pasture: Change 85-95/97 Buckland +10 Acres, Shelburne +26 Acres
- Orchard, Nursery, Etc.: Change 85-95/97 Buckland +30 Acres, Shelburne +11 Acres
- Forest: Change 85-95/97 Buckland -188 Acres, Shelburne -250 Acres

- Parks, Cemeteries, Green-space, and Open Urban Land: Change 85-95/97 Buckland -7 Acres, Shelburne -9 Acres
- Participation Recreation: Golf, Playgrounds, Skiing, Etc.: Change 85-95/97 Buckland +24 Acres, Shelburne +19 Acres
- Spectator Recreation: Fairgrounds, Drive-ins Stadiums, Etc.: Change 85-95/97 Buckland -31 Acres, Shelburne -9 Acres
- Water Based Recreation: Beaches, Marinas, Swimming Pools: Change 85-95/97 Buckland: no change, Shelburne: none
- Transportation Facilities: Change 85-95/97 Buckland +4 Acres, Shelburne -3 Acres
- Waste Disposal: Change 85-95/97 Buckland +11 Acres, Shelburne: no change

- Mining, Sand, and Gravel Pits: Change 85-95/97 Buckland +2 Acres, Shelburne -8 Acres
- Industrial: Change 85-95/97 Buckland +1 Acres, Shelburne -3 Acres
- Commercial: Change 85-95/97 Buckland +6 Acres, Shelburne +10 Acres
- Multi-Family Residential: Change 85-95/97 Buckland: none, Shelburne: none
- Residential less than 1/4 Acre Lots: Change 85-95/97 Buckland -1 Acres, Shelburne -3 Acres
- Residential 1/4 - 1/2 Acre Lots: Change 85-95/97 Buckland -10 Acres, Shelburne +7 Acres
- Residential greater than 1/2 Acre Lots: Change 85-95/97 Buckland +131 Acres, Shelburne +169 Acres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July 1998

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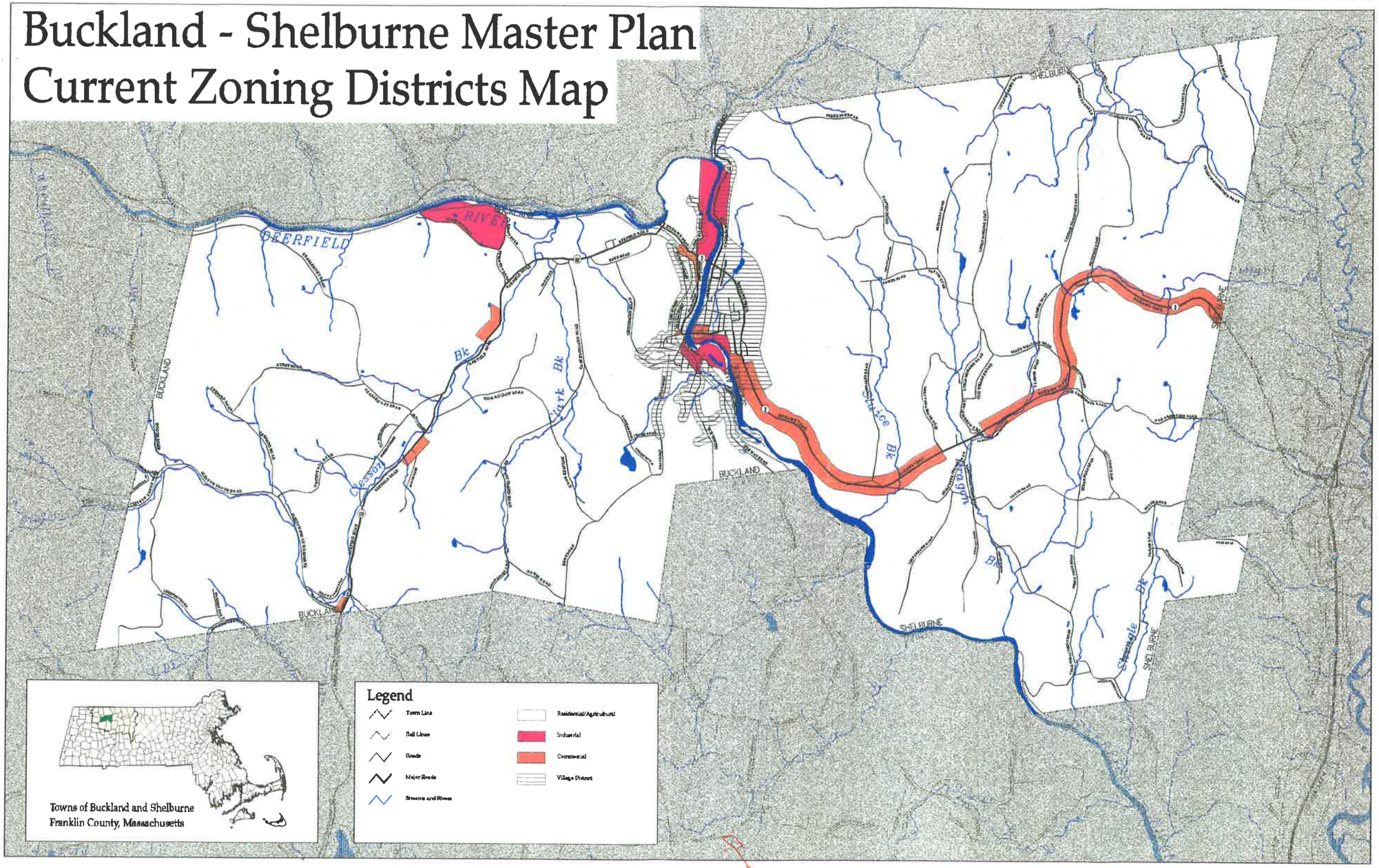
# Buckland - Shelburne Master Plan
# Current Zoning Districts Map






Towns of Buckland and Shelburne
Franklin County, Massachusetts

**Legend**

- Town Line
- Rail Lines
- Roads
- Major Roads
- Streams and Rivers
- Residential/Agricultural
- Industrial
- Commercial
- Village District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Roads data provided by Massachusetts Highway Department
Zoning data layer digitized by FRCOG Planning Dept. Staff.
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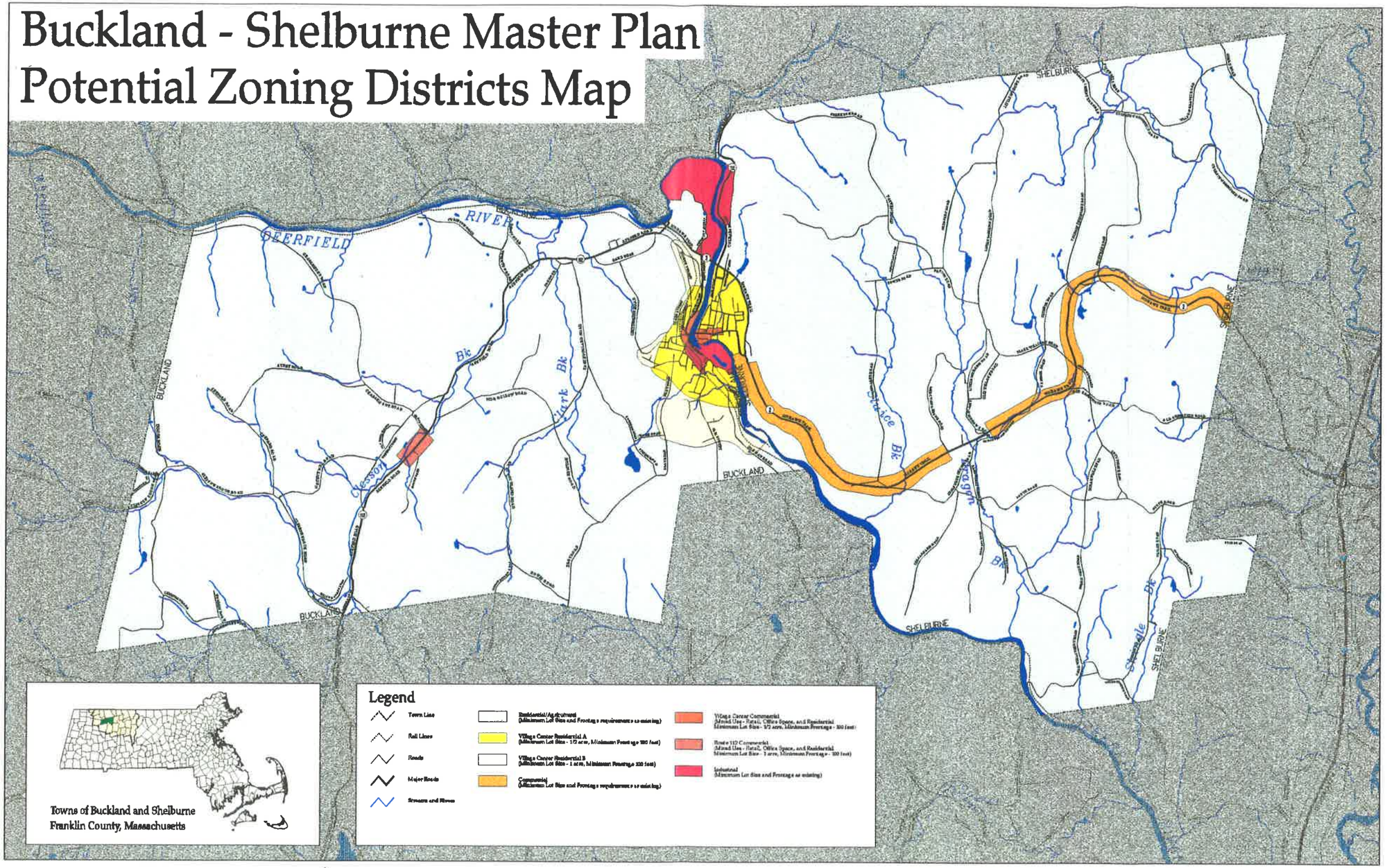
March 1999

NORTH

# Buckland - Shelburne Master Plan
# Potential Zoning Districts Map





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June 1999

NORTH

# CHAPTER 9

# CONCLUSION

There are five key recommendations which should be given priority by the towns as they begin the process of implementing the Master Plan. They are:

- Establish an Open Space protection program given the limited amount of land permanently protected in each town and the critical need for protecting natural resources and the rural historic character of Buckland and Shelburne;

- Apply for a planning grant to comprehensively update and revise each town's zoning bylaws and maps outlining districts according to the recommendations of the Master Plan;

- Utilize the Pavement Management program to expend funds on road repairs in the most cost efficient manner;

- Ensure that there is land available for future commercial and light industrial growth to diversify and stabilize the tax base; and

- Expand the National Historic District in Shelburne Falls.

The Master Planning process has concluded with two Public Forums and presentations to Annual Town Meetings in Buckland and Shelburne. In addition, the final Public Forum was videotaped and aired on Local Cable TV. Copies of the Master Plan have been placed in each Town Hall and the Public Libraries. Large scale maps and copies of the Master Plan have been provided to each town and its municipal boards. The final task of this project has been the creation of model bylaws for use by the Planning Boards in each Town.

The catalyst for both communities to undertake this major project is reflected in the responses to the community surveys. Threats to prime farmland, rural character, environmental resources, and historic features, which make both communities such wonderful places to live, are increasing. This document has been made possible through the volunteer efforts of the members of the Master Planning Committee and grant funding provided by the Executive Office of Environmental Affairs Planning for Growth Program. It is filled with information and maps about the towns of Buckland and Shelburne and guidance about how to grow wisely in the future. The next challenge for Buckland and Shelburne will be to implement the recommendations this Master Plan contains.