A Vision for Gray 1

1. Introduction

This chapter presents the results of an on-going public involvement process initiated for the purpose of developing a vision for Gray's future. Creating this vision has been an important part of the community's planning efforts and provides a framework for subsequent policies and implementation recommendations contained in this comprehensive plan.

The first part of this chapter describes the process that was used by the town to prepare the comprehensive plan and various efforts employed to involve the public to the fullest extent possible in that process. This is followed by a section that summarizes the vision statement for the community and outlines a series of policies that will be used to guide actions towards achieving that vision. The last section of the chapter presents a Future Land Use Plan that illustrates a variety of concepts that can support implementation of the community's vision from a land use perspective.

2. The Comprehensive Plan and Vision Process

The Town of Gray prepared a long-term plan that will be used to manage growth in the community over the next 10 to 15 years. This plan, which is referred to as a comprehensive plan, will be used by the Planning Board, Town Council, and other town boards and staff, to guide their actions regarding issues and opportunities that will confront Gray in the future. The plan was prepared by the Comprehensive Plan Committee (CPC), a 22 member panel of town residents.

The comprehensive plan is comprised of four essential parts which include:

- A Vision (or Mission) Statement
- An Inventory of Existing Conditions

- Principles/Policies
- An Implementation Strategy

Developing a solid comprehensive plan provides the basis for the town to manage its future versus just allowing changing circumstances to choose a course for the community. The public discussion and interaction that occurred during the preparation of the plan also offered an opportunity to identify a shared community vision about future development initiatives. Finally, the plan fosters the creation of important policy goals by delineating specific and measurable results.

In order for the comprehensive plan to be a useful document that can be successfully implemented, it must, to the extent possible, represent the desires and aspirations of the community as a whole. In an effort to develop a shared vision for the community, town officials and residents initiated a multi-year public planning process that took over two years to complete. Beginning in 2001, public discussions were facilitated during the course of five workshops at which over 250 participants provided input. These meetings included a cross-section of residents, business owners, public officials, and town staff. As a result of this public input process a draft Vision Statement was created that contained over 70 specific elements reflecting how the participants felt about traffic and roads, the environment, economic development, housing, municipal facilities and programs, land use regulations, and community character and values. These values and principles form the cornerstones of the community's vision since they provide the fabric that binds people together in their daily lives. The common ideals identified throughout the vision sessions included: diversity; respect; friendliness; rights; pride in our town; civility; stability; and, vision.

Following this initial vision process, the Comprehensive Plan Committee prepared an inventory and analysis (I&A) of existing conditions within the town. This I&A phase included an examination of population and housing, land use, natural and historic resources, transportation, open space and recreation, economic conditions and municipal finances, and municipal facilities. This information is presented in subsequent chapters of this comprehensive plan. The I & A phase introduced new information into the planning process that was not available during the preliminary stages of the visioning forums mentioned above. As the CPC began to review and discuss the findings and conclusions of the I & A phase it lead to refinements of, and additions to, the original components of the Vision Statement. These revised vision concepts were developed by CPC members as part of public discussions as well as through a series of meetings held with town board members and other community civic groups. Information gathered from these additional discussions and meetings were used by the CPC to prepare a series of policy guidelines and important planning priorities for the town. These guidelines and priorities are outlined in the following section.

3. A Community Vision for Gray

These overarching principles, values and beliefs that were identified at the beginning of Gray's vision process were shaped into the following statements which present these concepts in a comprehensive and tangible manner that can be used to guide community planning efforts.

Our Community is a diverse group of people who interact with each other in a way that respects the individual while working towards a common good. It carefully balances its choices as it respects the constitutional rights of individuals, bringing together and directing its resources to create a stable and friendly atmosphere that tolerates differences through civility and is very proud of its accomplishments. The citizens see the future as an opportunity if properly planned for.[1]

This statement of values was merged with input received during the workshops regarding how residents would like to see the town grow in the future. Based on that process the following vision statement was prepared for the community.

Gray continues to be a community at the crossroads of its future. It achieves its goals in a manner that brings the community closer to each other even though its growth may portend becoming larger. With carefully planned and implemented strategies, the community achieves its success assuring that the environmental assets are not sacrificed for short term economic gains; that its roads, facilities, regulatory processes and programs are provided in a manner that meets the needs of all its citizens; that the Town of Gray becomes the community where people desire to live, learn, work and play.[2]

The community vision presented above is a broad statement of standards that define the character and integrity that the town seeks to bring to its civic arena. This generalized concept has been expanded upon through a series of policy principles that relate to specific planning issues that were identified during the comprehensive planning process. These policies, which will be used by the town to guide its growth over the next decade, have been grouped into seven categories that include: Land Use and Housing; Natural and Historic Resources; Transportation; Recreation and Open Space; Municipal Services and Utilities; Economic Development; and Administration and Regional Coordination. These policies, along with some of their underlying issues and implications, are presented below.

A. Policies Related to Land Use and Housing

Policy A.1: The town's zoning ordinance and land use regulations should be designed to promote varying densities of housing development in specific areas that are sensitive to natural resources and existing environmental conditions.

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[1]From a memorandum dated November 6, 2001, from Donnie Carroll and Mitch Berkowitz to the Comprehensive Plan Committee.

[2]Ibid

Policy A.2: Use the town's land use regulations to promote the efficient development of the remaining undeveloped land resources that supports the cost-effective provision of municipal services.

Policy A.3: Alternatives for the creation of more senior housing near the Village center should be promoted more vigorously.

Policy A.4: The town should use its authority to regulate housing development to further the open space goals identified in the comprehensive plan.

Policy A.5: It is important for the town to provide suitable areas in the community for the development of commercial and industrial land uses in order to expand the non-residential property tax base and offer services and employment opportunities for residents. Therefore, the town should ensure that an adequate supply of land is made available for these types of uses, as an integrated part of its future land use plan.

Issues and Implications

- Residential development is becoming increasingly scattered throughout the community establishing a land use pattern that could be referred to as rural sprawl.
- There is only a small amount of undeveloped land available for higher density residential development, in the Medium District zone, near the Village center. The limited amount of land available for higher density housing reduces opportunities for the construction of affordable and senior housing
- A large percentage of the town is zoned to permit gravel extraction operations.
- Existing commercial zoning districts along the Lewiston and Portland Roads will promote increased strip development, especially retail and service uses.
- Land in the Commercial district is being inefficiently used by existing businesses which limits the possibility for maximizing the district's development potential in the future.
- There are a number of uses permitted in various zoning districts that are incompatible with the primary intent of the district.
- Changes in the rural landscape will affect the traditional use of the land as a shared community resource for land based recreation (such as fishing, hunting, hiking, snowmobiling) and from a quality of life perspective.
- New subdivision roads may result in the creation of a haphazard road network that does not efficiently serve the needs of the town.
- The amount of land zoned for commercial and industrial development is probably insufficient to provide adequate options for expansion of the town's non-residential tax base.

B. Policies Related to Natural and Historic Resources

Policy B.1: The town should take a unified approach to protecting its natural resources and preserving important habitat areas. This effort should involve a variety of methods and techniques

for land conservation.

Policy B.2: Gray must take steps to conserve land not only to protect important wildlife habitat and natural resources, but also to preserve the town's resource based economy related to forestry and agriculture, which are key elements of the community's sense of rural character.

Policy B.3: Gray should work with adjoining towns, possibly through the regional planning agency, to ensure that a comprehensive approach is taken to protect water quality so that the cumulative impacts of future land development in the region do not adversely affect this resource.

Policy B.4: The town's historic buildings and cultural sites are essential to maintaining the character of the community and a shared identity amongst its residents. The protection and preservation of these resources should be addressed in an administrative manner by town government.

Issues and Implications

- Failure to identify and protect important open space and other natural resources in a comprehensive manner will require the town to take a re-active posture regarding development proposals that encroach on these areas.
- Gray's surface waters, which include streams, rivers, and great ponds, cross municipal boundaries, as do the watersheds associated with these water bodies.
- The protection and preservation of Gray's natural resources will become more difficult and complex as the town continues to grow.
- The town's remaining historic and cultural resources are not currently protected from alteration or demolition.
- The loss and deterioration of both the natural and historic resources in Gray is occurring in an incremental fashion which results in the impacts being less perceptible on a day-to- day basis.
- The continued loss of historic resources will adversely affect the sense of community character and shared past that many residents associate with their town.

C. Policies Related to Transportation

Policy C.1: Reinforce the town's rural character by reducing traffic congestion. This should be accomplished by promoting higher density development in specific locations, such as in and around the Village area, which would reduce the need for cross-town, local traffic. This policy should be further supported by creating alternate traffic routes around these higher density locations.

Policy C.2: Public safety should be a major focus of the town's transportation improvement program. This goal should be advanced by making appropriate improvements to the town's vehicular, pedestrian, and bicycle network in order to reduce accidents and injuries.

Policy C.3: Continue to work cooperatively with state and federal agencies, as well as neighboring communities, on making improvements to the local and regional transportation system. The town

should place a high priority on financing and managing necessary improvements through state and federal sources. However, local funding and management should also be considered an option when support from state and federal sources cannot be obtained.

Policy C.4: Input from local residents should play a greater role in shaping decisions regarding transportation issues in Gray. This policy should be achieved by increasing community awareness related to transportation issues through various public forums, as well as through increased oversight by residents in appropriate town and regional committees.

Issues and Implications

- Increased development is causing an over utilization of public roadways and is resulting in increased demand for improved roadways.
- The current condition of many urban roads are hazardous to vehicular and pedestrian travel.
- Many rural roads are physically unable to handle increasing traffic and pedestrian volume.
- Many of the minor collector/arterial roads have congested segments.
- Due to increased traffic levels some local roads now function as collectors/arterials.
- There is a frequent occurrence of disconnected sidewalks resulting in a disjointed pedestrian network throughout the town
- Gray has very limited public transit service.
- The existing roadway network was not designed to accommodate increases in traffic volumes.
- Increases in the number of curb cuts for driveways onto major roadways will interrupt the flow of traffic and create additional congestion.
- Lack of dedicated bike lanes create safety issues for cyclists and vehicles.

D. Policies Related to Recreation and Open Space

Policy D.1: Gray should establish a goal of preserving at least one acre of land for each resident of the town and should rely on information and criteria presented in the comprehensive plan to aid in determining land preservation priorities for the community.

Policy D.2: Taxpayers need to understand the cost impacts associated with developing land, versus maintaining land in an undeveloped state, and the need to be provide residents with adequate information so that they can make informed decisions regarding open space preservation.

Policy D.3: Portions of Gray are better suited for preservation, versus development, based on existing natural and cultural resources located in certain areas of the community. These areas should be recognized in the town's ordinances as being of highest priority for protection and preservation.

Policy D.4: A variety of techniques should be used to preserve open space and manage growth in order to both preserve the character of the community and reduce the impacts of development on the cost of providing municipal services.

Policy D.5: The shared use of recreation facilities by the town's Recreation Department, School District, and private associations is a very practical approach to meeting the community's facility needs. This approach should be continued through a more coordinated process in order to better manage increased usage of existing recreation facilities.

Policy D.6: As the town continues to grow it will need to consider expanding recreation opportunities available to residents. Therefore, residents should be offered more regular opportunities to provide input regarding the types of recreation facilities and activities they desire. In addition, the town should also expand available recreation facilities through the use of existing facilities not owned by the town and by creating new facilities through appropriate regulatory mechanisms.

Issues and Implications

- The amount of land permanently protected as open space in Gray is inadequate if the town is to retain its community character and offer recreation activities that residents have come to expect from living there.
- Presently, there is no entity within Gray that has as its primary responsibility advocating for the preservation of open space and protection of natural resources. If the town does not establish a municipal board or other private ad hoc group dedicated to conservation and land preservation, it is unlikely that a significant amount of land will ever be set aside as permanently dedicated open space.
- The shared use of school recreation facilities by the school district, town recreation program, and private groups results in a higher than normal impact on the condition of these facilities.
- The playing fields and gymnasiums at the school district complex are not being used to their fullest potential due to current funding levels for staffing and maintenance.
- Public access to the town's lakes and rivers is very limited.
- As the town continues to grow it may have insufficient recreation facilities in outlying areas to service new neighborhoods.
- The continued concentration of recreation activities at the schools and Pennell facilities will require increased staffing and maintenance in order to maximize their use without adversely affecting the quality of the facilities over the long-term.

E. Policies Related to Municipal Services and Utilities

Policy E.1: Gray should attempt to moderate the cost of providing municipal services through the continued and expanded use of community volunteers.

Policy E.2: The cost of providing municipal services should be regulated through the careful advance planning of expenditures. The town should schedule predictable long-term costs, such as maintenance and capital expansions, through a continuous multi-year investment plan.

Policy E.3: The town should attempt to ameliorate municipal services costs through collaboration

and alliances with neighboring communities. This goal should be supported by regularly reviewing and updating existing and potential inter-municipal collaborations before committing to additional major expenditures.

Policy E.4: Providing for public safety is a paramount responsibility of local government. The town should continue to maintain public safety services that are adequate to respond to modern hazards as well as evolving community expectations.

Policy E.5: The cost of providing municipal facilities and services should be supported, where appropriate, through fees for services as well as development impact fees.

Policy E.6: Local government should be responsive to residents' needs and should continually update the citizenry regarding its effectiveness through a variety of public forums and other methods of effective communication.

Policy E.7: Gray should promote the efficient and effective use of town committees and town staff by adopting cost-effective procedures to promote the productivity of both.

Policy E.8: The town and the Gray Water District should continue to work cooperatively to ensure that future land use recommendations presented in this plan are supported by the expansion policies of the Water District.

Issues and Implications

- Gray is presently confronted with the need to upgrade, expand or reconstruct many of its municipal and school buildings.
- Some of the issues related to municipal facilities are due to growth in the community which results in the need to provide existing services to more people, households, vehicles, etc. However, some of the deficiencies in the town's infrastructure are also attributable to the lack of sustained capital investment over a continuous time period.
- A number of the potential facility improvements being considered involve decisions that will affect multiple town and school buildings.
- Some of the municipal service issues the town is now considering are related to the level of service residents and businesses would like to maintain in areas such as police and fire protection, library, recreation, and school facilities.
- The town should pursue a logical and comprehensive approach to capital facilities planning that evaluates the needs across departments to allow for improvements to be integrated where appropriate and phased in over a period of time.
- Capital improvements should be based not only on which alternative will serve the immediate needs of the community, but also provide the town with the opportunity to upgrade those facilities, if appropriate, to a service level beyond the foreseeable planning horizon of this comprehensive plan.

F. Policies Related to Economic Development

Policy F.1: Enhance the capacity of the Gray community to play an active role in promoting sound, sustainable economic development.

Policy F.2: Increase the awareness and consideration of Gray as a business location.

Policy F.3: Improve the image of Gray as a desirable community in which to locate a business.

Policy F.4: Retain and expand the range of goods and services available in Gray.

Policy F.5: Increase the supply of well located and serviced land to accommodate office, manufacturing, distribution, and similar types of land uses in Gray.

Issues and Implications

- The town has a limited commitment and modest capacity to promote economic growth. Competing for economic growth in the future will require that the community become more committed and prepared to attract the type of business and industry it desires.
- Gray's location along the Maine Turnpike, between the Greater Portland and Lewiston-Auburn areas, can be a strength but it also, due to strong competition, results in the town being overlooked in the business site search process. This situation may be exacerbated by the development of Pineland office facility in New Gloucester.
- Traffic congestion in the Village is perceived as a major obstacle to economic growth in the community.
- The ability to attract new businesses is partially dependent upon the image and appearance of the physical environment of the town
- The availability of an adequate water supply is essential for supporting economic development.
- The customers who patronize businesses in Gray also do a significant share of their spending on goods and services outside Gray.
- There is a limited number of businesses located in Gray that offer comparison or specialty goods.
- The rezoning of land and the ability to develop residential uses in commercial zones has reduced the supply of vacant land available for economic development.

G. Administration and Regional Coordination

Policy G.1: Continue to promote a "user friendly" model of public participation in Gray that increases opportunities for residents to be involved in directing the operation of town government.

Policy G.2: Keep residents well informed regarding issues and activities related to the operation of town services in order to promote an informed dialogue and consensus within the community.

Policy G.3: Promote regionalism as a means to address issues confronting the community in a cost-effective manner, while also reducing the use of resources and the duplication of services and facilities.

Issues and Implications

- As Gray continues to grow the administration of town government and the provision of services will become increasing complex.
- As the number of people living and working in Gray increases it will become more difficult for all members of the community to make their opinions known to the governing body and town administrators. Therefore, methods of soliciting public input and distributing information will need to be expanded.
- Growth will continue to place additional strain on the town's municipal and school services in the future. The town will need to consider expanding the use of alternatives such as the regional delivery of municipal services and the use of private sector companies to address these needs.

4. Future Land Use for Gray's Vision

Transforming the community's vision from concept to reality involves developing a representation of key vision concepts on a map of the town. Not all elements of the vision can be represented geographically, such as those that are strictly regulatory or program related. However, other vision concepts and policies can be illustrated graphically in terms of their integration with the future land use plan of the town. Many of the vision concepts have elements that relate to specific locations within the town such as the Village, the lake areas, or the industrial park, while others affect all, or multiple portions of the community. This portion of the chapter outlines and discusses the proposed uses of land for various areas of the town. These areas are illustrated on the Future Land Use Map (Map 1-1) which presents a conceptualized vison for Gray's future land uses. The map divides the town into seven (7) areas which reflect the vision/future land use concepts that have evolved from the planning process. These areas have been delineated based on a number of factors which include the vision components, existing land use patterns, the transportation network, economic factors, and the existence of important natural resources and natural constraints.

What follows is a summary of the proposed role that each of these areas will play in fulfilling Gray's vision for the future. This overview presents the potential land uses, zoning densities, facilities upgrades, and other characteristics that might be appropriate for these areas. Terminology such as *growth areas*, *rural areas*, and *transitional areas* is used to describe various sections of the town in this land use plan. These terms are taken from state statutes that govern the preparation of comprehensive plans. Growth areas denote locations that are considered more suitable for receiving a greater portion of the town's future residential and commercial growth. For Gray, growth areas are primarily designated as 1 and 3 on Map 1-1. Transitional areas are also considered well-suited to received a portion of the town's future growth albeit at a lesser amount and lower density than in the growth areas. Transitional areas for Gray are areas 2 and 7 on the map. Rural areas are those that are deserving of some level of regulatory protection from unrestricted development in order to

Front Page Map 1-1 - Future Land Use Map

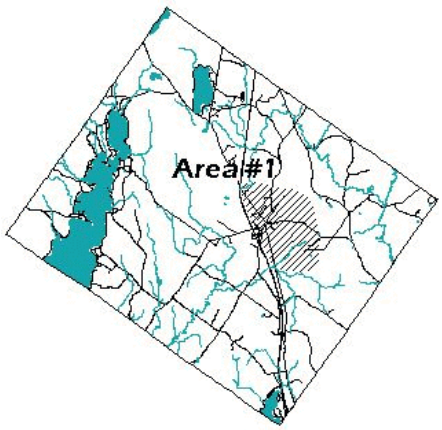
INSERT FUTURE LAND USE MAP (MAP 1)

BACK OF FUTURE LAND USE MAP 1-1

support agriculture and forestry, and preserve wildlife habitat, scenic areas, and open space. These are areas, according to state statutes, that growth should be directed away from, over the next 10 years. Rural areas in the Gray vision include area 4, 5 and 6 on the Future Land Use Map.

Also noted on Map 1-1 are dashed lines which denote the need to "Improve Traffic Circulation" in various locations of the town. One of these lines represents the bypass that the state is planning to construct between Route 202 (Windham Road) and Route 26 (Shaker Road). However, the other map notations denote only the need to improve transportation "links" in certain areas, but do not necessarily reflect the exact locations of a specific roadway.

Area 1. Village Center (Growth Area)



The Village area is presently the town's center of commerce and governmental services. Its location at the crossroads of several major roadways has contributed to high traffic usage which also makes it attractive to businesses. The Village's New England character, which results from its compact development, historic buildings, narrow streets, and mixture of land uses, is something that residents have indicated is important to maintain. Enhancing the vitality of the Village will depend on preserving these characteristics and providing opportunities to add new businesses as well as residences to support these types of activities.

ISSUES

- Existing "Village area" has limited land for expansion.
- Existing roadway network is serving the needs of both regional and local traffic.
- Turnpike exit "funnels" large traffic volumes through center of Village.
- Traffic circulation is congested at peak hour periods.
- Gravel pit expansion and related truck traffic is incompatible with continued growth of the Village area.
- Traffic volumes and limited amount of sidewalks does not create a pedestrian-friendly environment.
- Parking availability is limited.
- Lack of mandatory building design guidelines has resulted in the creation of buildings that do not mesh with the Village's historic character.
- Location of aquifer for municipal well must be addressed.
- Commercial strip development on roads leading to the Village will compete with potential expansion of this area as a commercial hub.
- Historic buildings are being altered or removed.

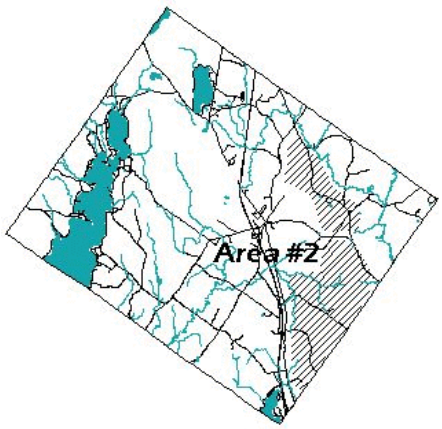
OPPORTUNITIES

- Area has existing cluster of government/civic buildings
- Still has a significant amount of historic buildings with possibility of establishing a historic district.
- Access is available to inter-urban railroad right-of-way for possible pedestrian use.
- Gray Meadow wetland complex offers possibilities for recreation and education.
- The area is serviced by the municipal water system.
- Existing base of commercial establishments on which to build.
- High traffic volumes offer potential customer base for future business development.
- Undeveloped land is available adjacent to existing Village for future expansion.
- Higher density of development offers opportunities for the creation of senior and affordable housing.
- Construction of the planned bypass should help to enhance the Village environment for business and pedestrians uses.
- Create a "boulevard" on Shaker/Lewiston/Portland Roads with tree planting/landscaping, sidewalks, signage to announce entrance into village area.

Area 1. Land Use Concepts

- Expand the area of the Village "environment"
- High density, mixed residential and commercial uses (possibly ¾ to 1 acre minimum lot size with special conditions required within aquifer overlay areas)
  - broaden mix of commercial goods and services
  - develop in the style of a New England Village
- Senior/multi-family housing options
- Building/site design standards
- Enhanced pedestrian environment/make less auto-dependent
  - extend sidewalks
  - incorporate inter-urban railroad right-of-way
- Improved traffic circulation and parking
- Preserve historic properties/potential historic district
- Boulevard treatment on Shaker/Lewiston/Portland Roads
  - roadway width at suitable proportions for a Village area
  - could include tree planting/landscaping, sidewalks, signage
  - create "gateways" to announce entrance into Village area
- Government functions/community gathering places
- Preserve/Buffer Gray Meadow wetland
  - use for recreation/education
  - tie-in with inter-urban railroad ROW trail
- Restrict gravel pit expansion

Area 2. Residential Transitional Neighborhoods (Growth Area)



Within the Vision for Gray these neighborhood areas represent a transition between the high density, mixed use development of the Village area and the more rural outlying portions of the community. Existing development is generally characterized by a modest amount of residential housing as well as a number of sand and gravel operations. Soils in these areas have good potential to support development and there are relatively few natural constraints, such as wetlands and steep slopes.

ISSUES

- Portions of this area are currently regulated by Aquifer Overlay Zoning District.
- Gray Meadow wetland complex is a sensitive natural area that would have to be buffered from future development.
- Expansion of existing sand and gravel operations would be in conflict with proposed future residential development.
- Expansion of the roadway network would have to be well planned in order to avoid future traffic circulation issues.

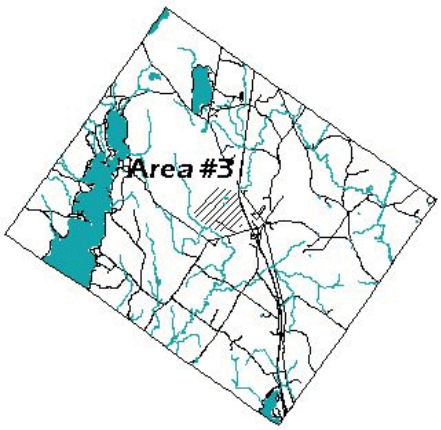
OPPORTUNITIES

- This area has soils that typically are ranked as having *good* to *high* potential for development on septic systems.
- Municipal water lines are in close proximity which would allow for future extension into these areas.
- Due to the limited natural constraints and availability of municipal water these areas could potentially support a higher density of residential development.
- Higher density housing would allow for the potential of more affordable housing.
- Residential development in these areas would support future commercial development in the Village.
- Compact development will allow for the more efficient and cost-effective provision of municipal services.

Area 2. Land Use Concepts

- Medium housing density (possibly 1 to 1½ acre minimum lot size)
- Residential development to support commercial expansion in Village area
- Provide municipal water service extension
- Location of future municipal facilities (parks, recreation, etc.)
- Minimize gravel pit expansion
- Remove aquifer overlay zone restrictions

Area 3. Business Development (Growth Area)



The expansion of business development has been a focus of Gray in recent years in order to broaden the town's non-residential tax base. The current amount of land zoned for businesses town-wide is relatively limited and not all readily developable due to natural constraints and the condition of existing structures. The designation of a business development growth area would expand the amount of land available for office and industrial development. The area has excellent highway access and availability of municipal water. The planned bypass connector from the Turnpike, which will traverse this area, would contribute to these types of uses.

ISSUES

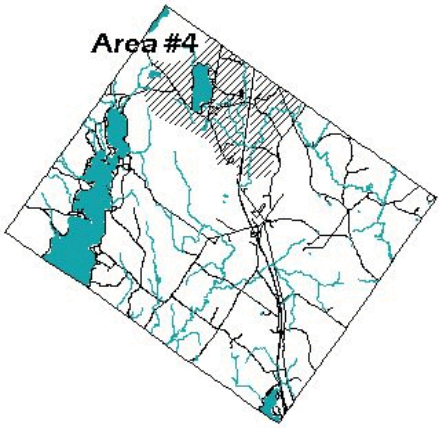
- Traffic issues will need to be addressed at the access point to this area from the Village center to the Turnpike interchange and onto Route 202/115.
- Development of this area will likely result in the conversion of some farmland to non-agricultural uses.
- The area is adjacent to the town's closed landfill which is presently going through post-closure monitoring phase.
- A portion of this area would coincide with the town's Wellhead Protection District, which restricts development around the municipal water supply's well.
- The appearance of the access to this area on Route 202/115 should create a suitable "gateway" for the desired attractive business park.

OPPORTUNITIES

- There is an existing business park at the entrance to this area which would be a positive marketing feature.
- The area is relatively undeveloped which would minimize the impact on existing residential neighborhoods.
- The topography and soils in the area should present relatively few constraints for development.
- Expanded non-residential development, such as office, hospitality and industrial uses, will help reduce future impacts on residential property taxes.
- Integrate transportation/traffic improvements for this area with planned bypass construction.
- Construction of the Turnpike bypass would allow for a future roadway connection between Route 202/115 and Route 100 (Portland Road).

Area 3. Land Use Concepts

- Concentrated commercial/office/industrial development
- Expand municipal water system service
- Manage traffic impacts/control curb cut access points
- Revise/incorporate bypass design into area's future development



Area 4. Rural Residential (Aquifer Protection)

This portion of town is one of the more intensively developed areas of Gray. Existing land use is characterized by a mixture of medium to high density housing, farmland, gravel pits, recreation uses, and municipal and school services. Crystal Lake is located in this portion of the community, as well as several streams and wetlands that are part of the Royal River watershed. This area is also located over one of the town's most productive groundwater aquifers which supplies the municipal drinking water system.

ISSUES

- Continued development in this area will have to be balanced with the need to protect groundwater quality and quantity.
- Consideration will also need to be given to area streams and wetlands in order to protect water quality.
- High density residential development around Crystal Lake will require continued monitoring to ensure no degradation of water quality from septic systems and runoff.
- Residential growth in this area, combined with increasing regional traffic, is creating safety issues on local roadways.

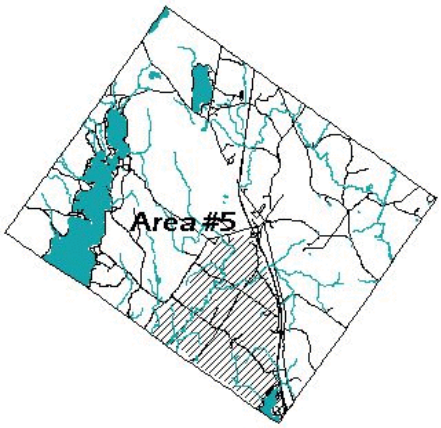
OPPORTUNITIES

- New mapping prepared by the state has reduced the area defined as important for protecting the aquifer. This could reduce the amount of land restricted by the town's existing aquifer zoning regulations.
- Maintaining the numerous parcels currently used for agriculture and forest management in their current state will help to protect water quality and provide open space.
- A long-term strategy to preserve the state's Game Farm as conservation land would also help to protect water quality and maintain open space.
- Recognition of the "Dry Mills" historic settlement area could help to preserve some of the town's historic resources.

Area 4. Land Use Concepts

- Lower density residential development (density is reduced to offset growth in areas 1 & 2 and to reduce potential impacts to drinking water aquifer)
- Potential minimum lot size of three (3) acres
- Minimize future development impacts around Crystal Lake area
- Increase protection of stream corridors and associated wetlands
- Preserve existing agricultural land
- Encourage alternative methods of housing development around natural resources and agricultural land (e.g. cluster)

Area 5. Rural Residential (River/Lake Protection)



This area of Gray is predominantly characterized by lower density single family homes and scattered subdivisions interspersed with some agricultural and forest management properties. The area also contains the main channel of the Pleasant River, which has a large expanse of adjacent wetlands, and a watershed that covers over one-third of the town's land area. Gray's portion of Forest Lake is located in the southeast corner of this area and several hills, including Varney Hill and Dutton Hill, contain some steeper terrain.

ISSUES

- The Pleasant River currently receives only minimal protection under existing zoning regulations.
- Continued residential subdivisions have the potential to fragment land along the river corridor which would impact its value as wildlife habitat.
- Roadways are not pedestrian/bike "friendly".

OPPORTUNITIES

- The river offers a natural corridor for recreation and wildlife.
- Promote/mandate alternative subdivision techniques around the river/wetland corridors.
- Promote conservation/protection of hilltop and steep slope areas.
- This area has a large expanse of important wetlands that would be well suited for land conservation initiatives by the town.
- There is a moderate amount of agricultural and forestry land that contributes to the town's rural character.

Area 5. Land Use Concepts

- Lower density residential development (density is reduced to offset growth in areas 1, 2 & 3)
- Potential minimum lot size of three (3) acres
- Minimize future development impacts around Forest Lake area
- Increase protection of Presumpscot River corridor and associated wetlands
- Preserve existing agricultural land
- Encourage alternative methods of housing development around natural resources and agricultural land (e.g. cluster)

Area 6. Residential/Resource Protection

These two sections of Gray are characterized by a combination of sensitive natural resources and large tracts of undeveloped land. The eastern side of town contains a portion of the Collyer Brook/Royal River watershed which has very steep slopes bordering the stream corridors. Residential development is relatively limited and is interspersed with agricultural and forestry parcels. The western side of town encompasses the Little Sebago Lake watershed and also has some moderately steep slopes. Residential development around the lake has very high density but the remainder of the area has limited development. There are a number of properties managed for forestry products that form part of the area's large, unfragmented tracts of wildlife habitat.

ISSUES

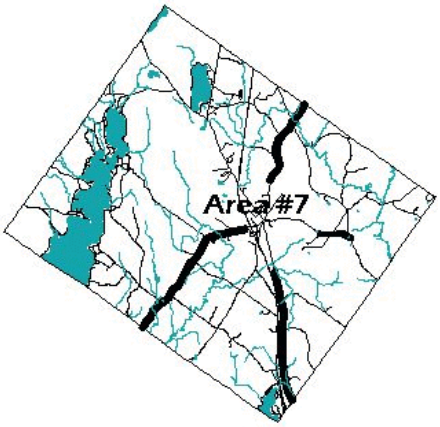
- Continuing the current pattern of low density residential development will result in "sprawling" growth that fragments large tracts of land.
- The loss of large tracts of unfragmented land will limit traditional activities such as hunting, fishing and outdoor recreation.
- High density development around the lake creates long-term concerns related to water quality.
- Steep slopes in these areas are not well suited for development, which can lead to soil erosion and runoff of contaminants into surface waters.
- Providing municipal services to these outlying portions of town will result in additional expenditures and more roadway construction.

OPPORTUNITIES

- Large tracts of undeveloped land offer possibilities for the expansion of town-wide conservation efforts.
- Open spaces and natural features such as streams and hills offer potential for expanding recreational activities.
- Preserving open space in these areas can help to promote the continuation of forestry-related businesses.
- Large forested tracts offer the possibility for establishing a town forest.
- Protecting "buffer" land areas along the numerous stream corridors could be used to "link" open space areas together for recreation trails and wildlife use.
- There are several large tracts of state-owned conservation land that would augment the town's land conservation efforts.
- Working with adjoining towns on land preservation activities could support town conservation efforts.

Area 6. Land Use Concepts

- Very low residential density or mandatory alternative subdivision methods, such as cluster housing, at higher density (3 to 4 acre minimum lot size depending on overlay zones and density bonuses)
- Encourage/mandate alternative subdivision methods such as cluster housing
- Reduced density to help minimize demand for municipal services in the future
- Promote outdoor recreation activities
- Maintain large, unfragmented blocks of wildlife habitat
- Expand protection for stream corridors and associated wetlands - use these corridors as "linkages" between future conservation parcels
- Work regionally with adjoining towns, as well as the state, to preserve abutting tracts of unfragmented habitat or conservation land
- Encourage the continuation/expansion of forestry related land management
- Potential location for town forest
- Minimize future development impacts around Little Sebago Lake area
- Minimize development on steeper slopes



Area 7. Highway Transitional

These roadways represent major transportation corridors that move traffic within the community and the adjoining region. Portions of these highways have been zoned for commercial and business use in an effort to expand the community's non-residential tax base and provide goods and services for residents. Land uses along these corridors are a mixture of commercial, industrial, and residential development. The land that abuts these roadways represent a "transition zone" between the adjoining residential or undeveloped parcels and a "highway environment". It also represents a transition away from or into the Village center.

ISSUES

- Increasing traffic volumes on these roadways will make them less desirable for residential uses.
- Retail expansion along these roadways could result in commercial "strip development" which could exacerbate traffic conditions.
- Commercial development along these corridors could potentially compete with commercial expansion of the Village area.
- There is a considerable amount of existing residential development along these corridors that will have to be "redeveloped" in order for new businesses to be established.
- These roadways represent "gateways" into the town and should create a positive image for the community.

OPPORTUNITIES

- These corridors have not yet developed to a point where changes in land use cannot be instituted.
- Gateways (which might include signage, landscaping, or other design elements) could be created at the entrance points into town and the Village area.
- Establish zoning that promotes businesses which are not large traffic generators, such as offices or professional services.
- Create corridor management plans that control important design aspects of these roadways such as intersection signalization, pedestrian/bike access, lane widths, median strip/landscaping, turning movements, etc.

Area 7. Land Use Concepts

- Non-residential development of major highway corridors (due to increasing traffic volumes these roads are not well suited for residential development)
- Minimize sprawling commercial strip development by employing corridor management techniques such as shared driveway accesses and creation of parallel service roads
- Limit retail uses and other "high traffic generating" types of uses
- Create "community gateway" treatments near town line locations
- Work with adjoining communities to deter regional sprawl of commercial development along these roadways

AREA 8. HIGHWAY COMMERCIAL (GROWTH AREA)

The expansion of commercial land has been a topic of discussion in Gray for many years. In response to this, the Town needs to broaden its tax base from a residential base to encourage more commercial business. Proposed Growth Area 8 lends itself well to highway - oriented commercial use. Route 26 is a major arterial funneling a great deal of traffic in and around the town. It also serves as a major connecting link for local residents. Serving this area is the recently opened westerly bypass (Route 26A) which diverts traffic around the Village area.

This neighborhood is presently characterized by mixed, low density development including, on the east side of Route 26, a number of residential properties and a medical office building.

On the west side of Shaker Road (Route 26), there lies a combination of various land uses, including that of the intersection of the new westerly bypass connector (Route 26A), a gravel pit, a municipal complex consisting of a central fire station, the public works garage, and a solid waste facility. Other developments on the west side of Shaker Road include a mobile home park and the Gray/New Gloucester (SAD#15) High School and Middle School.

The land area within Growth Area 8 is illustrated on Gray Tax Map 27 dated April 1, 2005. More specifically it begins at the point where Route 26 and the Maine Turnpike intersect and to the east it follows the westerly boundary of the Maine Turnpike, on the north it is bordered by a single family residential neighborhood known as Evergreen Grove Subdivision, on the west it encompasses lots 15A-1, 20A-1, 2 & 3 and 20-12, thence southeasterly along the centerline of Route 26 to encompass lots 20-7, 20-7A, and 20-7C thence following the centerline of Route 26A and thence along the centerline of Route 26 to the point of beginning.

Soils are basically sand and gravel soils. The suitability of land for septics, basements, and roads is rated medium in the suitability index. Pockets of very low suitability are on the fringe.

Issues

- Route 26 is classified as a principal arterial with a high average daily traffic count. Because of the many municipal facilities in the area, traffic and pedestrian control is of paramount importance.
- This area is currently zoned Rural Residential agricultural, Aquifer Overlay and Wellhead Protection District.
- A National Wetlands Inventory (NWI) plot of land exists to the southeast of the area.
- The Wellhead Protection Zoning District lies south of the area and will likely serve as a boundary line for a newly established highway commercial zone.
- Existing Aquifer Overlay Zone regulations are unnecessarily restrictive for this area and could pose unreasonable hurdles to the type of development the Town wishes to encourage.

Opportunities

- Establish a new highway commercial district.
- The area is served by a public water system.
- The area has not developed to a point where changes in land use cannot be instituted.
- The topography and soils should present few constraints for development, and well-regulated development in this area will not pose unreasonable threats to the water supply aquifer.
- Commercial development in this area will reduce further impacts on residential property taxes and will diversify the economic tax base.
- Area 8 is a growth area where municipal facilities such as fire protection, public water, public works and solid waste, schools, recreation, and arterial highways are nearby.

Area 8 Land Use Concepts

- Access Management (Manage traffic impacts, control curb cuts, access points).
- Respond to completion of new Route 26A Connector with transitional commercial land uses as a transitional gateway to Town. Compliments “Future Land Use Area 3-Growth Area” uses.
- Minimum lot size 40,000 square feet.
- Concentrate commercial and retail uses including offices and banks and shopping centers – establish a new highway commercial district.
- Protect ground water quality by adopting more flexible and reasonable Aquifer Overlay Zone standards to allow for well-designed commercial development, and protect area wetlands.
- Provide buffer zones to residential uses.
- Institute corridor management plans that control important design aspects such as intersection signalization, land widths, turning movements, median strips, pedestrian and bike access and landscaping.
- Promote planned development within a “PUD” environment as opposed to “strip” development. Implement design guidelines to define attractive commercial gateway to community.

Implementation Strategy 2

1. Introduction

Gray's comprehensive plan is a document that defines how the community would like to grow over the next decade and how it will make progress in managing future growth and development. In order for Gray to realize its collective *vision for the future* it must have an effective *implementation strategy* that can be used to guide the town through the steps necessary to achieve that vision. In the first chapter of this comprehensive plan, entitled *A Vision for Gray,* a series of policy statements were presented within seven key topic areas. The seven topics included:

- Land Use and Housing
- Natural and Historic Resources
- Transportation
- Recreation and Open Space
- Municipal Services and Utilities
- Economic Development
- Administration and Regional Coordination

These seven key areas, and their corresponding policy statements, are re-stated in the following section and are accompanied by a list of recommended actions that support the implementation of those policies. Each recommended action has a proposed time frame for completion as well as a designation of the town board, committee, or department that should be responsible for implementing the recommendation.

2. Recommended Actions

A. Land Use and Housing

Policy A.1: The town's zoning ordinance and land use regulations should be designed to promote varying densities of housing development in specific areas that are sensitive to natural resources and existing environmental conditions.

Policy A.2: Use the town's land use regulations to promote the efficient development of the remaining undeveloped land resources that supports the cost-effective provision of municipal services.

Policy A.3: Alternatives for the creation of more senior housing near the Village center should be promoted more vigorously.

Policy A.4: The town should use its authority to regulate housing development to further the open space goals identified in the comprehensive plan.

Policy A.5: It is important for the town to provide suitable areas in the community for the development of commercial and industrial land uses in order to expand the non-residential property tax base and offer services and employment opportunities for residents. Therefore, the town should ensure that an adequate supply of land is made available for these types of uses, as an integrated part of its future land use plan.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
A. Land Use and Housing			
1. Gray's zoning ordinance, subdivision regulations, and site plan review regulations should be revised in order to implement the policies and components of the community vision outlined in Chapter 1. These changes should include the following provisions. a) Revise zoning district boundaries and zoning regulations as appropriate to reflect the Future Land Use Map and associated recommendations in Chapter 1. b) Permit duplex housing in the Village and Residential Transitional areas (Areas 1 & 2) identified on the Future Land Use Map. c) Allow up to two (2) rooming house style apartments to be located in owner occupied, single family homes. Responsibility: Planning Board, Ordinance Committee, & Town Council	X		
2. Develop a town center plan for the expanded Village area identified on the Future Land Use Map. This plan should include the establishment of land use regulations	X	X	

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
and design standards that would result in the type and scale of development that is appropriate for this historic, mixed use area. The concepts for development of this area are outlined in Chapter 1 under the Village Center section. Responsibility: Planning Board, Ordinance Committee, Town Council & Historical Society			
3. Revise the town's cluster zoning regulations to make this type of development a more viable alternative to conventional subdivision standards. Changes to the cluster regulations should include: • The creation of open space areas that further the town's goals of open space and natural resource protection. • Open space parcels/areas that are deeded to the town and available to support the municipal recreation program. • Offering density bonuses for proposed developments that address the open space provisions above. • Consider making cluster subdivision a mandatory form of residential development in specific areas of the town or on parcels that contain important natural resources or future recreation sites. Responsibility: Planning Board, Ordinance Committee, Town Council & Recreation Department	X		
4. Place limitations on the amount of residential development permitted in the town's commercial and business zoning districts in order to reserve this limited land area for its primary intended use. Responsibility: Ordinance Committee & Planning Board	X		
5. Place limitations on the establishment of new gravel extraction operations and the expansion of existing operations. Presently these types of operations are permitted throughout most of the town which if continued, could create land uses conflicts for proposed zoning changes. Responsibility: Planning Board & Town Council	X		

B. Natural and Historic Resources

Policy B.1: The town should take a unified approach to protecting its natural resources and preserving important habitat areas which relies on a comprehensive plan that employs a variety of methods and techniques for land conservation.

Policy B.2: Gray must take steps to conserve land not only to protect important wildlife habitat and natural resources, but also to preserve the town's resource based economy related to forestry and agriculture, which are key elements of the community's sense of rural character.

Policy B.3: Gray should work with adjoining towns, possibly through the regional planning agency, to ensure that a comprehensive approach is taken to protect water quality so that the cumulative impacts of future land development in the region do not adversely impact this resource.

Policy B.4: The town's historic buildings and cultural sites are essential to maintaining the character of the community and a shared identity amongst its residents and therefore, their protection and preservation should be addressed in an regulatory manner by the town.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
B. Natural and Historic Resources			
1. The town should establish a committee or other town board that has responsibility for oversight, monitoring and management of natural resource issues in Gray. This Open Space Committee should be supported by town staff or other professional administrative personnel, which could include shared resources with other communities. This committee should prepare an open space plan which includes the following. a) Use the criteria established in the comprehensive plan as a basis for identifying priority parcels/areas within Gray that should be preserved. Create a new category called Critical Rural Areas (CRA), which would be composed of the town's most important natural resources and landscapes, and give these areas highest priority for permanent preservation. b) Initiate discussions with property owners of these parcels to determine if they are interested in identifying a strategy to preserve their land. c) Identify options for preserving potential conservation parcels such as conservation easements, limited subdivision development, or acquisition. Certain parcels may be capable of serving multiple needs for the town, such as active recreation facilities or future sites of community facilities, as well as open space preservation. d) Work with owners of active agricultural and forestry operations to identify alternative financial and regulatory approaches to preserve these activities within the community. Continue to promote and support enrollment of these properties in the current use taxation programs (Tree Growth and Farm and Open Space tax program) that offers reduced property taxes for such properties. e) Evaluate the potential for initiating a Transfer of Development Rights (TDR) program as part of the town's open space planning efforts. Such a program would allow for transferring the development rights from parcels targeted for open space preservation to areas within the town that have been identified as growth areas on the Future Land Use Map. f) Consider retaining the services of a profession land conservation specialist to help develop preservation options for individual properties and/or, to act as an intermediary on behalf of the town with property owners. This position might be filled by town or regional personnel on an interim basis to ensure adequate support for conservation efforts.	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
g) Identify corridors or "greenbelts" that can be used to link larger open space areas together to facilitate the movement of wildlife and recreation activities, such as hiking, skiing, or snowmobiling. Protection or preservation of these corridors should be incorporated into the town's open space planning efforts. Where possible, Gray should work with adjoining towns to extended these corridors across municipal boundaries. h) Establish a dedicated funding source within the municipal budget for open space preservation. i) Integrate the private sector into the town's open space planning efforts. Responsibility: Town Council & Town Manager			
2. Initiate the process of redefining the Aquifer Overlay Zoning District boundaries. Updated mapping prepared by the Maine Geological Survey suggests that the existing boundaries may not coincide with the area that recharges the groundwater aquifer. Revise the aquifer zoning regulations in the Village area to allow for increased areas of impervious surface (e.g. parking lots) if mitigation measures are implemented to treat runoff/recharge. Responsibility: Planning Board, Town Council, Town Manager & Gray Water District	X		
3. Expand the town's existing Shoreland Zoning District to include all streams in Gray that are not presently regulated under this ordinance. Responsibility: Ordinance Committee & Planning Board	X		
4. Revise the zoning, subdivision and site plan regulations to ensure that future development on steeper slopes, particularly in the vicinity of the town's Great Ponds and Royal River Watershed, are done in accordance with Best Management Practices (BMP) in order to minimize impacts on surface waters and adjoining properties. Responsibility: Ordinance Committee & Planning Board	X		
5. Expand inter-municipal cooperation to include protection of water bodies, and their associated watersheds, that cross municipal boundaries. The purpose of this would be to establish a structured process that would ensure that resource protection in Gray is comparable to other towns' in the corresponding watersheds. This cooperative approach would provide for: • Identifying appropriate board/committee to conduct inter-municipal meetings. • Ensure comparable regulatory protection of shared water resources. • Developing joint goals/actions for consideration by all municipalities. • Coordination of lake association activities. • Work with State Department of Environmental Protection to ensure water quality monitoring is performed on a regular basis. Responsibility: Town Council & Planning Board	X	X	X
6. Review and revise the town's regulatory standards to ensure the adequate treatment of storm water runoff from impervious surfaces into water courses, wetlands, or surface water bodies.	X		

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
Responsibility: Planning Board			
7. Ensure that environmental monitoring of the McKin Superfund site continues to occur on a regular basis and that information is reported to the public in an appropriate manner. Responsibility: Town Manager	X	X	X
8. Initiate the process of defining a historic district(s) within the zoning ordinance to ensure protection of the town's culturally significant historic structures and sites. This process should include compiling a suitable inventory and documentation of historic structures, as well as the preparation of associated regulations and design guidelines, that could be used to support revisions to the town's regulations. Responsibility: Ordinance Committee & Historical Society	X		
9. Establish a network of markers and plaques for the town's historic and cultural sites to increase awareness of the significance of these resources. Develop a walking/driving tour of these sites that could be integrated into other trail systems within the town. Responsibility: Historical Society & Town Manager	X	X	
10. Investigate the potential for providing financial incentives for the preservation of farms or other agricultural operations in Gray. Responsibility: Town Council & Town Manager	X		
11. Integrate the protection of endangered species into the town's natural resources planning. Explore the potential for obtaining grants to conduct research and identify such species and their habitat. Responsibility: Ordinance Committee & Open Space Committee	X	X	
12. Develop educational materials that summarize the existing conservation areas and proposed actions and initiatives for Gray residents. This effort should be supported through the town's Geographic Information System (GIS) and also made available on the town's web site. Responsibility: Open Space Committee & Town Staff	X	X	

C. Transportation

Policy C.1: Reinforce the town's rural character by reducing traffic congestion. This should be accomplished by promoting higher density development in specific locations, such as in and around the Village area, which would reduce the need for cross-town, local traffic. This policy should be further supported by creating alternate traffic routes around these higher density locations.

Policy C.2: Public safety should be a major focus of the town's transportation improvement program. This goal should be advanced by making appropriate improvements to the town's vehicular, pedestrian, and bicycle network in order to reduce accidents and injuries.

Policy C.3: Continue to work cooperatively with state and federal agencies, as well as neighboring communities, on making improvements to the local and regional transportation system. The town should place a high priority on financing and managing necessary improvements through state and federal sources. However, local funding and management should also be considered an option when support from state and federal sources cannot be obtained.

Policy C.4: Input from local residents should play a greater role in shaping decisions regarding transportation issues in Gray. This policy should be achieved by increasing community awareness related to transportation issues through various public forums, as well as through increased oversight by residents in appropriate town and regional committees.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
C. Transportation			
1. Establish a municipal impact fee system designed to assess new developments, their proportional share of necessary improvements to the roadway network. Initiate an analysis to develop the baseline criteria needed to determine "fair share" cost methodology required for inclusion in new impact fee regulations. Responsibility: Planning Board, Town Manager, Public Works Director & Town Council	X		
2. Village Area/Urban Roads a) Revise the town's road construction standards to require that new subdivision roads in and around the Village area be constructed to adequate standards to reduce hazards to vehicular and pedestrian traffic. Appropriate design standards should be developed as part of a town center plan, as described in Recommendation A.2, if undertaken. Interim standards for these urban roads should be: - 36 ft. width and vertical curbing on both sides or 30 ft. width and vertical curbing on one side - 5 ft. sidewalks on one side - 3.5 ft. buffer between road and sidewalk for pedestrian safety b) Where possible, within existing rights-of-way, urban roads should be widened to include a 6-8 ft. shoulder for pedestrian/bicycle use. c) Sidewalk gaps along urban roads in school zones should be identified and improved. d) Provide for wide yellow crosswalks within Gray Village with large signs stating "Pedestrians have the Right of Way." This would provide better utilization of municipal parking areas.	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
e) Establish a parking plan to reduce the interruption of traffic flows through the Village. f) Street lights should be installed at intersections as urban roads are reconstructed to improve safety. g) As urban roads are improved, the Department of Public Works should continue its practice of increasing sight distances, cutting grades where possible, and aligning intersections. Responsibility: Planning Board, Public Works Director & Town Council			
3. Improvements to Arterial Road Network a) Improve the lane direction signs at the Gray Corner intersection. Widen Route 100/202 (Lewiston Road) to Colley Hill Road with sidewalks and breakdown lanes. b) Widen Route 100/202 (Lewiston Road) to Colley Hill Road with sidewalks and breakdown lanes. c) Encourage development on Route 100/26 (Portland Road) and Route 100/202 (Lewiston Road) rather than at the Gray Corner and convert this area to public use and preservation, in order to improve traffic management. d) Connect Center Road to Route 115 (West Gray Road) and to Route 26 (Shaker Road) via Frost Road to the vicinity of the new Gray Connector, along the Connector to Route 26 (Shaker Road). e) Connect Center Road and Route 100 through the acquisition of the MDOT parcel. This road should be constructed using new subdivision roads, where possible, combined with acquisition of rights-of-way by the town. f) Construct a new road from lower Route 100/26 (Portland Road) to Yarmouth Road or Depot Road. g) Widen Route 26 (Shaker Road) to a three-lane facility from the intersection of the proposed Gray Connector to Libby Hill Road. h) Widen Dry Mills/North Raymond Road intersection. i) Widen North Raymond Road and Egypt Road to add paved shoulders which can also be used by bicycles and pedestrians. j) Coordinate with the Maine Turnpike Authority to reduce or remove the tolls at the Gray/New Gloucester barrier to alleviate truck traffic through Gray Village. k) When large, undeveloped parcels of land along a major artery is considered for development, a parallel collector road should be required, to minimize curb cuts. l) With increased development and/or change of use of existing structures, vehicular curb cuts should be consolidated where practical. m) Identify those rural and urban roads that have become minor arterials such as Yarmouth Road and North Raymond Road, and future arterials/collectors such as Depot Road and Egypt Road. Roads in this class that are structurally inadequate should be reconstructed to meet current standards. n) As traffic increases on main arteries, measures such as the addition of turning lanes, should be considered to prevent future congestion. Responsibility: Town Council, Public Works Director & Planning Board	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
4. Other Transportation System Recommendations a) Create a proposed master road plan for Gray which would identify the approximate locations of future local roads, including local access roads that could contribute to traffic reduction on main roads, to assist the Planning Board in reviewing proposed subdivision plans. b) Initiate a process of assessing the service and safety level of intersections and establish priorities for improving problem intersections (The intersection of Routes 202/115/4/26/100 and the intersection of the I-495 ramp and Routes 202/4/115 should be given high priority). c) As improvements are made to rural and existing urban roads, wider shoulders should be provided to allow for safe pedestrian and bicycle travel. d) Establish bikeways on minor arterial roads. e) Work regionally to encourage the establishment of public transportation, such as express bus service, between Gray and Portland. f) The town should pursue options for providing transportation alternatives, and associated funding, for residents who are disabled or otherwise limited. g) Develop comprehensive landscaping requirements for new development on main thoroughfares and require completion of such plans prior to issuance of a certificate of occupancy. In addition, wherever possible, parking lots should be placed to the rear of buildings (away from street view) and lighting should be shielded to reduce light pollution. h) Air quality should be considered when designing road improvements. i) Ensure that access management techniques, as recommended by the Greater Portland Council of Governments' *Access Management Handbook*, are incorporated into the town's land use regulations. Responsibility: Town Council, Public Works Director & Planning Board	X	X	X

D. Recreation and Open Space

Policy D.1: Gray should establish a goal of preserving at least one acre of land for each resident of the town and should rely on information and criteria presented in the comprehensive plan to aid in determining land preservation priorities for the community.

Policy D.2: Taxpayers need to understand the cost impacts associated with developing land versus maintaining land in an undeveloped state and need to be provided with adequate information so that they can make informed decisions regarding open space preservation.

Policy D.3: Portions of Gray's land area are better suited for preservation, versus development, based on the natural and cultural resources located there and these areas should be recognized in the town's ordinances as being of highest priority for protection.

Policy D.4: A variety of techniques should be used to preserve open space and manage growth in order to both preserve the character of the community and reduce the impacts of development on the cost of providing municipal services.

Policy D.5: The shared use of recreation facilities by the town's Recreation Department, School District, and private associations is a very practical approach to meeting the community's facility needs. This approach should be continued through a more coordinated process in order to better manage increased usage of existing recreation facilities.

Policy D.6: As the town continues to grow it will need to consider expanding the recreation opportunities available to residents. Therefore, residents should be offered more regular opportunities to provide input regarding the types of recreation facilities and activities they desire. In addition, the town should also expand available recreation facilities through the use of existing facilities not owned by the town and by creating new facilities through appropriate regulatory mechanisms.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
D. Recreation and Open Space			
1. Joint planning and coordination of recreation facilities and programming between School Administrative District #15 and the Towns of Gray and New Gloucester should be formalized. Responsibility: School District, Town Council & Recreation Director	X		
2. The town and school district should purchase available vacant land adjoining the high school/middle school complex in order to allow for expansion of outdoor recreation facilities at this location, as well as the nearby Libby Hill recreation area. Responsibility: School District & Town Council	X	X	X
3. If the Russell Elementary School is decommissioned as an elementary school the town should negotiate an agreement with the school district for use of the athletic fields by the town's recreation program. Responsibility: School District & Town Council	X		
4. The town and school district should investigate the potential of utilizing Pineland's recreation facilities as a means of reducing duplication of facilities and costs. The potential to fund the use of these facilities through a tax abatement agreement should be considered. Responsibility: School District & Town Council	X		
5. Consideration should be given to improving and utilizing the fields at Camp Gregory and the Dunn School for Little League and other municipal recreation activities.	X	X	

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
Responsibility: Recreation Director & Town Manager			
6. In order to support continued recreation planning in the town a survey of residents should be undertaken every three years to identify recreational interests. This survey should include a regional inventory of available facilities and services in order to promote an inter-municipal approach to providing recreation services. Responsibility: Recreation Director & Greater Portland Council of Governments	X	X	X
7. Evaluate the potential for creating an outdoor ice skating rink. Responsibility: Recreation Director & Town Manager	X		
8. Initiate discussions with the State Bureau of Parks & Lands for the potential use of the Pineland Public Reserve Land for outdoor recreation activities within the town's recreation program. Responsibility: State of Maine & Town Council	X		
9. Acquire/reserve land for the potential creation of future neighborhood parks or playgrounds. These parcels, or portions of parcels, should be reserved as part of the subdivision approval process and/or purchased with funds set aside in a municipal capital reserve fund. The locations of these future facilities would ideally be located in areas identified on Map 7-1, Recreation and Open Space, located in the Recreation and Open Space Chapter (Chapter 7) of the comprehensive plan. If not developed as active recreation facilities, these parcels should be suitable for supporting the town's overall open space protection goals. Responsibility: Planning Board & Recreation Director	X	X	X
10. Designate the Collyer Brook and Royal River corridors as a Critical Rural Area (CRA), as described under the recommendation above. This CRA would encompass the historically significant Woolen Mill site and represents an ideal corridor for potential trail linking the Libby Hill recreation area with the State's Pineland Reservation and Bradbury Mountain State Park. Responsibility: Town Council & Planning Board	X		
11. Revise the existing fee structure in the town's subdivision regulations, based on more specific criteria suggested in the comprehensive plan, for establishing open space or recreation facilities within subdivisions. Consider increasing the fee based on a more targeted approach to open space preservation. It is recommended that the following be considered: • Create a new development impact fee of $1,500 per bedroom for residential construction. These fees would be dedicated to open space preservation and would be abated once the town has achieved its open space planning goals. • As an alternative to paying this fee new development could donate land or conservation easements of equivalent value, but such land must meet open space preservation criteria recommended in the comprehensive plan. Responsibility: Town Council, Planning Board & Planning Director	X		

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
12. The town should consider expanding support staff of the Recreation Department in order to allow for the Director's position to function in more of a planning capacity that focuses on long-term recreation and open space needs of the community. Evaluate the potential for establishing a user-fee based approach to supporting increased staffing and programs offered by the Department. Responsibility: Town Council & Town Manager	X	X	
13. Consider establishing a local land trust or joining with an existing regional group such as the New Gloucester Land Preservation Trust. The Gray Community Endowment is a philanthropic organization currently working as an "umbrella group" within the town to support various community needs. This organization could be the focal point for land conservation efforts in the future. Responsibility: Town Council	X	X	

E. Municipal Services and Utilities

Policy E.1: Gray should attempt to moderate the cost of providing municipal services through the continued and expanded use of community volunteers.

Policy E.2: The cost of providing municipal services should be regulated through the careful advance planning of expenditures. The town should schedule predictable, long-term costs, such as maintenance and capital expansion, through a continuous multi-year investment plan.

Policy E.3: The town should attempt to ameliorate municipal services costs through collaboration and alliances with neighboring communities. This goal should be supported by regularly reviewing and updating existing and potential inter-municipal collaborations before committing to additional major expenditures.

Policy E.4: Providing for public safety is a paramount responsibility of local government and therefore, the town should continue to maintain public safety services that are adequate to respond to modern hazards as well as evolving community expectations.

Policy E.5: The cost of providing municipal facilities and services should be supported, where appropriate, through fees for services as well as development impact fees.

Policy E.6: Local government should be responsive to residents' needs and should continually update the citizenry regarding its effectiveness through a variety of public forums and other methods of effective communication.

Policy E.7: Gray should promote the efficient and effective use of town committees and town staff by adopting cost-effective procedures to promote the productivity of both.

Policy E.8: The town and the Gray Water District should continue to work cooperatively to insure that future land use recommendations presented in this plan are supported by the expansion policies of the Water District.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
E. Municipal Services and Utilities			
1. Gray should use regional collaborations as a cost-effective approach to providing municipal services and facilities whenever practical. This should include cooperative purchasing agreements for the procurement of equipment, materials, and services. Responsibility: Town Manager & Town Council	X	X	X
2. Explore the feasibility and cost-effectiveness of contracting with the private sector for essential town services. Responsibility: Town Manager & Town Council	X	X	X
3. Work with the Gray Water District to develop a utility expansion plan that supports the town's proposed land use plan as illustrated on the Future Land Use Map in the comprehensive plan. Assist the District in securing suitable locations for additional well sites that support this expansion plan. Explore funding alternatives, such as impact fees, to support extension of lines into growth areas. Responsibility: Planning Board, Gray Water District, Town Manager & Town Council	X	X	X
4. Ensure that all proposed upgrades or expansion of municipal facilities and utility systems in Gray support planned development in growth areas and do not encourage growth in portions of the community that are not planned to receive a significant percentage of future development. Responsibility: Comprehensive Plan Implementation Committee, Planning Board, Gray Water District, & Town Council	X	X	X
5. Continue to maintain a capital improvements plan (CIP) that includes scheduled equipment purchase and replacement, building upgrades and/or new construction, land acquisition for the location of future facilities, and the upgrading and construction of roadways and other transportation facilities. Major facilities needs that should be addressed in the CIP include the following. a. Upgrading the Public Works garage and Solid Waste transfer/recycling facility b. Renovation of the Central Fire Station c. Library expansion and renovation d. Renovation/reuse of Pennell Institute as municipal offices (contingent upon transfer of ownership from school district) Responsibility: Town Manager	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
6. The town should implement a system of development impact fees to help offset the costs of new municipal and school facilities that are necessitated by future development. Particular consideration should be given to establishing impact fees for facilities related to schools, roadways, water lines, and recreation, although other services should also be considered. Responsibility: Town Council & Planning Board	X	X	
7. Prepare town staffing projections for three, five and ten years into the future. Responsibility: Town Manager	X		
8. Report annually on the town's preparedness for new public safety risks such as major hazardous material exposures, natural disasters, and man-made threats. Responsibility: Public Safety Coordinator	X	X	X
9. Establish minimum public safety personnel-to-town resident ratios for paramedics, firefighters, and police officers. Use these to develop policies for providing emergency services for the town. Responsibility: Public Safety Coordinator, Public Safety Committee, Town Manager & Town Council	X		
10. Provide an emergency helicopter landing zone in town that is acceptable for LifeFlight operations 24 hours a day, all year long. Responsibility: Public Works Director	X		
11. The town should continue to employ a regional approach to providing police services in Gray. In the short-term, provision of these services should rely on contracted services with either the County Sheriff's Department or the Maine State Police. However, over a longer-term period the town should investigate the potential for forming a regional police department with neighboring towns. Responsibility: Town Council, Town Manager, Public Safety Coordinator & Public Safety Committee	X	X	

F. Economic Development

Policy F.1: Enhance the capacity of the Gray community to play an active role in promoting sound, sustainable economic development.

Policy F.2: Increase the awareness and consideration of Gray as a business location.

Policy F.3: Improve the image of Gray as a desirable community in which to locate a business.

Policy F.4: Retain and expand the range of goods and services available in Gray.

Policy F.5: Increase the supply of well located and serviced land to accommodate office, manufacturing, distribution, and similar uses in Gray.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
F. Economic Development			
1. Adopt a formal Town Council resolution affirming the town's desire to support economic development activities that promote sound economic growth. Responsibility: Town Council	X		
2. Formalize the role of the Community Economic Development Committee (CEDC) by converting it to a non-profit economic development corporation. • Develop an annual budget for economic development activities • Provide part-time staff to support the CEDC • Develop an annual work program for the CEDC • Develop an economic database to allow staff and business people to compile marketing and development information about Gray. Responsibility: Town Council & Town Manager		X	
3. Prepare marketing and promotional information to be used to support the town's economic development activities. • Develop a marketing brochure • Undertake a coordinated program to increase awareness of Gray's economic opportunities by identifying key people in the region who are involved with siting commercial real estate and provide them with information about the town. • Expand the town's web site to include information about economic development potential. • Undertake a campaign to encourage residents and workers in the local trade area to patronize retail and service businesses in Gray. Responsibility: CEDC & Town Manager	X	X	
4. Develop a "gateway" beautification program that focuses on improving the visual appearance of properties along roadways that represent entrances into the town and Village areas. Responsibility: Planning Board, Town Council & Town Planner		X	
5. Establish a business assistance program to work with the owners and managers of retail and service business to assist them in making businesses more competitive. Responsibility: CEDC & Town Manager	X	X	
6. Undertake a targeted business recruitment program to make niche retail businesses in other locations aware of the opportunities in Gray. Responsibility: CEDC & Town Manager	X	X	X
7. Undertake a targeted business recruitment program to make other businesses aware of the locational and financial incentives available in Gray. This program should focus on small to mid-sized manufacturing, research, and administrative firms	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
located in York and Cumberland Counties. Responsibility: CEDC & Town Manager			
8. Prepare a conceptual development plan for the expanded Business Development Area (Area 3 on the Future Land Use Map) which would present an optimal layout of future roads, parcels, and utilities. Responsibility: CEDC, Planning Board & Town Planner	X	X	

G. Administration and Regional Coordination

Policy G.1: Continue to promote a "user friendly" model of public participation in Gray that increases opportunities for residents to be involved in directing the operation of town government.

Policy G.2: Keep residents well informed regarding issues and activities related to the operation of town services in order to promote an informed dialogue and consensus within the community.

Policy G.3: Promote regionalism as a means to address issues confronting the community in a cost-effective manner and to reduce the use of resources and duplication of services and facilities.

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
G. Administration and Regional Coordination			
1. Establish a Comprehensive Plan Implementation Committee which would be responsible for monitoring progress in making changes recommended in the plan. The responsibilities of this committee could include the following. • Issuing progress reports regarding the success of implementing comprehensive plan recommendations. • Hold public meetings to solicit input about planning and development issues in Gray as they relate to the plan implementation. • Advise the Ordinance Committee concerning changes proposed to the town's land use regulations by the comprehensive plan. Responsibility: Town Council	X		
2. Maintain an annually updated copy on the town's web site of a capital improvements schedule, with associated timetable, for planned improvements to the road network. Responsibility: Public Works Director & Town Manager	X	X	X

Recommended Actions	Time Period (years)		
	1-2	3-5	6-10
3. Establish a "customer friendly" model for public participation in Gray. This approach should focus on increased opportunities for public involvement and participation at Town Council and Planning Board meetings. It might also include the creation of a new "outreach" seat on the Town Council that is responsible for public liaison issues. Alternative techniques for making information available, like expanded use of the town web-site, should also be considered. Responsibility: Town Council & Town Manager		X	
4. Develop specific annual work plans for each town board, committee and/or commission based on the implementation strategy of the comprehensive plan. Use this work plan to develop volunteer projects for Gray residents which will introduce citizens to the roles and responsibilities of these boards and committees. Responsibility: Town Council and Chair of each committee	X	X	X
5. Gray should use regional collaborations as a cost-effective approach to providing municipal services and facilities whenever practical. This should include cooperative purchasing agreements for the procurement of equipment, materials, and services. Responsibility: Town Manager & Department Heads	X	X	X
6. Meet with adjoining communities, and/or, the regional planning commission, to review proposed zoning changes along Gray's municipal boundaries to determine their compatibility with zoning in neighboring towns. Responsibility: Town Council & Planning Board	X		
7. Continue to promote and expand the working relationships developed with neighboring communities through the Central Corridor Coalition, a group of seven adjacent towns including Gray, on issues of shared concern such as transportation, municipal services, economic development, and the protection of natural resources that cross municipal boundaries. Responsibility: Town Council & Town Manager	X	X	X

Population and Housing 3

1. Introduction

This chapter examines population and housing changes that have occurred in the Town of Gray over the last several decades. The first half of the chapter presents an overview of historic population trends and offers several alternative growth projections for the town over the next 20 years. The historical population analysis includes a comparison of Gray to all other municipalities within the county in order to provide a regional perspective for growth within the town. The population analysis also reviews changes in the town's household structure in terms of size and income, as well as changes within the overall age structure of the community.

The second half of the chapter focuses on the growth and changing composition of the town's housing stock. This includes an analysis that examines total housing growth, the make-up of the housing supply, the assessed value of the housing stock, and changes in the cost of housing. Information is also presented regarding Gray's rate of housing growth in comparison to the broader housing region of Cumberland County.

2. Summary of Major Findings and Conclusions

- Gray's population has increased by approximately 3,880 people, or 75%, over the last 30 years. The period between 1990 and 2000 was the slowest decade of growth during this 30 year time period.

- The rate of population growth has slowed for all municipalities in Cumberland County over the last 30 years. However, Gray has had consistently higher rates of growth when compared to other towns and cities in the region.

- The average age of Gray's residents has increased from 30.8 in 1980 to 37.4 in 2000. This has resulted in an increase in the number of residents age 35 years and above, particularly in the 45 to 54 age group, and a decrease in the 18 to 34 age category. The number of children in the 5 to 17 age group has increased over the last two decades, but at a fairly flat rate. The number of children under the age of 5 has declined over the last decade.

- The number of households in Gray has increased at a faster rate than the population over the last two decades due to a decrease in the average household size from 2.84 to 2.57 residents per household.

- Changes in household income over the last decade resulted in a considerable movement of households shifting into the middle-upper and upper income brackets. In addition, Gray's average household income has been consistently higher than that of the county and the state.

- The total number of housing units in Gray has increased by approximately 900 units, which represents a 40% growth rate, over the last 20 years. The majority of this housing growth was comprised of single family units which accounted for over 65% of the growth.

- There was some significant growth in the multi-family housing category which increased by approximately 240 units between 1980 and 2000. Three quarters of this increase occurred between 1980 and 1990 and all of the multi-family units constructed during the 90s were duplexes.

- Over the last 20 years the town has issued on average, between 63 and 70 residential building permits annually. Between 1990 and 2000, Gray had the seventh highest rate of residential building permits issued annually of all municipalities in Cumberland County.

- The average sale price of a single family home in Gray increased by 33% between 1992 and 2000. However, this was one of the lowest rates of increase for all communities in Cumberland County suggesting that Gray is still relatively affordable in comparison to the regional housing market.

- A review of home sales over the last several years in Gray found that the average sale price of a single family home was approximately $169,000 in 2001. However, about 42% of the units sold between 1998 and 2001 sold for less than $125,000 which indicates that there is a reasonable opportunity for lower income households to purchase a single family home in Gray.

3. Population

3.1 Local Population Trends

A review of population growth in Gray over the last several decades reveals some interesting trends. Like many towns in the southeast portion of the state, Gray experienced a significant increase in population during the period between 1970 and 2000. The total population of the town increased by 3,881 people, an increase of almost 75%, over that time period. This change is illustrated in Figure 3-1.

Examining this total change in population for each of the three individual decades shows that Gray experienced more rapid growth during the 70s and 80s with a reduced rate of growth during the 90s. Table 3-1 presents the change in total population for these three time periods. As the data shows the number of additional residents added during the 70s and 80s was fairly consistent, ranging between 1,405 and 1,560 respectively. The decade of the 70s saw the town's fastest rate of growth, but the 80s represents the largest actual gain in total population for all three decades. However, the rate of increase declined between the 70s and the 80s from approximately 48% to 36%; a fact which is partially attributable to the increase in the town's total base population.

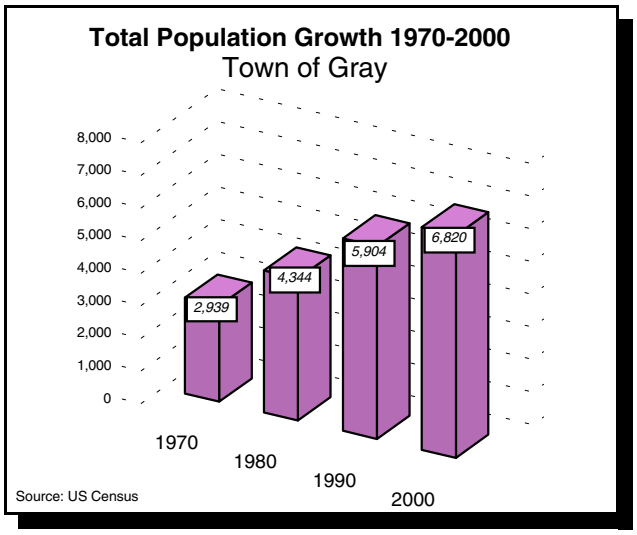


Figure 3-1

The most recent decade, between 1990 and 2000, saw a considerable decline for the town in terms of the total population gain as well as the rate of growth. According to U.S. Census data the town added 916 residents which is approximately 500 less than the previous decade. Furthermore, the rate of growth during the 90s was just over 15%, which is less than half the rate of increase experienced during the 80s.

Table 3-1
Total Population 1970 - 2000
Town of Gray

Year	Total Population	Years	Pop Change	% Change
1970	2,939	—	—	—
1980	4,344	1970-80	1,405	47.8%
1990	5,904	1980-90	1,560	35.9%
2000	6,820	1990-00	916	15.5%

Source: U.S. Census Bureau

The two primary components that comprise total population growth are natural increase and net migration. Natural increase represents the difference between the number of resident births and

deaths. Net migration is the difference between the number of people that have moved into town versus the number that have moved out. Table 3-2 illustrates how these two elements factored into the town's population growth between 1970 and 2000.

What the data in Table 3-2 suggests is that natural increase has become a larger component of the town's growth over the last 30 years. This is a trend which is generally expected to occur as the base population of the community increases and new households begin to establish families. There was a particularly noticeable jump in the natural increase as a percent of total growth between 1980 and 1990. This is illustrated by the fact that net migration, as a percent of total population increase, declined from approximately 80% to 68% between the 70s and 80s even though total population growth was greater during the 80s. The town's natural increase went from 274 in the 70s to 493 in the 80s, an increase of almost 80%.

Table 3-2
Components of Population Change 1970 - 2000
Town of Gray

	Births	Deaths	Natural Increase
1970-80	612	338	274
1980-90	867	374	493
1990-00	856	423	433

	Population Change	Natural Increase	Net Migration	Net Migration as % of Pop Change
1970-80	1,405	274	1,131	80.5%
1980-90	1,560	493	1,067	68.4%
1990-00	916	433	483	52.7%

Source: Maine Dept. of Human Services and U.S. Census Bureau

Between 1990 and 2000, population growth patterns changed considerably. The number of births declined slightly from the previous decade, while the number of deaths increased resulting in an overall decline in the town's rate of natural increase. Concurrently, the amount of net migration dropped to half the level of the previous decade which resulted in an overall decline in the town's rate of growth. Regional and national trends of lower birth rates, an aging population and smaller household sizes suggests that the town's rate of natural increase as a component of total growth would not be expected to surpass current levels barring any unexpected shifts in the makeup of the total population.

Other characteristics of the town's population are illustrated in Figure 3-2 and Table 3-3 which illustrate changes in the age distribution of residents between 1980 and 2000. The data shows that Gray's population is reflecting a national trend which involves an overall increase in the average age of residents. Between 1980 and 2000, the average age of residents in Gray went from 30.8 to 37.4, an increase of approximately seven years.

A closer examination of specific age cohorts within the population reveals the underlying basis for this overall aging trend. As shown in Figure 3-2 and Table 3-3 the largest consistent gains between 1980 and 2000 occurred in the 35-44 and 45-54 age groups. During this time period those cohorts went from approximately 21% of the total population in 1980 to 36% in 2000. A notable increase also occurred in the 55-64 age group between 1990 and 2000 which had a total increase of almost

32% for the decade. However, as a percentage of the total population this cohort increased by one percent (7.2% to 8.2%).

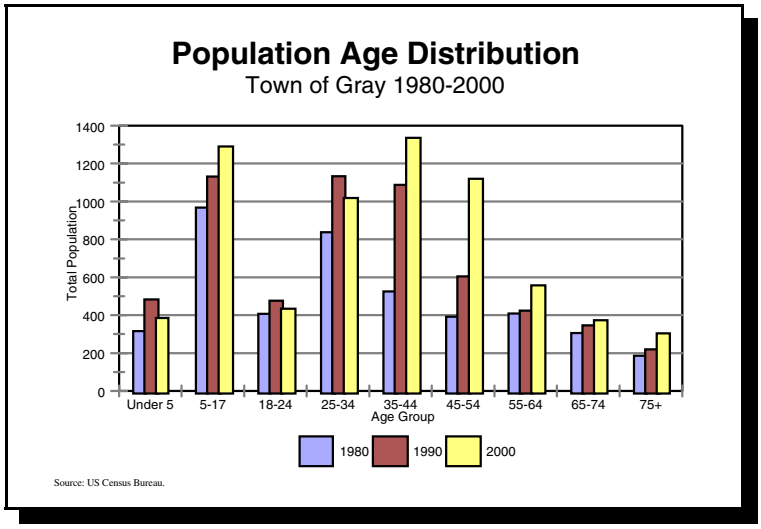


Figure 3-2

Conversely, there have been significant decreases in the younger age cohorts of the population. For example, the 18-24 and 25-34 age groups combined declined from approximately 29% of the total population in 1980 to approximately 21% in 2000. In addition, the Under 5 age group declined from 7.3% to 5.6% during that same time period. All three of these cohorts experienced a decline not only as a percentage of total population, but in actual numbers of people as well over the last ten years.

The only younger age cohort that has not decreased substantially over the last two decades is the 5-17 age group. Although this cohort did decline from approximately 22% to 19% of the total population between 1980 and 2000, it did increase in actual numbers adding approximately 160 people during each of the last two decades.

Table 3-3
Population Age Distribution 1980-2000
Town of Gray

	Total Persons			% of Total			Change		% Change	
	1980	1990	2000	1980	1990	2000	80-90	90-00	80-90	90-00
Under 5	317	483	385	7.3%	8.2%	5.6%	166	-98	52.4%	-20.3%
5-17	968	1,131	1,291	22.3%	19.2%	18.9%	163	160	16.8%	14.1%
18-24	407	476	433	9.4%	8.1%	6.3%	69	-43	17.0%	-9.0%
25-34	837	1,134	1,020	19.3%	19.2%	15.0%	297	-114	35.5%	-10.1%
35-44	524	1,088	1,337	12.1%	18.4%	19.6%	564	249	107.6%	22.9%
45-54	391	604	1,120	9.0%	10.2%	16.4%	213	516	54.5%	85.4%
55-64	409	423	557	9.4%	7.2%	8.2%	14	134	3.4%	31.7%
65-74	305	346	373	7.0%	5.9%	5.5%	41	27	13.4%	7.8%
75+	186	219	304	4.3%	3.7%	4.5%	33	85	17.7%	38.8%
Total	4,344	5,904	6,820	100.0%	100.0%	100.0%	1,560	916	35.9%	15.5%
Median Age	30.8	32.9	37.4							

Source: US Census Bureau

3.2 Regional Population Trends

The preceding section discussed changes in Gray's population base over the last several decades. The town's growth, however, is not just a local phenomenon but is influenced by factors occurring at broader geographic levels within the county, the state, and New England as well. Over the last two decades the rate of Maine's population growth has declined significantly. Between 1970 and 1980 the state experienced a net gain of approximately 132,000 people, an increase of 13.4%. From that point, the state's downward trend in population growth spanned the next two decades reaching its lowest growth rate of 3.8% between 1990 and 2000, a net gain of only 46,995 people, according to the decennial census. This data is illustrated in Table 3-4.

Much of the state's population growth over the last 30 years has occurred within southern and coastal counties. Between 1970 and 1980, Cumberland County accounted for approximately 25% of the state's net population growth. Between 1980 and 1990 the county's population gain, which totaled 22,477, had increased to almost 50% of the state's total growth for the decade.

Overall, the county's population gain for each of the three decades remained fairly constant, ranging between 22,000 and 28,000, with the largest increase during the 80s. Although the total growth remained steady for each of the decades between 1970 and 2000, the manner in which this growth was distributed throughout the county varied. Figure 3-3 illustrates the percentage growth rates for Cumberland County municipalities for each of the last three decades. This chart, combined with the data in Table 3-4, illustrates a number of characteristics about Gray's population growth and its relationship to countywide growth trends.

From a regional perspective Figure 3-3 shows that the rate of growth for all communities has declined over this three decade period. During the 70s, the growth rate for almost half of all municipalities in Cumberland County exceeded 40%. However, during the 80s and 90s only three towns exceeded that level.

During the 70s the rate of growth fluctuated widely with half a dozen communities posting modest population gains of less than 10% (or losing population) while an equal number had growth rates ranging from 50% to 90%. The fastest growing towns tended to be rural, non-coastal communities which suggest an out-migration from the county's urban areas that was perhaps also indicative of a demand for lower cost land and housing. If all municipalities in the county are divided into three relatively equal groups Gray's population growth during that period placed it at the top of the second tier.

A similar growth pattern was noted during the 80s with higher growth rates being especially focused in the northern reaches of the county in the towns surrounding Sebago Lake. The overall rate of growth slowed in all communities during this decade which is partially attributable to the fact that new growth was being added to a larger population base. No municipalities experienced a loss of population during the 80s. This decade was the town's largest growth period in absolute terms

Table 3-4
Population Change 1970 - 2000
Cumberland County Municipalities and the State of Maine

					Total Change			% Change			Change 70-00	
	1970	1980	1990	2000	70-80	80-90	90-00	70-80	80-90	90-00	Total	%
Baldwin	878	1,140	1,219	1,290	262	79	71	29.8%	6.9%	5.8%	412	46.9%
Bridgton	2,967	3,528	4,307	4,883	561	779	576	18.9%	22.1%	13.4%	1,916	64.6%
Brunswick	16,195	17,366	20,920	21,172	1,171	3,554	252	7.2%	20.5%	1.2%	4,977	30.7%
Cape Elizabeth	7,873	7,838	8,908	9,068	(35)	1,070	160	-0.4%	13.7%	1.8%	1,195	15.2%
Casco	1,256	2,243	3,004	3,469	987	761	465	78.6%	33.9%	15.5%	2,213	176.2%
Cumberland	4,096	5,284	6,103	7,159	1,188	819	1,056	29.0%	15.5%	17.3%	3,063	74.8%
Falmouth	6,291	6,853	7,681	10,310	562	828	2,629	8.9%	12.1%	34.2%	4,019	63.9%
Freeport	4,781	5,863	6,974	7,800	1,082	1,111	826	22.6%	18.9%	11.8%	3,019	63.1%
Gorham	7,839	10,101	11,720	14,141	2,262	1,619	2,421	28.9%	16.0%	20.7%	6,302	80.4%
Gray	**2,939**	**4,344**	**5,904**	**6,820**	**1,405**	**1,560**	**916**	**47.8%**	**35.9%**	**15.5%**	**3,881**	**132.1%**
Harpswell	2,552	3,796	4,993	5,239	1,244	1,197	246	48.7%	31.5%	4.9%	2,687	105.3%
Harrison	1,045	1,667	1,951	2,315	622	284	364	59.5%	17.0%	18.7%	1,270	121.5%
Naples	956	1,833	2,860	3,274	877	1,027	414	91.7%	56.0%	14.5%	2,318	242.5%
New Gloucester	2,811	3,180	3,878	4,803	369	698	925	13.1%	21.9%	23.9%	1,992	70.9%
North Yarmouth	1,383	1,919	1,996	3,210	536	77	1,214	38.8%	4.0%	60.8%	1,827	132.1%
Portland	65,116	61,572	63,106	64,249	(3,544)	1,534	1,143	-5.4%	2.5%	1.8%	(867)	-1.3%
Pownal	800	1,189	1,213	1,491	389	24	278	48.6%	2.0%	22.9%	691	86.4%
Raymond	1,328	2,251	3,410	4,299	923	1,159	889	69.5%	51.5%	26.1%	2,971	223.7%
Scarborough	7,845	11,347	12,504	16,970	3,502	1,157	4,466	44.6%	10.2%	35.7%	9,125	116.3%
Sebago	708	974	1,257	1,433	266	283	176	37.6%	29.1%	14.0%	725	102.4%
South Portland	23,267	22,715	24,098	23,324	(552)	1,383	(774)	-2.4%	6.1%	-3.2%	57	0.2%
Standish	3,122	5,946	7,532	9,285	2,824	1,586	1,753	90.5%	26.7%	23.3%	6,163	197.4%
Westbrook	14,444	14,976	16,208	16,142	532	1,232	(66)	3.7%	8.2%	-0.4%	1,698	11.8%
Windham	6,593	11,282	13,020	14,904	4,689	1,738	1,884	71.1%	15.4%	14.5%	8,311	126.1%
Yarmouth	4,854	6,585	8,085	8,360	1,731	1,500	275	35.7%	22.8%	3.4%	3,506	72.2%
Cumberland County	192,528	215,789	243,135	265,612	23,261	27,346	22,477	12.1%	12.7%	9.2%	73,084	38.0%
State of Maine	992,048	1,124,660	1,227,928	1,274,923	132,612	103,268	46,995	13.4%	9.2%	3.8%	282,875	28.5%

Source: US Census Bureau
Note: Shading denotes Gray and its adjoining communities

(1,560 additional residents) which resulted in Gray having the third fastest rate of growth within the County.

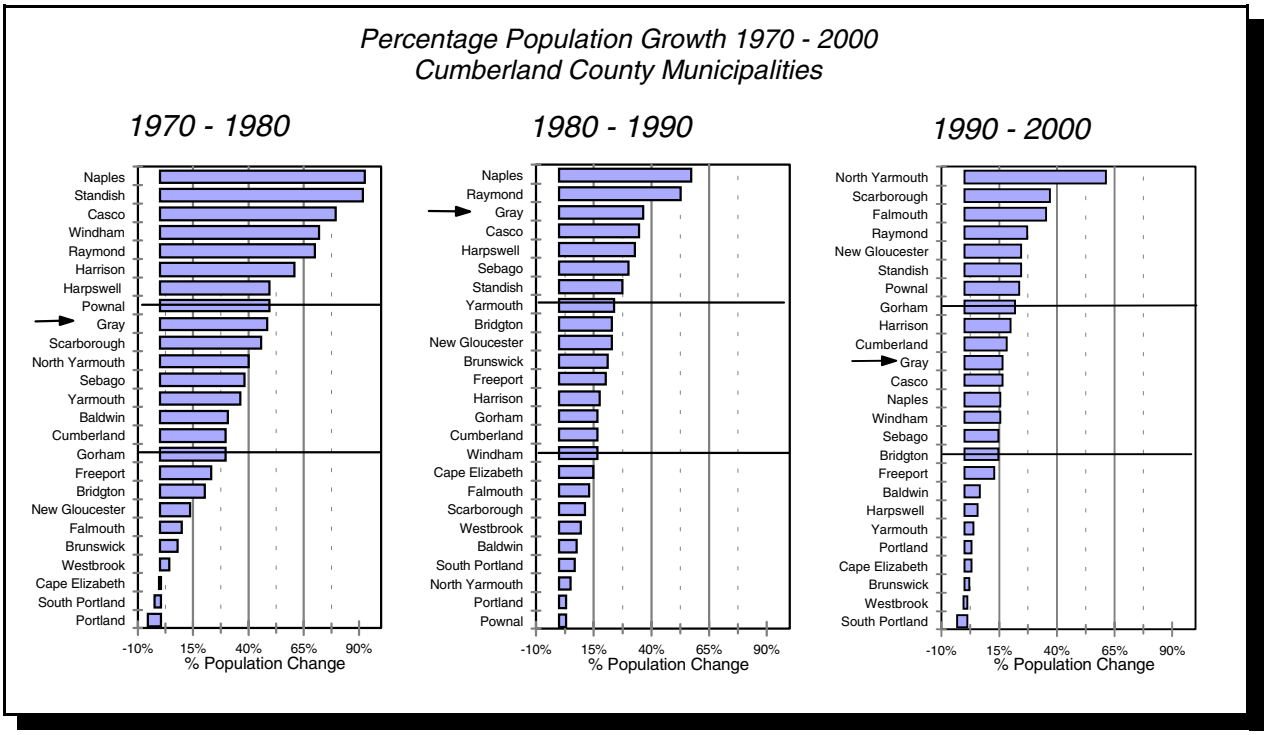


Figure 3-3

Population counts for the 90s indicate that a slight shift has occurred in how the rates of population growth were distributed throughout the county. The data for this time period illustrates slightly higher growth rates for communities in the central portion of the county. Growth in these areas, which can be characterized as the Greater Portland area, suggests that the economic expansion that occurred in Portland and South Portland helped drive population and housing growth in adjoining municipalities. Gray's growth rate for this decade was the lowest within the 30 year time period, although it still placed relatively high among the second tier towns within the County.

From an overall perspective, Gray experienced a net population increase of 3,881 people between 1970 and 2000. This represents a growth rate of 132.1% which was the fifth fastest growth rate for all municipalities in Cumberland County.

3.3 Population Projections

The potential long-term population growth of a town such as Gray is subject to many regional and national influences such as economic and income growth, the condition of the Stock Market, tax treatment of mortgages and second homes, interest rates, real estate cycles, etc. Projections of growth at the local level that do not consider these broader factors are typically less reliable since they tend to rely only upon historical patterns of development within the community. Therefore, the

population projections for Gray that are presented in this section have been derived based on a model that was designed to project growth at the state and county levels in Maine.

The countywide projection was prepared by Professor Charles Colgan of the Center for Business and Economic Research (CBER) at the University of Southern Maine. The projections were derived through use of a model developed by Regional Economic Models Inc. (REMI), a private firm located in Amherst, Massachusetts, which is widely used throughout the country to conduct regional economic forecasting and analysis. This model uses statewide data for employment and economic growth as well as current population estimates prepared by the U.S. Census Bureau.

The CBER model was prepared in February of 2000. A major issue in these forecasts, as noted by Colgan, is the rate of migration into Maine. In-migration to Maine was very slow in the 1990s and it is not at all clear how long this trend will continue. The county forecasts used here assume that the more rapid in-migration, particularly to coastal regions, will continue at about the pace of the latter part of the 1990s through the decade 2000-2010. After that in-migration to all regions is assumed to accelerate in order to provide some population growth to fuel economic growth. This is particularly important given Maine's low birth rate, which is likely to continue. It is important to understand these assumptions since they directly affect population forecasts.

In order to project Gray's population based on the countywide model the relationship between historical growth rates for the town and county were examined. The data in Table 3-5 illustrates the change in total population for Gray and Cumberland County between 1970 and 2000. The table also illustrates the town's population as a percentage of the county's for each of the four years.

Table 3-5
Historical Population Growth and Projections 1970 - 2020
Town of Gray and Cumberland County

Total Population - Census	*1970*	*1980*	*1990*	*2000*
Gray	***2,939***	***4,344***	***5,904***	***6,820***
Town as % of County Pop	*1.53%*	*2.01%*	*2.43%*	*2.57%*
Cumberland County	***192,528***	***215,789***	***243,135***	***265,612***
Projections - Total Population				
Gray	*2005*	*2010*	*2015*	*2020*
10 Year Trend (90-00)	*7,272*	*7,804*	*8,328*	*8,857*
20 Year Trend (80-00)	*7,473*	*8,216*	*8,968*	*9,739*
30 Year Trend (70-00)	*7,559*	*8,402*	*9,262*	*10,149*
Cumberland County	*275,750*	*288,273*	*299,928*	*311,154*
% Change of Projected Growth				
Gray	*00-05*	*05-10*	*10-15*	*15-20*
10 Year Trend (90-00)	*6.63%*	*7.30%*	*6.72%*	*6.35%*
20 Year Trend (80-00)	*9.57%*	*9.94%*	*9.15%*	*8.60%*
30 Year Trend (70-00)	*10.83%*	*11.16%*	*10.24%*	*9.57%*
Cumberland County	*3.82%*	*4.54%*	*4.04%*	*3.74%*

Source: US Census Bureau, Charles Colgan, USM and RKG Associates, Inc.

The first part of the table presents a comparison of historical census counts for the town and county over the last 30 years. What is shown is that Gray's population, as a percent

of the county's, has increased from 1.53% in 1970 to 2.57% as of 2000. This represents an increase of 68% over that time period. However, although the town's percentage of total county population has increased, the rate of increase has been slowly diminishing over this 30 year time period.

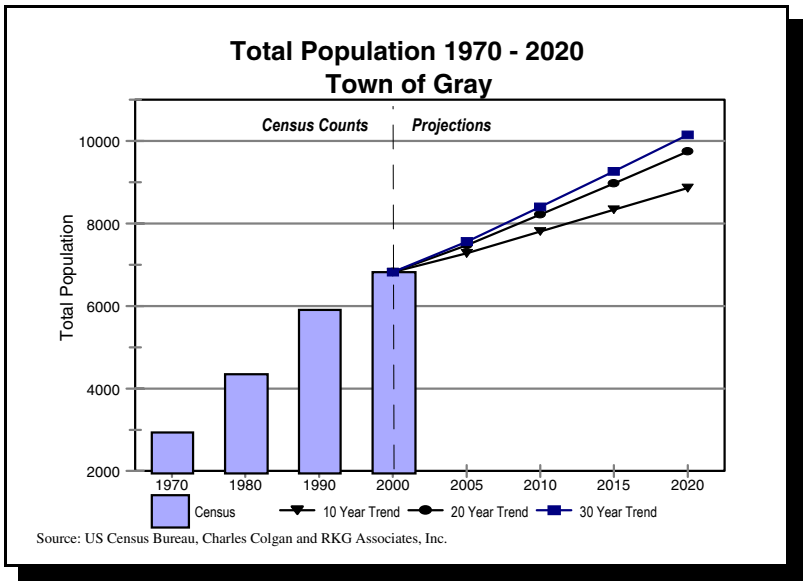


Figure 3-4

Based on these historical conditions several alternative scenarios have been developed for projected growth over the next 20 years. These are presented in Table 3-5 and Figure 3-4. The three scenarios include a 10 year trend (based on growth between 1990 and 2000), a 20 year trend (based on growth between 1980 and 2000) and a 30 year trend (based on growth between 1970 and 2000). Based on these three scenarios Gray's population is expected to range between 8,857 and 10,149 by the year 2020. In comparison, projections prepared by the Greater Portland Council of Governments, which were completed in 1998, estimate that the town's 2020 population will be 9,149.[1]

As can be seen by the "straight-line" nature of these long-term forecasts, they do not attempt to represent changes in the business cycle, and thus they do not illustrate any recessions that will occur during the projection period. During this 20 year time frame, some periods may show significantly slower or even negative growth, but these will be offset by periods of recovery. On average over the decades, the forecasts should reflect long-term trends.

3.4 Household and Income Characteristics

Changes described in the preceding section regarding the town's population growth have affected the characteristics and composition of households within the community as well. It is important to have an understanding of these characteristics since households, and their corresponding housing units, represent some of the fundamental components used to support comprehensive planning initiatives.

Population growth and the changing age distribution of residents has had a corresponding impact on

[1]Population projections prepared by the Maine State Planning Office in December 2001 estimates that Gray's population will increase to 7,271 in 2005; 7,583 in 2010; and 7,839 in 2015.

household growth and household size. From a general perspective, the increase in the overall age of the town's population has resulted in a decrease in the average household size from 2.83 in 1980 to 2.57 in 2000, as illustrated in Table 3-6.

Table 3-6
Change in Population and Household Characteristics 1980 - 2000
Town of Gray, Cumberland County and the State of Maine

Town of Gray	1980	1990	2000	Change 80-90	% Change 90-00
Population	4,344	5,904	6,820	35.9%	15.5%
Group Qtrs. Pop	87	27	35	-69.0%	29.6%
Total Households	1,503	2,144	2,637	42.6%	23.0%
Avg. Household Size	2.83	2.74	2.57	-3.2%	-6.2%
Median HH Income					
Gray	$16,467	$37,592	$50,107	128.3%	33.3%
County	$15,360	$32,318	$44,048	110.4%	36.3%
State	$13,826	$27,896	$37,240	101.8%	33.5%
Per Capita Income					
Gray	$5,865	$14,719	$20,050	152.5	36.2%
County	$6,694	$15,817	$23,949	136.3	51.4%
State	$5,769	$12,954	$19,533	124.5	50.8%

Source: US Census Bureau

The decrease in household size, combined with continued population growth, has also resulted in the formation of new households at a rate which exceeds overall population growth. For example, between 1980 and 1990, total population increased by almost 36% while total households grew by almost 43%. Although there was less disparity between 1990 and 2000, household growth still exceeded population growth with rates of 23% and 15.5% respectively, during that decade.

Table 3-6 also summarizes the changes in household and per capita income for the town, county, and the state, between 1980 and 2000. The data illustrates that Gray's average household income has remained consistently higher than that of the county and the state for the three time periods considered. However, while the town's per capita income levels have been higher than the state's on average, they have remained below the county's average. This suggests that the town's average household size has continued to exceed that of the county, thus household income is being distributed amongst more people which reduces the per capita average.

Changes in the town's household income levels are further examined in Figure 3-5. This chart depicts changes in income between 1990 and 2000 in terms of seven income groupings. This data, which has not

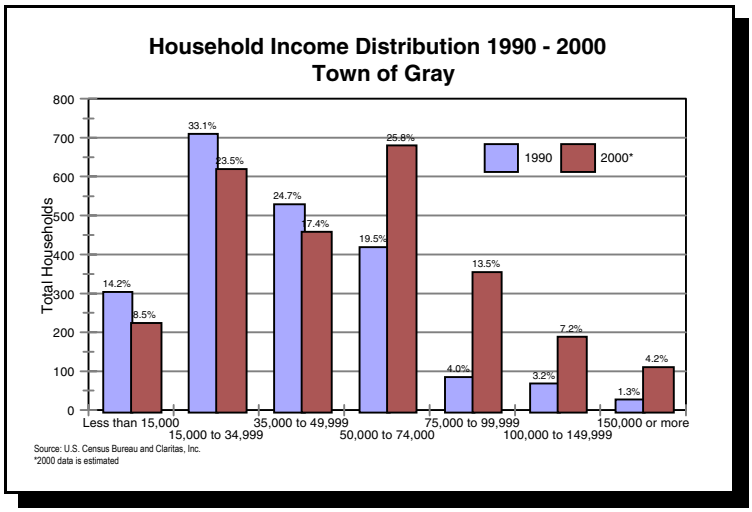


Figure 3-5

been adjusted for inflation, suggests that there has been considerable movement of the town's households into the middle-upper and upper income brackets as of 2000, as estimated by Claritas, Inc. This is evident in the income brackets of $75,000 and above where the number of households has increased by over 250%, an estimated 472 households. Despite these gains the total number of households in Gray with incomes below $15,000, which represents approximately one-third of the county's average household income, is estimated to be 8.5% of all households, as illustrated in Table 3-7. This percentage, which represents about 200 households in the community, has declined by approximately 26% since 1990. More than half of the households with incomes below $15,000 were headed by householders who were 65 years of age or older.

Table 3-7
Households with Income Less Than $15,000 in 1990 and 2000
Town of Gray

	1990			
HH Income	# of HH	% Total HH	HH Aged 65 & Older	% Total HH
< $5000	45	2.1%	27	1.3%
$5000-9999	122	5.7%	74	3.5%
$10000-14999	137	6.4%	81	3.8%
Total <$15000	304	14.2%	182	8.5%
Total HH	2,144	100.0%	2,144	100.0%
	2000*			
HH Income	# of HH	% Total HH	HH Aged 65 & Older	% Total HH
< $5000	34	1.3%	26	1.0%
$5000-9999	76	2.9%	50	1.9%
$10000-14999	113	4.3%	66	2.5%
Total <$15000	224	8.5%	142	5.4%
Total HH	2,637	100.0%	2,637	100.0%

Source: U.S. Census Bureau and Claritas, Inc.
*2000 Data is estimated

4. Housing

4.1 Characteristics of the Housing Supply

Gray's housing supply has grown considerably over the last two decades. Based on data from the U.S. Census Bureau, the total number of housing units in the town, both year-round and seasonal, has expanded by 911 units, an increase of almost 40% between 1980 and 2000. As illustrated in Table 3-8, the 80s was the decade of greater housing expansion with 545 total units added to the housing stock. Single family detached units experienced the largest increase during that time (299 units) although they decreased as a percentage of total housing from 83.8% to 78.2%. Multi-family dwellings, which includes structures containing two or more units, also increased by a considerable amount (182 units) and increased from 6.5% to 11.6% of the total housing supply during this time. As of 1990, Gray's percentage of multi-family housing was higher than the average for Cumberland County municipalities which was only 8%. The remaining housing types in Gray, including mobile homes and single family attached units (also referred to as condominiums), increased by relatively small amounts (combined total increase of 64 units) during the 80s.

A portion of the town's housing supply is comprised of seasonal dwellings. These homes are predominantly located around Little Sebago and the town's other lakes, and are occupied for only a portion of the year. The 1980 Census identified 715 seasonal dwellings in Gray. Due to a change

in the definition of seasonal housing between the 1980 and 1990 Census enumerations, the total count of seasonal dwellings was reduced to 549 units in 1990. Some of this decline may also be attributable to the conversion of some dwellings to year-round use, but there is no way to determine exactly how many fall into this category.

Table 3-8
Total Housing Units by Type 1980-2000
Town of Gray

Year-Round and Seasonal Units	Count of Units			Change		% Change	
	1980	1990	2000*	80-90	90-00	80-90	90-00
Single Family							
Detached	1,919	2,218	2,514	299	296	15.6%	13.3%
Attached	11	39	42	28	3	254.5%	6.7%
Multi-Family	148	330	391	182	61	123.0%	18.4%
Mobile Homes	213	249	256	36	7	16.9%	2.9%
Total Year-Round and Seasonal Units	2,291	2,836	3,202	545	366	23.8%	12.9%
Total Year-Round Units	1,576	2,287	2,651	711	364	45.1%	15.9%
Seasonal Units**	715	549	551	(166)	2	-23.2%	0.4%

Year-Round and Seasonal Units as % of Total Housing	% of Total Housing			Change	
	1980	1990	2000*	80-90	90-00
Single Family					
Detached	83.8%	78.2%	78.5%	-5.6	0.3
Attached	0.5%	1.4%	1.3%	0.9	-0.1
Multi-Family	6.5%	11.6%	12.2%	5.2	0.6
Mobile Homes	9.3%	8.8%	8.0%	-0.5	-0.8
Total Year-Round and Seasonal Units	100.0%	100.0%	100.0%		
Seasonal Units**	31.2%	19.4%	17.2%		

*The total number of housing units are based on the 2000 Census enumerations. The housing units by type (i.e. single family, multi-family, mobile homes) have been estimated by RKG Associates, Inc. based on town assessment records.

** The definition of seasonal housing changed between the 1980 and 1990 Census which accounts for some of the decrease in total seasonal units during that time period. The other factor affecting this decrease was the conversion of seasonal units to year-round use. Total seasonal units for 1980 and 1990 are based on census enumerations, while the 2000 estimate is based on Assessor's records.
Source: US Census Bureau, Gray Assessor's Office, and RKG Associates, Inc.

Between 1990 and 2000, Gray saw an addition of 366 total dwellings to the town's housing stock, according to census information. This represents and increase of 12.9% versus 23.8% during the previous decade. The total number of dwelling units in 2000 (3,202) is the count provided by the U.S. Census. However, the number of dwellings by type (i.e. single family, multi-family, etc.) have been estimated based on the town's assessment records because the Census Bureau has not yet released this detailed information. The total count of dwellings in the town's assessment records as of 2000 was 3,267, a difference of only 2% from the census enumeration. Therefore, the data

provided in Table 3-8 are expected to be fairly representative of forthcoming census data.

The majority of new housing constructed in Gray during the 90s was single family detached units. This type of housing increased by approximately 13%, which represents an additional 296 units. The number of multi-family units also increased by a significant percentage (18.4%) although the total number of units added was only 61. Based on a review of building permit information for the town, it was determined that all of the additional multi-family housing constructed during the 90s were duplex type units.

The percentage of owner-occupied versus renter-occupied dwellings changed slightly between 1990 and 2000. In 1990, 19.9% (427 units) of the town's housing was used as rental units versus 80.1% (1,717 units) which were owner-occupied. As of 2000, 21.1% (557 units) of the housing stock was classified as rental units while 78.9% (2,080 units) were identified as owner-occupied. As of 2000, the vacancy rate for year-round housing in Gray was 3.1% indicating that only 84 units were vacant when the census was taken.

The age of Gray's housing stock is illustrated in Table 3-9. This type of data can provide an indication of potential deficiencies in the quality and safety of dwelling units. Older units may have been constructed to lesser standards from the perspective of building codes and life safety requirements which can be a particular concern with regard to multi-family and mobile home units. As the data in the table shows a large portion of the Gray's housing stock is fairly new having been constructed within the last 40 years. Based on this census information approximately 65% of the town's housing stock was built after 1960. Approximately 20% was built between 1940 and 1960 and 14.5% was built prior to 1940. Based on available census data, it is estimated that as much as 60% to 70% of the town's mobile homes were built prior to 1976 which is when national standards were established for the construction of these structures. The units built before this time tend to be older trailers, versus single or double-wide units now being used, that lack insulation, are fire safety risks, and are often found to be in deteriorating condition. The town presently regulates home construction by means of the 1999 BOCA building code which was adopted in January 2001. Prior to that the town relied solely on the Life Safety Code 101 for the regulation of home construction.

Table 3-9
Total Housing Units by Year Built
Town of Gray

Year Built	Total Units	% Total
1990 to March 2000	366	11.4%
1980 to March 1990	678	21.2%
1970 to 1979	662	20.7%
1960 to 1969	373	11.6%
1950 to 1959	440	13.7%
1940 to 1949	219	6.8%
1939 or earlier	464	14.5%
	3,202	100.0%

Source: U.S. Census Bureau

4.2 Residential Building Trends

Expansion of the municipal housing supply in response to population growth often occurs in cyclical fashion. These cycles are reflections of various factors both within the community and in the broader regional area of influence. The number of housing starts, which are identified by building permits issued by the town, are affected by a number of elements including regional economic growth levels, real estate prices, interest rates, land ownership variables, and the regulatory climate within a community.

Figure 3-6 illustrates the number of residential building permits that have been issued in Gray between 1980 and 2000. During this 20 year time period the town issued, according to the records of the municipal building inspection department, a total of 1,488 permits, In Figure 3-6 mobile homes, combined with single family detached units and condominiums, are included in the multi-family category. The number of building permits does not necessarily coincide with the total housing units identified within the town by the decennial census. This is due to a number of factors such as the fact that building permits do not represent a completed structure, only the right to build, which can take six months to a year or more before it becomes an occupiable dwelling. In addition, some building permits may represent the replacement of an existing structure or conversion to year-round use which would not increase the total number of units in the town.

The graph's undulating pattern provides a representation of the economic and market conditions that

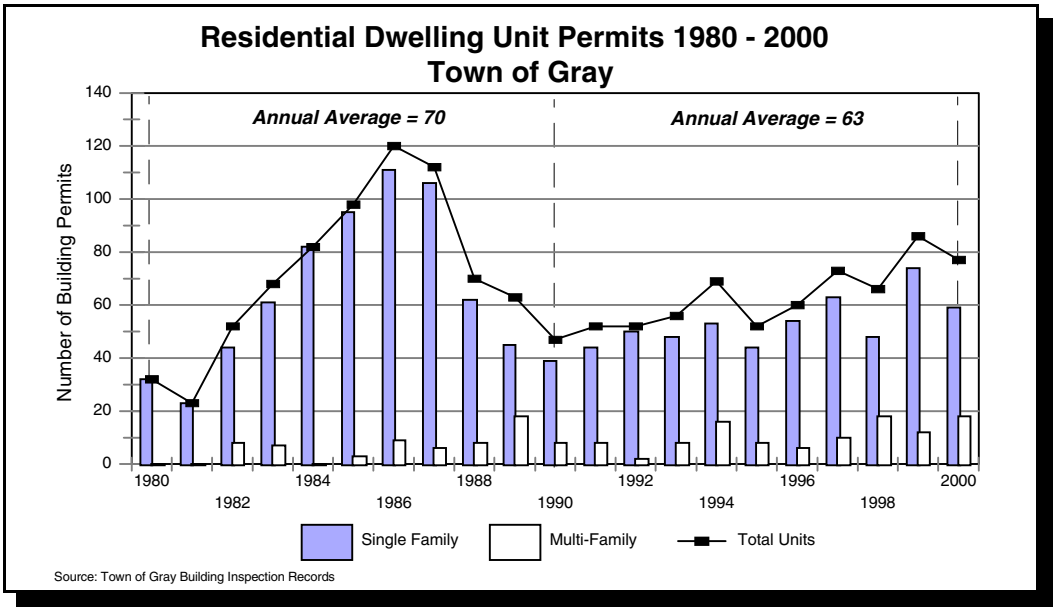


Figure 3-6

occurred during this time period. The 1980s, which began during a recessionary period in the nation's economy, was followed by a *boom* during the mid-80s and *bust* at the end of the decade,

which trailed into the early 90s. Development activity began to rebound during the mid-90s and continued to grow at a steady pace through the end of the decade. Although there have been wide annual fluctuations in the total number of permits issued over the these two decades, the 10 year averages have remained fairly consistent. Between 1980 and 1990, the town issued an average of 70 permits per year and from 1990 to 2000, the average number issued was 63.

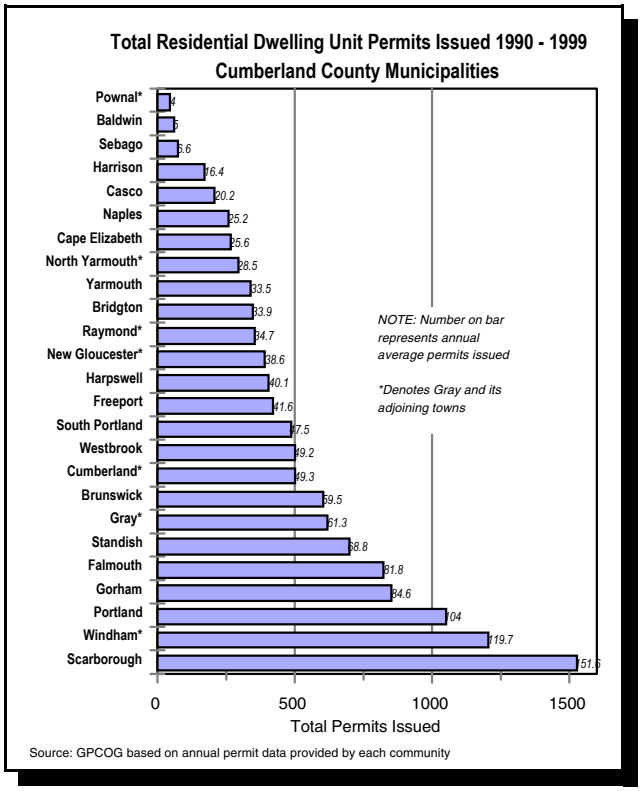


Figure 3-7

From a regional perspective the number of building permits issued between 1990 and 1999 in Gray was the seventh highest of all municipalities in Cumberland County. This data is illustrated in Figure 3-7. It is interesting to note that the 11 municipalities that issued the greatest number of total permits (which include South Portland to Scarborough on the chart) are the communities that form a first and second tier ring around the Portland urban area. The only exception was Brunswick which represents an urbanized area unto itself. This regional development pattern provides a solid indication of how the economic expansion that occurred in and around Portland over the past decade has stimulated the need for additional housing in communities that are within easy commuting distance of the employment centers.

4.3 Housing Values

This portion of the chapter provides a review of housing values and home sales prices which is based primarily on information gleaned from the town's assessment records. This analysis provides an indication of a municipality's housing market with regard to tax base support, the growth in value over time, and how sales prices are trending.

Table 3-10 presents a summary of total assessed value by type of structure in Gray as of 2002. The values represent gross property values with no exceptions applied. The "Adjusted Total" column reflects the assessed value adjusted up to current market values. This adjustment is based on recent sales of residential properties within the town which indicate that assessment values are at

approximately 80% of current market value.[2]

Given the fact that single family homes represent 79% of the total housing stock it is not surprising that single family properties (single family detached and seasonal dwellings) account for over 88% of the total value of all residential properties in Gray. Of that total, year-round units represent 74.3% (approximately $271 million in total adjusted value) with seasonal dwellings accounting for almost 14% (approximately $51 million). For seasonal housing, the majority of the value is found in the land assessment, which totals approximately $24.7 million, as opposed to the building values, which have a comparative value of $15.8 million. This is due to the fact that seasonal homes are generally located on waterfront locations which are valued higher than non-waterfront locations. This is also reflective of the fact that seasonal homes in Gray tend to be more *cottage* or *camp-style* structures as opposed to luxury style structures found in more resort oriented locations.

Duplexes, which represent 5.7% of the total housing value, are the third largest value for all housing

Table 3-10
Assessed Value of Residential Properties by Type of Property
Town of Gray - 2002

	Total Assessed Value				
	Land	Building	Total	Adjusted Total Value*	% Total Value
Single Family Detached	$69,493,300	$147,153,100	$216,646,400	$270,808,000	74.3%
Condominium	495,800	1,954,100	2,449,900	3,062,375	0.8%
Duplex	4,266,200	12,326,500	16,592,700	20,740,875	5.7%
Multi-Family	809,900	3,873,900	4,683,800	5,854,750	1.6%
Mobile Homes	4,921,000	5,587,800	10,508,800	13,136,000	3.6%
Seasonal Dwellings	24,715,100	15,832,400	40,547,500	50,684,375	13.9%
TOTAL	$104,701,300	$186,727,800	$291,429,100	$364,286,375	100.0%

	Average Assessed Value Per Property			
	Land	Building	Total	Adjusted Average Value*
Single Family Detached	$33,480	$70,951	$104,432	$130,540
Condominium	11,804	46,526	58,330	72,913
Duplex	29,220	84,428	113,648	142,060
Multi-Family	36,813	176,086	212,900	266,125
Mobile Homes	18,782	21,327	40,109	50,136
Seasonal Dwellings	$47,437	$30,388	$77,826	$97,283

** This column represents assessed values equalized to 100% of estimated market value.*
Source: Assessment Records, Town of Gray

[2]The 80% equalization factor used in this analysis is based on current estimates by the town's Assessor. This percentage does not represent a final calculation for submittal to the state and therefore, is subject to revision.

types within the community, with a total of approximately $21 million in total equalized assessed value. Mobile homes represent the next largest category of housing value with $13.1 million in adjusted value (3.6% of total value) with condominiums and multi-family structures having a combined value of approximately $8.8 million (4.4% of total value).

Table 3-10 also presents the average assessed values of residential properties in Gray based on current assessment data. These values have also been adjusted to estimated current market values using an 80% equalization factor. As mentioned previously, this adjustment factor is based on a comparison of the sale price of properties to their actual assessed value. It is a ratio that is based on the sale of all residential property types within the community.

A review of recent homes sales reveals more details about the current housing market. Table 3-11 presents the average sales prices in town, by type of residential structure, between 1998 and 2001. From an overall perspective the data indicates that the town has a moderately active home sales market which has averaged a total of 141 sales annually. This represents 4.4% of the total housing stock for this four year period. The vast majority of these sales have been single family homes. During this time period the average sale price of a single family home has increased over 38% to approximately $169,000 in 2001. This figure is almost 30% higher than the average adjusted assessment value ($130,540) shown in Table 3-10, which suggests that the price of single family homes may be increasing somewhat faster than other types of residential properties in the town.

Table 3-11
Average Annual Sale Price of Residential Dwellings 1998 - 2001
Town of Gray

Type of Structure	1998		1999		2000		2001		1998-2001	
	# Sales	Sales Price	# Sales	Sales Price	# Sales	Sales Price	# Sales	Sales Price	Change	% Change
Single Family	101	$122,081	116	$132,471	104	$154,095	110	$169,064	$46,983	38.5%
Condominium	4	$54,150	3	$44,300	4	$70,149	7	$80,076	$25,926	47.9%
Duplex	8	$116,397	8	$127,287	3	$127,333	11	$140,127	$23,730	20.4%
3 Units	0	—	0	—	1	$130,000	0	—	—	—
4 Units	0	—	1	$101,500	1	$185,000	0	—	—	—
9+ Units	2	$445,000	0	—	0	—	0	—	—	—
Mobile Home	6	$66,336	7	$47,357	12	$37,149	11	$45,118	($21,218)	-32.0%
Seasonal Dwellings	13	$77,107	17	$121,723	12	$123,535	4	$121,225	$44,118	57.2%
TOTAL	134	—	152	—	137	—	143	—		

Source: Assessment Records, Town of Gray

The remainder of the town's housing market was relatively minor in terms of total sales activity. The combined categories of condominiums, duplexes and mobile homes averaged only 21 sales per year over the last four years. Average sales prices for condominiums and duplexes did increase notably between 1998 and 2001, with increases of 47.9% and 20.4%, respectively. However, both

types of units remain relatively affordable in relation to the average price of single family homes. Mobile homes also represent an affordable component of the town's housing market with an average sale price of approximately $45,000 in 2001.

The average sale price of seasonal houses has increased by over 57% since 1998, to approximately $121,000 in 2001. However, the price of these units has remained fairly constant over the last several years.

In order to evaluate Gray's housing market within a broader context, data was reviewed from the Multiple Listing Service (MLS) for the period of 1992 to 2000. Table 3-12 presents a comparison of average sales prices for homes within the Cumberland County region. This data represents predominantly single family home sales, however, it may also include some condominium or mobile homes which would tend to reduce the values somewhat.

This sales data indicates that the average price of a home in Gray increased by almost 33% over this eight year period. However, the majority of municipalities within the county experienced increases in average sale prices that exceeded Gray's. In addition, Gray's average sale price of $130,717 in 2000 ranked the town the eight lowest within the county suggesting the Gray is a relatively affordable sub-market within Cumberland County.

Table 3-12
Average Residential Sale Price 1992-2000
Residential Homes
Cumberland County Municipalities

	1992	1996	1998	2000	YR 2000 Rank	Change 92-00	% Change 92-00
Naples	$129,008	$118,109	$95,757	$132,783	9	$3,775	2.9%
Westbrook	$104,909	$92,383	$95,461	$114,204	1	$9,296	8.9%
Bridgton	$107,786	$76,173	$100,286	$117,555	3	$9,769	9.1%
Standish	$105,335	$96,125	$127,298	$127,900	5	$22,565	21.4%
Harrison	$98,250	$116,236	$107,812	$124,758	4	$26,508	27.0%
New Gloucester	$90,353	$85,588	$105,299	$115,707	2	$25,355	28.1%
Windham	$102,285	$106,673	$111,857	$133,814	10	$31,528	30.8%
Gray	**$98,432**	**$97,880**	**$114,930**	**$130,717**	**8**	**$32,286**	**32.8%**
Brunswick	$120,616	$128,447	$140,165	$161,891	14	$41,275	34.2%
South Portland	$96,300	$98,448	$103,454	$129,870	7	$33,570	34.9%
North Yarmouth	$132,447	$132,389	$163,475	$180,283	15	$47,835	36.1%
Yarmouth	$170,121	$174,604	$204,341	$235,819	20	$65,699	38.6%
Casco	$92,298	$111,673	$104,339	$128,520	6	$36,222	39.2%
Gorham	$108,619	$125,344	$129,434	$151,920	12	$43,301	39.9%
Cumberland	$196,246	$204,390	$215,809	$274,643	22	$78,397	39.9%
Portland	$102,215	$102,715	$118,346	$146,414	11	$44,199	43.2%
Raymond	$127,765	$138,211	$134,345	$190,384	17	$62,619	49.0%
Pownal	$101,333	$132,300	$96,400	$158,200	13	$56,867	56.1%
Scarborough	$131,616	$138,423	$164,503	$206,837	18	$75,221	57.2%
Falmouth	$175,037	$189,584	$216,186	$280,131	23	$105,094	60.0%
Cape Elizabeth	$163,679	$200,576	$212,133	$271,655	21	$107,975	66.0%
Harpswell	$189,658	$206,782	$221,471	$316,151	24	$126,493	66.7%
Freeport	$124,240	$145,920	$174,463	$212,708	19	$88,468	71.2%
Sebago	$93,947	$137,349	$114,000	$188,089	16	$94,141	100.2%

Source: Maine State Housing Authority based on Multiple Listing Service data

4.4 Affordable Housing

The availability of affordable housing is an issue that has received a considerable amount of attention over the last decade in Maine. It can be very difficult for a community to balance the needs of providing affordable housing options for residents of all income levels while simultaneously attempting to manage growth at an appropriate level. However, housing markets are very dynamic entities in that there are many factors affecting supply and demand, especially within a regional or multi-regional area. For example, due to the mobility of the workforce and the willingness of people to commute considerable distances to their jobs, employment growth in the Cities of Portland and South Portland can create a demand/shortage of affordable housing within a much broader geographic area than just those two cities. Therefore, an assessment of the need for additional affordable housing units should be conducted at the regional level in order to evaluate each municipalities fair share of the overall need.

The Maine State Housing Authority (MSHA) recently released a report titled *The State of Maine's Housing 1999* in which it detailed changes in the housing market over the last decade and a half and the ensuing need of residents with regard to housing affordability among other issues. Based on MSHA's review of the changing demographics of the State as a whole, it was concluded that the following overall housing trends could be expected in the future.

- *Weak demand for small starter homes and apartments and mobile homes (due to fewer young people)*
- *Strong demand for larger homes, move-up homes, and renovations (due to more middle-aged people)*
- *Strong demand for home-based services that enable seniors to "age in place" (due to more old people)*
- *Strong demand for alternative forms of assisted living – at a variety of price points – for seniors (due to more very old people)*

The report also concluded that housing affordability had actually improved during the early to mid-90s due to the fact that inflation was down, interest rates had declined to their lowest levels in 25 years and housing prices were flat. However, these positive conditions were short-lived and ultimately unable to overcome the shortfall of affordable housing that was created in the 80s. In addition, the report concluded that increases in income levels in Maine over the last 13 years have not kept pace with increases in housing prices, thereby exacerbating the affordability issue.

From a rental housing perspective, the findings of the MSHA study concluded that there are 1,880 senior households and 4,740 families in the Portland housing market that are in need of rental assistance. Senior households present a particular challenge because those that fall into the "very old" category of 75+ years of age may often be in need of assisted living facilities versus just a standard rental unit.

Affordable housing can be divided into two broad categories which include subsidized housing and market rate housing. Subsidized housing are those units for which the sale price or rental rate is financially subsidized by a governmental agency or other housing related organization. Subsidized units are either tenant based, meaning that the subsidy moves with the tenant, or project based, meaning that the subsidy remains with a specific housing unit. Gray currently has a total of 61 subsidized housing units within the town. Of that total, 17 (9 senior and 8 family) are tenant based, Section 8 vouchers which are subsidized by the Department of Housing and Urban Development (HUD). These vouchers are administered through the York-Cumberland Housing Development Corporation, an organization that provides support for affordable housing in Cumberland County communities that do not have their own housing authority.

Gray also has 44 project based, subsidized housing units which are located in two developments, Apple Tree Village (20 units) and Meadowview (24 units). All of these units are limited to use by senior or disabled tenants. Both projects are fully occupied with an estimated waiting list period of one to two years.

The determination of a household's affordability index is based on a comparison of household income to the median household income within a given housing market. Households with the greatest potential need of requiring financial support for housing are those that are below 80% of the area's median family income level and paying more than 30% of gross income towards housing costs. According to income information compiled by MSHA, which is based on Claritas estimates for 2001, there are 1,772 households in Gray which have an annual income that is below 80% of the town-wide median family income of $58,697. Approximately 33% of these households are renter-occupied and 67% are owner-occupied. Of these households, it is estimated that almost 40% are headed by someone over the age of 65.

There is no information available at this time that would indicate if these low income households are paying more than 30% of their gross income for housing. However, a review of housing values within the community provides some insight into the potential pool of market based, affordably priced housing. Based on typical financing terms for purchasing a home it is estimated that a household making 80% of the median could afford to buy a house priced below $175,000 while those making 50% of the median could afford a house below $100,000.

Table 3-13
Number of Sales by Price Range 1998 - 2001
Year Round Dwellings - Town of Gray

Sale Price	Single Family	Duplex	Condo	Mobile Home	Total	% Total
<$75,000	16	0	14	38	68	12.9%
$75,000 - 99,000	56	5	4	4	69	13.0%
$100,000 - 124,999	110	15	1	0	126	23.8%
$125,000 - 174,999	164	15	0	0	179	33.8%
>$175,000	85	2	0	0	87	16.4%
Total	431	37	19	42	529	100.0%

Source: Assessor's Records, Town of Gray

Table 3-13 presents a summary of home sales in Gray between 1998 and 2001 within various price ranges. A comparison of this sales data to the affordability limits discussed above indicates that approximately 84% (442 dwellings) of all homes sold during this time (those below $175,000) could have been purchased by households making 80% of the median income in Gray. For those households making 50% of the median, approximately 26% (137 dwellings) of all homes sold would have been considered affordably priced.

5. Implications for the Future

This chapter of the comprehensive plan has presented an overview and analysis of historical changes that have occurred in the town's population and housing over the last several decades. The discussion revealed a series of changes and emerging trends that will potentially affect Gray in a number of ways during the coming years.

Population data indicates that regional growth in Cumberland County, as well as in the state as a whole, has begun to slow in comparison to the previous decades of the 1970s and 1980s. Growth projections for the next 10 years suggest that this trend is expected to continue barring the absence of any major economic stimulus which is not presently expected within the existing planning horizon.

Gray's population has also undergone a similar slowing in terms of the overall growth rate, as well as the actual increase in the number of additional residents. Since Gray's future population growth is immanently tied to that of Cumberland County it is expected that the town will experience a similar reduced rate of growth over the next 10 years, in comparison to that which occurred during the 70s and 80s. In essence, the town is expected to garner a decreasing percentage of a slower regional population growth. This is a trend which the town should monitor closely over the course of the decade in order to adjust, as necessary, municipal programs and activities.

Other population trends that will affect municipal development in the future are the general aging of the population and a declining household size. Both of these factors will affect the type of services that the town may have to consider providing as well as the type of housing alternatives that may be needed to accommodate changing demographics within the community.

The rate of housing growth in the town also slowed over the last decade although a significant number of units were still constructed during this time period. The majority of new housing units were single family dwellings although a notable number of duplexes were also added to the inventory. The average cost of a single family home rose by approximately 33% over the last decade, but Gray's housing market still remains relatively affordable from a regional perspective. However, the town may need to re-evaluate its policies and regulations with regard to housing in order to determine if a variety of suitable housing will be available for residents of various ages and income levels in the future.

Existing Land Use 4

1. Introduction

This chapter presents an assessment of existing land use conditions and changes that have occurred over the past decade in Gray. The first part of the chapter focuses on changes in the amount and locations of various land uses by major categories such as residential, commercial and industrial, public and semi-public, and other types of uses. In conjunction with this land use analysis an overview of the town's zoning districts and regulations is presented to provide a sense for how these regulations have influenced the town's development patterns. The second part of the chapter presents a build out analysis that examines the potential for future residential and non-residential development within the community.

2. Summary of Major Findings and Conclusions

- Almost 62% of the town's land area, approximately 17,200 acres, is still undeveloped.

- Residential development is the largest user of land in Gray with approximately 5,500 acres, or 20% of the total land area. This amount almost doubled since the previous comprehensive plan was completed in 1991.

- There is an indication that new housing development is using more land area (on average per dwelling unit), than average dwellings at the beginning of the 1990s. This may be attributable to housing market demands, as well as changes in zoning density requirements for the town.

- Residential development has continued to expand along the frontage of most roadways within the town. This trend will likely necessitate the provision of municipal services to an increasingly broader area at a greater cost to the community.

- The majority of the town's land area is zoned for low density residential uses. There is very little vacant land zoned for higher density residential development.

- The residential build out analysis estimated that an additional 4,530 to 7,780 housing units could be constructed on undeveloped land zoned for residential purposes. Based on historical development trends it could take 70 to 120 years for all of these units to be constructed.

- The town has a relatively small amount of commercial and industrially zoned land which diminishes the potential for attracting new non-residential development to support tax base expansion. The non-residential build out analysis estimated that 670,000 to 1.1 million square feet of additional commercial and industrial building space could be constructed on the remaining undeveloped land. However, it is unlikely that this development potential will be fully realized due to various constraints associated with these properties.

- Land within commercial and industrial zones is being inefficiently developed which reduces the potential for maximizing the use of these areas. In addition, the commercial districts are prone to encouraging strip development along some of the town's major roadway corridors.

- Gravel extraction, based on existing zoning regulations, is permitted on almost 70% of the town's land area. Gravel pits are currently authorized on parcels containing almost 980 acres, 324 acres of which are presently being actively mined.

- Although the town still has a considerable amount of undeveloped land, only a small percentage of this area is permanently protected from future development.

3. Existing Land Use

This section of the chapter presents a summary of existing land uses within Gray and highlights significant changes that have occurred over the last decade. Gray's current land use development patterns are illustrated on Map 4-1 entitled Existing Land Use. The map divides land use activities into several major categories which include: residential; commercial and industrial; public and semi-public; and other resources.

The primary source of information used to identify existing land uses was the town's assessment database. This database contains information about every parcel of land in town, including approximately 80 different *use codes*, which identify the primary land use for each property. This land information database was "linked" to the town's digital tax parcel map by means of a geographic information system (GIS) and used to create the Existing Land Use Map. The computerized land use information was also checked by means of field surveys and through an "overlay" analysis using digital aerial photographs taken in 2001.

The residential category is further subdivided based on the type and number of dwelling units located on an individual parcel. The residential subcategories include single family, condominiums (also referred to as single family attached), multi-family (which are structures containing two or more units), and mobile homes (on individual lots or in parks). It should be noted that the land use map makes a distinction for large residential parcels of 10 acres or more that contain only one single family home. For such occurrences the map shows the *developed area* around the structure in a bright yellow color, while the remainder of the property is colored in light yellow. This method was used in order not to overstate the amount of residentially developed land in the community, while also identifying the fact that these parcels are not in the same category as those that are completely undeveloped.

The commercial and industrial categories include all businesses that are non-agricultural in nature. This would include such uses as banks, offices, gas stations, restaurants and retail stores, manufacturing, and warehouse operations. Commercial properties greater than 10 acres in size were also delineated using the two-color method which differentiates between the developed and undeveloped portions of the property (as described above for large residential properties).

Also included in the commercial and industrial land use category are parcels identified in municipal records as being authorized gravel pit properties. The Existing Land Use map identifies the entire gravel pit parcel, as well as the approximate area of excavation which was delineated based on the 2001 aerial photographs.

The roads and utilities category includes powerlines and pipelines, road rights-of-way, State Turnpike Authority property, and other associated uses. It should be noted that only utilities having a dedicated parcel or right-of-way are shown on the land use map. There may be other utility corridors that do not have dedicated rights-of-ways that are not depicted on this map. The location of those facilities are discussed in the Municipal Services and Infrastructure chapter of this plan.

The public and semi-public category identifies those remaining subcategories of developed land that are associated with government and institutional uses. These include such uses as municipal buildings, police and fire stations, schools, churches, and cemeteries. It also includes the state-owned wildlife park on Shaker Road as well as several other undeveloped parcels that are owned by the state. Also placed in this grouping is the subcategory of uses entitled recreation/open space. These parcels are primarily dedicated to passive and active recreation uses, such as a golf course, but also includes parcels within cluster subdivisions that have been reserved as permanent open space. This subcategory does not include all active recreation facilities in the community. That information can be found in the Recreation Chapter of this plan.

The remaining categories are associated with resource based land uses and comprise the majority of the town's remaining undeveloped land areas. The agriculture category includes all parcels that are known to be actively used for crops, hay, livestock, or similar uses. It also includes a few properties, such as dairy farms or equestrian related operations, which while agriculturally oriented, also have

associated structures. Based on assessment records, 16 of the agriculture parcels depicted on Map 4-1 are participating in the farm and open space tax program that, under state law, allows for a reduced tax levy for actively used agricultural operations. The second resource category, tree growth, represents those properties that are enrolled in the tax program that encourages the conservation and management of forest resources which also allows for a reduced property tax levy. This category does not represent all of the forested land in Gray, only those properties that are enrolled in the tax program. Some of the parcels categorized as either agriculture or tree growth may also include a residence but are, for the most part, dedicated to the management of these resources.

The final map category, undeveloped, includes all of the remaining parcels in town that are not identified within the municipal assessment database as having an existing structure. Based on a review of aerial photographs it can be generally stated that a good portion of these parcels are wooded, but also include fields, wetlands, and other forms of non-developed land cover.

Table 4-1 presents a summary of the approximate acreage contained in each of the above mentioned land use categories. These acreage figures have been calculated by means of the GIS parcel map and may not exactly match total area measurements for the town derived from other mapping sources. However, the GIS derived acreage figures are within 3% of the acreage figures contained in the town's assessment records and therefore are considered to be representative of existing conditions.

As illustrated in the table, the largest amount of land dedicated to any of the *developed* land categories is for residential land uses which account for approximately 5,500 acres, or 19.9% of the town's land area. Land use estimates from the town's previous comprehensive plan, in 1991, indicated that the total acreage dedicated to residential land uses was approximately 2,780 acres. This suggests that the amount of land used for residential purposes in Gray has doubled over the last decade. A comparison of the two time periods also suggests that more land is being used per dwelling unit now versus a decade ago. In 1990 there were 2,836 dwelling units occupying 2,780 acres of land which represents 0.98 acres per unit. As of 2000 there were approximately 3,200 dwellings on 5,538 acres, 1.7 acres per unit, almost a doubling of the amount from the 1990 estimate. While some of this increase is no doubt attributable to the application of different methodologies used to derive the estimates for the two time periods, it does indicate the possible beginnings of a trend that should be closely monitored.

Gray's residential land use pattern is characterized by several primary features. The first is that residential development now extends along the frontage of almost all of the town's historical road network. This is a typical early phase of successional growth within a community since development along existing roadways can generally be accomplished more quickly and for less cost versus the need for constructing new subdivision roadways to access back land parcels. However, as the amount of existing road frontage available for residential development has decreased, new subdivisions have begun to emerge in various parts of town as illustrated on the Existing Land Use map.

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Existing Land Use

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Table 4-1
Existing Land Uses - 2001
Town of Gray

Land Use	Total Acres	% of Total Land Area
Residential	5,538	19.9
Commercial	226	0.8
Industrial	107	0.4
Gravel Pits		3.5
Total Parcel Area	976	
Approx. Excavated Area	324	
Roads/Utilities	1,138	4.1
Road ROW	932	
Other	206	
Municipal/School	149	0.5
State	557	2.0
Wildlife Park	250	
Other	257	
Institutional	71	0.2
Recreation/Open Space	388	1.4
Agriculture	1,412	5.1
Undeveloped	17,198	62.0
Tree Growth	3,212	
Vacant/Partially Developed	4,489	
Other Undeveloped	9,497	
Total Land Area	27,760	100%
Surface Water	1,718	—
Total Land and Water	29,478	—

Source: 2001 Assessment Records and digital parcel map, Town of Gray; 2001 Aerial Photography, GPCOG; and RKG Associates, Inc.

The second prominent feature of the residential land use pattern is the extent of high density housing development surrounding the town's lakefront areas. As illustrated on the map, seasonal housing development, combined with some year-round homes, encompass the entire perimeters of Sebago, Crystal, and Forest Lakes. Although there are scattered vacant parcels still available, these lakefront areas are largely built-out at this point.

In contrast to the town's residential development, commercial and industrial land uses comprise a relatively small percentage of total development within Gray. As illustrated in Table 4-1, commercial and industrial uses accounted for a combined total of approximately 330 acres as of 2001, or 1.2% of the total land area. The 1991 comprehensive plan identified a total of approximately 185 acres devoted to commercial and industrial uses. This change represents an increase of 78% during the last 10 years. Some of the difference in these two time periods is likely attributable to differing methods of estimating total developed acreage.

Commercial and industrial development is primarily located at scattered locations along the frontage of the Lewiston and Portland Roads. It is also concentrated within the Village area and in a small node on the West Gray Road, around the business park, which adjoins the Maine Turnpike interchange. There are other scattered commercial and industrial sites throughout the town, but for the most part commercial and industrial land uses are focused along these corridors.

Another industrially related use which affects a significant amount of the town's land area are gravel pits. As shown on the Existing Land Use map, parcels with gravel extraction operations are primarily concentrated on the east side of town around the Mayall and Yarmouth Road areas. Several other scattered pits are also located on the Shaker Road and West Gray Road. The map illustrates both the total parcel area associated with these operations as well as the approximate extent of current excavation, as determined from 2001 aerial photography. The total area of these parcels is 976 acres, about 3.5% of the town's land area. However, only about one-third of that area had been excavated as of 2001.

The land use category which contains the largest amount of the town's land area is the Undeveloped category. As shown in Table 4-1, the total amount of land that still remains undeveloped in Gray is approximately 17,200 acres, or 62% of the total land area. There are several components that comprise the total undeveloped acreage. The largest component is simply *undeveloped land*, parcels that have no man-made structures on them, which accounts for approximately 55% (9,947 acres) of the total undeveloped acreage in the town.

The second element of the town's undeveloped land base are those properties that contain some type of structure, but are still largely undeveloped. The types of properties included in this category are large lots (greater than 10 acres) which contain only one single family house, or a business, that occupies a small percentage of the total lot area. The undeveloped portions of these properties contains approximately 4,489 acres, or 26% of the town's undeveloped land area. The final component of the town's undeveloped land area are properties participating in the Tree Growth program. These properties, which are being actively managed for their wood resources, contain 3,212 acres or 19% of the town's undeveloped land area. A few of these parcels do contain a residential dwelling, but most are predominantly undeveloped.

Gray also has a significant percentage of land being used for agricultural related uses. Although these properties are not technically considered to be undeveloped they do represent a low intensity

land use which does have the potential to be further developed at some point in the future. Agricultural areas contain an estimated 1,412 acres which represents 5.1% of the town's land base.

Although the town still has a substantial amount of undeveloped land remaining, only a small amount can be classified as permanently protected open space. Table 4-1 indicates that 388 acres, or 1.4% of the town's total area, falls into the recreation/open space category. Approximately 174 of these acres represent a golf course, while the remainder is predominantly land set aside as open space within cluster subdivisions. These parcels are the only areas that have been identified as permanently protected open space.

The State of Maine also owns a considerable amount of land within the community. Of the total 557 acres owned by the state approximately half is comprised of the Wildlife Park located between Shaker Road and Weymouth Road. The park is used as an educational facility to promote conservation issues related to wildlife and habitat management. Although this property does contain a number of structures it still represents a relatively large amount of wooded open space within the community. The remaining 257 acres controlled by the state are contained in several large tracts of undeveloped land located in the eastern corner of the town, adjacent to the town lines of New Gloucester and Yarmouth.

The other public and semi-public properties within the town contain the structures and facilities used to provide services associated with operation of the town, school district, water district and other institutional uses, such as churches, cemeteries, and civic organizations. These uses occupy a relatively small amount of land area totaling 220 acres, which is less than one percent of the town's total land area.

The remaining land use category includes all rights-of-ways for roadways, utilities, and rail corridors, as well as other associated structures. The total acreage dedicated to these uses is approximately 1,140 acres, or 4.1% of the town's land area. Of that total acreage, over 80% is contained within road rights-of-way, which includes the Maine Turnpike corridor.

4. Zoning

The zoning ordinance contains regulations which are the primary determinant of where various types of land use are permitted within the community. Gray's *Zoning Ordinance* and *Shoreland Zoning Ordinance*[1] divides the town into eight primary, or *base districts*, and five additional *overlay districts.* These areas are illustrated on Map 4-2 entitled Zoning Districts. For a complete description of these districts and their regulations refer to the town's official Zoning Ordinance which is on file at the town's office.

[1] *Town of Gray Zoning Ordinance, Chapter 402, June 1, 1994* and *Shoreland Zoning Ordinance, Chapter 403, Adopted December 3, 1991, As Amended Through August 31, 2000.*

Table 4-2 presents the total acreage within each of the base zoning districts as well as how much of the district remained undeveloped as of 2001. As the table shows, the Rural Residential and Agriculture District (RRA) comprises almost 68% of the town and is only 37% developed, with approximately 11,700 acres of land undeveloped. This district is intended to promote low density residential and agricultural uses that reinforce the rural, open space environment of the town. Along with the permitted residential and agricultural uses the district also allows a number of commercial uses, as well as the excavation of earth materials. The minimum lot size is 80,000 square feet, with a minimum land area of 40,000 square feet per dwelling unit.

The Lake District (LD) is the second largest accounting for approximately 24% of the town's land area. Almost 4,300 acres (66.8%) of this district are still undeveloped at this time. The purpose of this district is to promote low density development and reduce potentially harmful land uses within

Table 4-2
Total Acres by Zoning District - 2001
Town of Gray

Zoning District	Acres	% Total	Undeveloped Acres*	% of District Undeveloped
Rural Residential & Agriculture (RRA)	18,730	67.5%	11,702	62.5
Lake District (LD)	6,553	23.6	4,379	66.8
Medium Density (MD)	629	2.3	217	34.5
Village Aquifer Protection (VAP)	230	0.8	30	13.0
Business District (BD)	598	2.2	331	55.4
Commercial (C)	533	1.9	250	46.9
Wellhead Protection 1 (WH1)	426	1.5	148	34.7
Wellhead Protection 2 (WH2)	60	0.2	4	3.7
Total Land Area	27,760	100%	17,061	61.5

*This column includes the undeveloped acreage on partially developed parcels (e.g. a single family house on a lot which is ten or more acres in size).
Source: 2001 Assessment Records, digital zoning map and parcel map, Town of Gray; 2001 Aerial Photography, GPCOG; and RKG Associates, Inc.

the watershed boundaries of the town's lakes. The permitted uses are very similar to those of the RRA district although fewer non-residential uses are permitted and excavation activities are not permitted. The development density is also slightly less than in the RRA district with a minimum lot size of 80,000 square feet and a minimum land area of 80,000 square feet per dwelling unit.

The Medium Density District (MD) is intended, as stated in the Zoning Ordinance, to serve as a predominantly residential district, with a somewhat higher development density, in areas adjoining

Blank Page Map 4-2 Zoning Districts

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the Village center that are serviced by municipal water. The exception to this is the MD zone located along the Portland Road abutting the Cumberland town line. These districts represent a relatively small amount of the town's area, accounting for only 629 acres, or 2.3% of the town's land base. Approximately two-thirds of the land in these districts has been developed leaving 217 acres undeveloped. Most of this remaining land is contained either in a few large parcels, or as *back land*, which is more difficult to access from a development perspective. The minimum lot size with municipal water is 40,000 square feet and minimum land area of 20,000 square feet per dwelling unit. Without municipal water the minimum lot size is 80,000 square feet and 40,000 square feet per dwelling unit.

The Village Aquifer Protection District (VAP) comprises the town's mixed use Village center area, which also overlies the aquifer that supplies the municipal water supply. The intent of this district is to provide commercial services, promote a functional pedestrian environment, preserve the New England character of the Village, and also protect the quality of the drinking water supply. As shown in table 4-2, only 30 acres remain undeveloped within the VAP district, which combined with the minimum lot size of four acres, limits new future development within the Village. Some additional development however, is also likely to occur through the expansion of existing development and on non-conforming lots (i.e. lots that don't meet minimum lot size requirements but which existed prior to establishment of the district).

The town has two districts intended to promote commercial and industrial development which are the Commercial District (C) and the Business Development District (BD). As illustrated on Map 4-2 these districts encompass roughly three-quarters of the road frontage of the Portland Road and the Lewiston Road, as well as a separate district to the west of the Turnpike on the West Gray Road. Together, these districts have a total of 1,131 acres which represents a little over 3% of the town's land area.

The Commercial District's regulations allow for the provision of services and commercial goods in a more auto-oriented environment. This district contains 533 acres, of which an estimated 250 acres (47%) remains undeveloped. However, almost half of the remaining undeveloped acreage is located on parcels that already contain a commercial use, or represents back land within the district. In addition, a considerable portion of the land in this district is occupied by residential uses, which are permitted by right under zoning, which is likely to slow the rate of future commercial development. The minimum lot size is 40,000 square feet with a maximum lot coverage of 65%. The zoning ordinance also mandates certain site design criteria in order to minimize the potential negative impacts of "strip development." However, it may be necessary to take a more pro-active approach in order to successfully deal with this issue.

The Business Development District (BD) was established to provide alternative locations for larger scale business activities than those that are likely to occur within the Commercial District. These types of uses include business parks, warehousing facilities, and manufacturing plants. However, the zoning ordinance also permits an array of various retail, service, and residential uses, as well as

the excavation of earth materials. The BD district contains a total of 598 acres in two locations. Approximately 398 acres are situated at the north end of the Lewiston Road near the New Gloucester town line. The remaining 200 acres are located on the West Gray road adjacent to the Turnpike corridor. An estimated 331 acres, or 55% of the district, is presently available for development. However, 54 of these acres have already been subdivided as part of the Northbrook Business Park. In addition, a considerable number of the frontage parcels located in this district on the Lewiston Road are already occupied by existing residential and commercial uses leaving predominantly back land available for future development. The minimum lot size in this district is 80,000 square feet and the maximum lot coverage is 65%.

The remaining two base districts identified in the town's zoning ordinance are the Wellhead Protection Districts (WH1 and WH2). These districts encircle the town's municipal water wells and are intended to minimize the potential threat of contamination and loss of recharge capability to the land area immediately surrounding the well. Regulations for these districts permit the establishment of predominantly residential, agricultural and public oriented uses at low densities with a minimum lot size of four acres. Regulations also restricts the amount of impervious surface areas, which would affect aquifer recharge rates, to 10% of the lot area. These districts have a combined area of 486 acres, of which 152 acres (38.4%) are still available for development. Most of the undeveloped acreage is in the WH1 district.

5. Build Out Analysis

Based on existing land uses and the zoning analysis presented in the preceding sections a build out analysis was prepared to determine the potential for future development in Gray. The analysis was conducted using the town's GIS digital parcel map, linked to the municipal assessment database, which was overlayed with the digital zoning map. This method allowed the amount of undeveloped acreage to be estimated within each zoning district which was used, in turn, to estimate possible future development potential in the town. The build out analysis examined the potential for both residential and non-residential development.

As with any analyses of this type it is necessary to rely on a certain set of assumptions since there are a number of variables than can affect the type and amount of growth the town may incur in the future. Therefore, the estimates presented here should not be viewed as what *will* happen but only as *one possibility* based on the assumptions used. For the residential build out the calculations were made based only on the potential for construction of new single family homes. However, the town's regulations allow for the construction of multi-family housing, such as duplexes, in most districts which could increase the potential number of units constructed. The build out also assumed that for those districts that are predominantly residential in nature, the RRA, LD, MD, and WH districts, all developable land would primarily be used for houses. In fact, some percentage of this land will be used for non-residential purposes which would reduce the potential number of units constructed.

A similar set of assumptions were relied upon for the commercial build out analysis. For undeveloped land in the BD, C, and VAP zoning districts, it was assumed that all future development would be non-residential in nature. The amount of building space that could potentially be constructed within these districts was based on density levels that typically occur in communities that have characteristics similar to Gray. This methodology employs a Floor Area Ratio (FAR) which establishes average building square footages, by zoning district, which is related to different types of commercial uses and the lot size being developed.

The residential build out analysis considered two separate components with regard to future development. The first is the development potential on land that is completely undeveloped with no existing structures. The second is the development potential on the undeveloped portion of large lots that have an existing structure such as a single family house. Since these parcels can be further subdivided they do represent some potential for future development, although the time-frame for possible development may be very long or even non-existent.

Through the use of the GIS it was estimated that there are 12,657 acres of undeveloped land in the residential districts as shown in Table 4-3. There is an additional 4,002 acres of undeveloped land on parcels that contain an existing residential building. These total acreage figures were reduced by 15% in order to allow for natural constraints such as wetlands, steep slopes and irregular lot configurations, as well as for the construction of roads and utilities. The remaining potentially developable land area was then divided by the minimum lot size and the average lot size for each zoning district. The minimum lot size is that which is prescribed by the zoning ordinance. The average lot size is based on a review of existing house lots in the district. The average lot size is typically a bit larger as a result of development constraints and market demand within the housing market. In addition, for all of the undeveloped acreage located within the town's Aquifer Overlay Protection District, a minimum lot size of four (4) acres, as required by the ordinance, was used to estimate future development potential.

Based on these factors it is estimated that approximately 3,270 to 5,670 additional single family houses could be constructed on the remaining undeveloped land in Gray. The lower number is based on the average lot size and the higher represents the minimum lot size. An additional 1,260 to 2,110 units could potentially be constructed on undeveloped land with an existing residential structure. This represents a combined total of 4,530 to 7,780 single family units that could potentially be accommodated on undeveloped land in Gray. Information presented in the Population and Housing Chapter of this plan indicated that on average, the town has issued about 65 residential building permits annually over the last 20 years. Based on these trends it could take as long as 70 to 120 years for all of these units to be constructed. As of 2000, there were 3,202 dwelling units in Gray.

A similar methodology was used to estimate the potential commercial and industrial building space that could be constructed in the three zoning districts which are predominantly non-residential in nature. These include the BD, C, and VAP districts. As shown in Table 4-4 there is approximately 355 acres of undeveloped land and another 278 acres of undeveloped acres on parcels that have an

existing commercial structure. It is also possible that some new commercial square footage could be constructed through the redevelopment of residential properties in commercial districts, however, this potential was not evaluated as part of this analysis.

Table 4-3
Residential Build Out by Zoning District - 2001
Town of Gray

Zoning District	RRA	LD	MD	WH1	WH2	Total
Potentially Developable Acreage(1)	10,523	3,732	187	140	3	14,584
Potential Additional Single Family Units Based on Minimum Lot Size						
Total Units	5,571	1,971	201	35	1	7,779
Potential Additional Single Family Units Based on Average Lot Size						
Total Units	3,433	1,002	65	26	1	4,527

(1) Includes undeveloped land and land which is partially developed with a residential structure. Represents the total undeveloped acreage reduced to account for existing development as well as a 15% reduction for the construction of roads, utilities and limitations associated with natural constraints.
Source: 2001 assessment records, digital parcel map and zoning map, and RKG Associates, Inc.

As mentioned previously the commercial build out methodology relied on a Floor Area Ratio (FAR) calculation which assumes an average amount of building square footage will be constructed on a given parcel based on the types of uses permitted in the district and other local economic factors. Historically, commercial and industrial buildings in Gray have been rather modest, in terms of building size and density. These conditions have been reflected in the build out calculations.

As illustrated in Table 4-4 it is estimated that undeveloped land remaining in the commercial districts totals 355 acres. There is an additional 278 acres of potentially developable land contained in parcels that have an existing commercial structure. The potential development for some of this acreage will be reduced due to density limitations created by the Aquifer Overlay Protection District. It is estimated that approximately 670,000 square feet of new building space could be constructed on land which is currently undeveloped. Approximately two-thirds of this space would be in the BD district with one-third in the Commercial and VAP districts. Based on the *Community Economic Growth Strategy*[2] prepared for the town in 2001, it is estimated that approximately 850,000 square feet of non-residential building space currently exists in Gray.

[2]*Community Economic Growth Strategy for the Town of Gray, Maine,* prepared for the Gray Economic Development Committee, by Planning Decisions Inc., July 2001.

There is also the potential to construct approximately 497,000 square feet of building space on the undeveloped portions of parcels that have an existing commercial building. However, it is unlikely that this potential will be fully realized given the fact that much of this acreage is back land, which will create access issues that will make the land less marketable. The willingness of business to offer their land for development could also be a limiting factor.

Table 4-4
Non-Residential Build Out by Zoning District - 2001
Town of Gray

Zoning District	C	BD	VAP	Total
Potentially Developable Acreage(1)	113	283	20	416
Potential Additional Building Square Footage on Undeveloped Parcels				
Total Sq. Ft.	222,156	422,096	25,918	670,171
Potential Additional Building Square Footage on Partially Developed Parcels				
Total Sq. Ft.	241,558	193,276	62,944	497,778

(1) Includes undeveloped land and land which is partially developed with a commercial structure. Represents the total undeveloped acreage reduced to account for existing development as well as a 15% reduction for the construction of roads, utilities and limitations associated with natural constraints.
Source: 2001 assessment records, digital parcel map and zoning map, and RKG Associates, Inc.

6. Implications for the Future

The town's land use development patterns are the result of many factors that have influenced the town's growth throughout the community's existence. The characteristics of these development patterns have implications for all other aspects considered in this comprehensive plan including future housing construction, commercial and industrial development, open space and resource conservation, and the provision of municipal services.

There are a number of implications resulting from the trends identified in the land use and build out analysis presented in this chapter that should be noted. The first, from a residential perspective, is that there is more than an ample supply of undeveloped land to support projected growth in the town for the foreseeable future. Most of this growth will occur at low densities in the Rural Residential/Agriculture zoning district and the Lake District.

Over the past decade residential development has exhibited two significant characteristics. The first is the continuation of frontage development along an increasing amount of the town's historic

(versus new subdivision roads) roadway corridors. This scattered development extends into almost all sections of the community and is forming the beginnings of a "rural sprawl" land use pattern. As the number of housing units increases in areas away from the core of the town's municipal service base it could begin to foster a marginal increase in the cost of local services such as police and fire protection, school bus routes, and road maintenance. Eventually, it may lead to the need for establishing additional municipal or school facilities in new locations. This scenario would warrant the need for the town to identify land parcels for these future facilities before the most suitable sites are developed for other purposes.

The second characteristic of residential development is that as the amount of developable road frontage decreases the demand for constructing new subdivision roads into back lands increases. New road construction will require additional road maintenance and will also create a new road system without consideration for the most appropriate locations for extending and linking the town's existing road network. These linkages are important from the aspect of providing municipal services in an efficient manner and helping to minimize the impacts of traffic increases throughout the community by providing alternative routes.

The extension of new subdivision roads into previously undeveloped areas also has implications for open space, land conservation issues, and the traditional use of land as a shared community resource. The other trend that will have an impact on this issue is the apparent increase in the amount of land that is being used for new residential dwellings. As discussed in this chapter the town has a very small amount of land set aside as permanently protected open space. In the past there may not have been a sense of urgency to protect land because much of the town was still undeveloped. However, future subdivisions will continue to encroach on more environmentally sensitive areas that will place the town in a *re-active* position for preserving open space in priority areas, and a plan for their protection, have not been established. New development will continue to *fragment* large tracts of land thus reducing the value of these tracts from a natural resource perspective. It will be many decades before the town ever approaches it's potential build out threshold, but changes in the rural landscape have already begun to occur in an incremental fashion that is only beginning to become perceptible at this time.

The town has provided options for somewhat higher density housing through the establishment of the Medium Density zoning district. However, only a relatively small amount of land remains undeveloped in that district which will limit the potential for higher density housing at locations concentrated around the Village core area of the town. This means that future housing development will begin to appear in more outlying areas of the community, thus continuing the trends described above.

The town has seen a number of cluster housing subdivision constructed over the last decade which has fostered the creation of more open space and added to the availability of more affordably priced housing units, mainly duplex type units. The town may want to consider expanding the use of this

alternative development method in a more directed fashion to achieve specific housing and land conservation goals.

Development of seasonal housing around the town's lakes will be a continuing issue for the community. Although there remains only a small percentage of lake front land available for future development, the demand for housing in these locations is likely to grow. This could place increasing development pressure on lands on the outside of the "ring roads" that provide access to the lake areas. The increased demand on these resources could affect the environment of the lakes and would also create increasing demands for municipal services in outlying portions of the town.

The extent of gravel excavations, and the potential for their future expansion, is also an issue that the town should evaluate. Earth excavation operations are presently permitted anywhere in the RRA zoning district which represents almost 68% of the town's land area. The extent of existing gravel operations in the eastern half of the town cuts a fairly significant swath between the adjoining land areas. Although the availability of these earth materials is necessary for the construction industries, the town may want to re-evaluate the amount of land area that is accessible for new operations of this type in the future. This recommendation was also contained in the previous comprehensive plan.

In comparison to residential growth, commercial and industrial development in Gray has been much more limited. One of the implications of these conditions is that the town has less non-residential tax base to help offset the costs associated with increases in residential development. Although there are a number of factors that influence commercial and industrial development the limited amount of suitably zoned land within Gray has clearly played a role in the limited expansion of these uses over the past decade. This conclusion was also expressed in the *Community Economic Growth Strategy* completed for the town in 2001.

Presently, only four to five percent of the town is zoned for the creation of predominantly commercial and industrial uses in the BD, C, and VAP districts. About half of the zoned acreage is still undeveloped but much of this acreage is constrained by access and ownership issues. The ownership issue is related to the fact that a number of parcels in the Commercial district are "underdeveloped" and being inefficiently used with relatively small amounts of building square footage on large parcels of land. In addition, the Commercial and Business Development districts both allow residential uses, excavation operations and other inappropriate uses for these districts which could usurp land from the more desired uses of the land in these districts.

The Commercial and BD districts extend in ribbon fashion along the Portland and Lewiston Roads which, despite provisions in the zoning ordinance, will tend to foster commercial strip development along these roadways. The town may need to develop a corridor management plan, that may include the creation of parallel service roads, that controls access onto these roadways in a regulated manner at prescribed locations. An alternative to this would be to reconfigure the shape of the districts in more of a "node" shape which would concentrate development at specific locations along the corridors. It may also be appropriate to establish other commercial zoning district nodes at strategic highway locations in other outlying areas of town that would allow for the provision of

neighborhood commercial areas that would preclude the need for residents to drive through the more congested commercial areas for certain goods and services.

Natural, Historic and Cultural Resources 5

1. Introduction

This chapter presents an inventory and assessment of natural, historic and cultural features that are found within the Town of Gray. Natural features include the town's topography, surface waters and associated watershed areas, wetlands, groundwater aquifers, soils, important wildlife habitat, and forest and agricultural resources. The discussion of natural features focuses on their interrelationship as a complete ecosystem within and around the town, as well as how existing and future land use development may affect the health of this natural system. The historic and cultural portion of the chapter presents a brief overview of the town's historic settlement patterns. This section also highlights some of the town's significant remaining historic buildings and sites and the importance of these resources as part of the community's character and quality of life. Seven maps have been produced to graphically illustrate the narrative information presented in this chapter.

2. Summary of Major Findings and Conclusions

- Water resources represent a shared regional resource. It will be important for Gray to work with its neighboring towns to insure that land use activities do not have adverse impacts within watersheds that cross municipal boundaries.

- Overall, the quality of Gray's surface waters are still very good. However, some areas of concern have been noted which point to a need for caution as greater portions of several watersheds within the town's are developed in the future. These include the upper watersheds of Collyer

Brook and the Pleasant River.

- Updated mapping of Gray's high yield groundwater aquifers by the Maine Geological Service has determined that the size of these aquifers is smaller in area than previously believed based on historic information. The town will need to re-evaluate its existing zoning regulations for these areas based on this new information. These aquifers are also the source of water for the municipal water system operated by the Gray Water District.

- Gray's municipal landfill, which was closed in the early 1990s, is located within the aquifer area. The town is in the process of developing a long-term monitoring program of this site to ensure that any potential impacts on area water quality are recognized.

- Based on a soil suitability analysis, much of the town's soils that are most suited for development have yet to be built upon. Development of these areas has been kept to a minimum due to limited road access as well as the decisions of landowners in those areas to use their property for other purposes. The areas where soils are most suitable for development also contain important natural resources and some of the town's largest remaining tracts of unfragmented wildlife habitat.

- Gray has approximately 1,600 acres of wetlands as defined by the U.S. Fish and Wildlife Service. However, not all of these wetlands are protected by the town's Shoreland Zoning regulations. There are also a number of streams which are not currently under the jurisdiction of these regulations.

- There are still a number of large tracts of land in Gray that remain unfragmented by roads and other development. These areas could represent a basis for future efforts to protect the town's important natural resources and wildlife habitat.

3. Topography

The topography of Gray refers to the shape of the surface of the land which is reflected in the hills and valleys across the town's landscape. This topography is defined by the change in elevation above sea level which is noted on Map 5-1 entitled Elevation and Slope. The map illustrates only major changes in elevation in Gray which are depicted by contour lines showing 100 foot changes in elevation within the town. The map also illustrates the slope of the terrain throughout the town. Slope is an indication of the steepness of the land's surface, such as on a hillside, which is based on the change in elevation versus the change in horizontal distance (also referred to as rise over run and represented as a percentage change on the map). The slope information is derived from county-wide soils mapping, prepared by the U.S.D.A. Soil Conservation Service, which assigns an average slope to each soil type. This generalized slope information is useful for town-wide planning purposes since it identifies areas that may be less suitable for various types of development due to the steepness of the terrain. Slopes in excess of 15% can place limitations on septic system installation

Blank Page Map 5-1 - Elevation and Slope

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and operation, add cost to the construction of buildings and roads, increase surface runoff, and can result in erosion from poorly managed construction sites.

The overall elevation change in Gray has a general west to east slope. Higher elevations, ranging from 500 to 600 feet, occur around Little Sebago Lake, and the lowest elevations, dropping below 100 feet, are found around the Royal River corridor. Little Sebago and Crystal Lake are flanked by ridge lines, running in a north-south direction, from Notched Pond to the Windham town line. The highest point in Gray, Adams Hill with an elevation 590 feet, is located near the southern end of this ridge to the east of Little Sebago Lake. There are a number of areas exhibiting steeper slopes, those with a grade above 15%, around the perimeter of the lake. However, slopes ranging between 8% and 15% can also be a concern when they are adjacent to a lake's shorefront due to the more rapid runoff of chemicals and eroded soil into the lake. Based on information presented in the Land Use Chapter of this plan the majority of these steeper slopes are still relatively undeveloped. However, this is likely to change in the future since the limited amount of developable shorefront property may foster more demand on the adjoining land areas where these steeper slopes are located.

The largest concentration of steeper slopes found in Gray are located along the Royal River and Collyer Brook corridors in the eastern corner of the town. As illustrated on the map the areas along Depot Road and Merrill Road exhibit a considerable degree of steepness, a good portion of which is estimated to be in excess of 25% slope. For the most part, development on these steeper areas has been confined to single family and duplex houses along existing road frontage with only one new subdivision road near lower Collyer Brook. There is also some agricultural land being cultivated in this area which needs to be monitored for potential runoff into stream corridors.

4. Water Resources

This section presents a summary of the town's surface waters, wetland areas, and groundwater resources. It also includes an overview of the existing water quality and potential threats to these resources.

4.1 Surface Water

The surface water resources in Gray are comprised of lakes and ponds, rivers and streams, and wetlands. Each of these water bodies is located within its own watershed area which are depicted on Map 5-2 entitled Surface Waters and Wetlands. A watershed represents the dividing line where rainfall and other surface runoff drain to the streams, rivers, or ponds contained within that boundary line. Watershed boundaries are delineated based on the hills and valleys of the town's topography, as well as man-made features such as roads, which also affect surface drainage patterns.

Gray is divided into three major watershed areas which include the Presumpscot River, the Royal River and the Piscataqua River. Within Gray, approximately 16,890 acres are contained in the Presumpscot watershed, 10,500 in the Royal River watershed and 2,085 in the Piscataqua River

watershed. All three drainage areas eventually empty into the Casco Bay Basin. These three major drainage areas are further divided into subwatershed areas that pertain to water bodies within the town. These subwatersheds are also illustrated on Map 5-2.

The three primary watersheds contained within the Presumpscot drainage are Little Sebago Lake, Pleasant River, and Forest Lake/Piscataqua River. The Little Sebago Lake watershed, which contains the town's largest of four great ponds, is approximately 6,100 acres in size, of which 1,300 acres represents the surface area of the lake. As illustrated on the map, there are a number of streams that contribute water to the lake. In fact, some of the lake's tributaries have watersheds that extend into the adjoining Town of Raymond. The northern headwaters of the lake are largely contained within the Morgan Meadow Wildlife Management Area (WMA) in Raymond, the outlet of which is Sucker Brook, which flows into the lake's upper basin. This WMA contains approximately 1,000 acres of conservation land which are managed by the Maine Department of Inland Fisheries & Wildlife (IF&W) as wildlife habitat and for various recreational activities.

Development within the Little Sebago watershed in Gray is comprised predominantly of single family housing, many of which are seasonal homes. The southern tip of the lake is located in the adjoining town of Windham where seasonal housing is also the dominant land use along the lake's shorefront. These houses, which rely on private septic systems for the treatment of wastewater, encompass almost the complete perimeter of the lake. Beyond this lake front development, land use within the watershed is predominantly forested with scattered fields and pockets of wetlands along the stream corridors. There are approximately 268 acres of wetlands, based on the National Wetland Inventory (NWI) mapping information, within the watershed.

The Pleasant River watershed contains approximately 10,600 acres in Gray. This drainage area represents the headwaters of the river system which flows into Windham where it eventually reaches its confluence with the Presumpscot River. As illustrated on Map 5-2 there are five subwatersheds in Gray that contribute to the Pleasant River drainage. These subwatersheds encompass a broad area of the town which results in a variety of land uses being represented within the entire watershed area. The eastern extent of the drainage area, which crosses the Maine Turnpike, includes high density development in the village area, as well as commercial development along the Portland Road and the West Gray Road. This portion of the watershed also contains the town's largest wetland area, Gray Meadow, which abuts the east side of the Portland Road. Development in the southern and western portions of the watershed is a combination of low-density residential development and agricultural operations. A significant portion of the watershed's western land area remains as undeveloped woodland and wetlands. There are a total of 852 wetland acres within this watershed.

The portion of the Royal River watershed located in Gray encompasses approximately 9,500 acres. This total includes the 220 acres of the Notched Pond subwatershed which drains into the Royal River at a location in the adjoining town of New Gloucester. The main branch of this river passes through the town for a relatively short distance in its eastern corner. However, the drainage area of its main tributaries extends along almost the entire length of the Gray and New Gloucester town line.

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The upper reaches of this drainage area, including the Libby Brook subwatershed, is fairly heavily developed with a mixture of land uses that involve the following: medium to high density residential, commercial and industrial facilities, agricultural operations, a golf course, gravel pits, and the State wildlife park and fish hatchery. The lower subwatersheds, including Collyer Brook and the river's main branch, is characterized by lower density residential development, agricultural uses, several large gravel pits, and a greater percentage of undeveloped land than the upper watershed area. The watershed has a total of 354 acres of NWI designated wetlands with a significant concentration along the Libby Brook corridor where it crosses the Spring Meadows Golf Course property.

The Crystal Lake watershed is a self-contained drainage basin with no outlet stream. The watershed contains a total 1,056 acres with the surface area of the lake accounting for 185 acres of the total. The lack of an outlet stream suggests that the lake may be more susceptible to pollution since there is less "flushing" action occurring. The watershed also has limited wetlands, only 33 acres, to help "treat" potential contaminates before they enter the lake. The lake frontage is completely developed with single family housing and a large subdivision that borders the northern tip of the lake. However, a significant portion of the watershed to the north and west still remains undeveloped.

The remaining watershed is the Forest Lake/Piscataqua River watershed located in the southern corner of the town. The watershed represents approximately 2,085 acres and the lake itself has a surface area of 212 acres. Only 79 acres of the lake are located in Gray with the remainder divided between the Towns of Windham and Cumberland. The outlet stream of the lake is the headwaters of the Piscataqua River which passes through Cumberland and other towns before reaching Casco Bay. The watershed is bisected by the Maine Turnpike and development, which is predominantly medium to high density residential in nature, is focused around the lake's frontage as well as along the Portland Road corridor. The watershed has approximately 118 acres of wetlands.

The protection of surface waters in Gray from a regulatory standpoint is done by means of the Shoreland Zoning regulations. These regulations establish buffer areas around the high water line of streams, rivers, lakes and ponds, which meet certain criteria established by the Maine Department of Inland Fisheries & Wildlife (IF&W). These zoning districts are illustrated on Map 4-2, Zoning Districts (in Chapter 4, Existing Land Use) as the Stream Protection and Limited Residential zoning districts. However, as the map illustrates, there are stream corridors in Gray which are not currently being protected under existing zoning regulations. Although these unregulated streams and ponds do not meet the minimum thresholds established by the state, they are an important part of the town's natural environmental system.

4.2 Groundwater

Groundwater is found below the surface of the ground in the soil and rock formations that make up Gray's surficial and bedrock geology. The amount of groundwater occurring at a given location depends on the characteristics of these soil and bedrock formations and their ability to store water, a characteristic referred to as porosity. Groundwater is the source for all water supplies in Gray,

providing water to private residential and non-residential wells within the community. It is also the source of the public water system, which provides water to the Gray Water District (GWD), from two wells located on Shaker Road, just north of the village area. These wells are approximately 100 feet deep and presently pumping between 150 and 225 gallons per minute. Prior to the installation of these wells in 1993, water was provided to the system from two springs located on the GWD property.

Groundwater occurring in sufficient quantities to yield useable amounts of water to a well is referred to as an aquifer. Although groundwater aquifers occur throughout Gray in various geologic formations, the amount of water available for public or private water supplies can vary considerably. While it may be possible to obtain a supply of water in most locations that is adequate to serve individual households or businesses, there are only a few areas where high yield aquifers exist. These areas are illustrated on Map 5-3 entitled High Yield Aquifers. The mapping of these aquifers, a geologic feature referred to as the Gray Delta, was completed by the Maine Geological Survey (MGS) in 1997. These significant aquifers are generally comprised of coarse grained sand and gravel material with the potential to yield 10 or more gallons-per-minute (gpm) to a well. As illustrated on Map 5-3 the boundaries of these aquifers do not necessarily coincide with the boundaries of the sand and gravel deposits. In some areas, a thin cover of favorable coarse-grained material may overlie fine-grained sediments, till, or bedrock. A well in that material would not be able to sustain a yield of 10 gpm, so the area was not mapped as an aquifer. In other areas, fine-grained sediments or till may overlie favorable coarse-grained sediments, in which case the MGS analysis may not have identified an aquifer that exists in a subsurface deposit of sand and gravel.

Map 5-3 also depicts the town's current Aquifer Overlay Zoning (AOZ) and Wellhead Protection Districts (WH1 and WH2) in relationship to the high yield aquifer mapped by the MGS. These zoning districts are one of the regulatory methods used by the town to protect the quality of the water supply contained in the aquifer. The delineation of these zoning districts was originally based on geological information that predates the more recent MGS study as well as other site specific studies conducted in the area. As the map illustrates there are differences between the two boundaries in a number of locations. A particular variation is evident north of the Gray Water District's well in the areas along Libby Brook, Hatchery Brook, and Mill Brook. These areas are included in the town's current aquifer/well protection districts, but were not found to be high yield aquifers based on the MGS study. These areas were originally included in the zoning district because they encompass the springs which had supplied the water district until 1993. However, these springs actually represent locations where groundwater is being *discharged* from the aquifer where the overlying sand and gravel deposit comes in contact with a layer of less permeable glaciomarine clay-silt. Therefore, based on the most recent mapping completed by the MGS certain areas previously included in the aquifer protection zoning districts are no longer believed to play a role in *recharging* the sand and gravel aquifer.

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In addition Map 5-3 shows that there is a difference between existing aquifer zoning and the boundaries of the high yield aquifer, as mapped by MGS, in other areas to the south and east of the Village area and in the vicinity of Little Sebago Lake. Although those areas included within the existing zoning district boundaries may include sand and gravel deposits, the MGS study has concluded that some of these areas have insufficient storage capacity or permeability to yield at least 10 gallons per minute to a well.

The western portion of the high yield aquifer, that underlies the village and areas to the west of the turnpike, represent some of the most densely developed portions of the town. Land uses in these areas consist of a mixture of high to medium density residential development, commercial and light industrial uses, schools, the State wildlife park, the town's public works facility and closed landfill, a golf course, gravel pits, and agricultural operations. The eastern portion of the aquifer has less of a variety of land uses, with residential being the most prominent. However, this area also contains a significant concentration of the town's larger gravels pit operations.

4.3 Wetlands

Wetlands represent the interface between the aquatic and terrestrial environments. Wetlands provide a variety of functions which include: helping to filter excess nutrients and contaminants from runoff before they enter surface waters; the temporary storage of flood waters; erosion control through the stabilization of river banks and other shoreland areas; and as habitat for a variety of water-dependent and upland species of animals.

Wetlands are defined based on a combination of plant species, soil types, and duration of flooding/saturation by water. For town-wide comprehensive planning purposes the source of information used to identify wetlands is based on the definition used in the National Wetlands Inventory (NWI). The NWI was produced during the mid-1980s by the U.S. Fish and Wildlife Service (USFWS) based on an analysis of aerial photography from that time period. This method of identifying wetlands allowed the USFWS to map wetlands for the entire country, but also made some types of wetlands more difficult to identify if they were obscured by tree cover. Therefore, certain types of wetlands, such as forested wetlands, may be under-represented in the NWI.

Map 5-2 illustrates NWI wetlands found in Gray. All wetlands in Gray are classified as Palustrine wetlands, which includes all non-tidal wetlands dominated by trees, shrubs, or emergent vegetation (associated with river and lake shore areas), which are traditionally referred to as swamps, marshes, and bogs. Certain wetlands have been designated as being of *medium or high value* by the Maine Department of Inland Fisheries and Wildlife (IF&W) and therefore are subjected to protection under the Shoreland Zoning regulations. Several of these wetlands are located in the greater Pleasant River watershed and include Gray Meadow, Allen Bog, and an unnamed wetland associated with the Thayer Brook corridor. Other large wetland systems protected under Shoreland Zoning are found in the Libby Brook subwatershed of the Royal River and the upper Little Sebago watershed (Refer to Map 4-2, Zoning Districts, for wetlands regulated under Shoreland Zoning in the Resource

Protection district). While these wetlands may be considered particularly important due to size and other factors, there are many other occurrences of smaller wetlands throughout the town, which are not protected, that also represent important elements within the community's natural environmental system.

Also illustrated on the Surface Waters Map are areas of poorly and very poorly drained soils. These soils are generally associated with wetlands, although the NWI mapping did not identify the existence of wetland vegetation based on aerial photo interpretation. However, it is likely that at least a portion of these soils are supporting the type of vegetation required to be designated as a true wetland. This would suggest that the amount of wetlands existing in Gray are under-reported and may need additional consideration from a regulatory and conservation standpoint. The total acreage of wetlands in Gray, based on the NWI data, is 1,640 acres while the amount of poorly and very poorly drained soils total 3,080 acres in size.

4.4 Water Quality and Potential Threats

The Maine Legislature, through the Department of Environmental Protection (DEP), has created a water quality classification system for all surface waters in Maine. Based on this classification system, the DEP has established "attainment goals," which is the minimum desirable water quality, for all water bodies.

There are four classifications in this system for rivers and streams and one classification for lakes and ponds. For rivers and streams the classes, from high to low are, AA, A, B, and C. The single classification for lakes and ponds is Great Ponds "A" (GPA). In reality, there are only slight differences between the allowed uses and qualities of the various classes. The classification is intended to be more of a hierarchy of risk rather than one of use or quality. Under this risk based approach the possibility of a breakdown in the ecosystem are rated based on loss of use due to either natural or human causes. Ecosystems that are more natural in their structure and function can be expected to be more resilient to stresses and recover more rapidly from those stresses. The DEP does periodic sampling of the state's water bodies and produces a bi-annual report on attainment levels. Sampling has been conducted in Gray by the Department over the past decade and some of the information reported here may be up to a decade old. The DEP also supplements its sampling program with data collected on lake quality by volunteers in the Lay Monitoring Program who do testing once or twice a month.

The attainment goal for streams in the Pleasant River watershed is Class B. With the exception of Thayer Brook, this river, as well as all its tributaries, meets that goal. Thayer Brook reportedly has reduced levels of dissolved oxygen which could degrade the environment for aquatic life. These reduced oxygen levels could be caused by runoff or erosion from adjoining farmland and other land uses within the watershed.

The Royal River has a water quality attainment goal of "A" which is due to contaminants identified

as being from the McKin hazardous waste site located on Yarmouth Road. All other tributaries of the Royal River, which include Collyer, Libby, Mill, Hatchery, and Cole Brooks, have water quality attainment levels of class B. Only Hatchery Brook is reportedly not in attainment due to the discharge of water from the state-operated fish hatchery. According to the DEP, although the state plans to install water treatment facilities at all of its hatchery operations a specific date for upgrading the Gray facility has not yet been determined.

Little Sebago Lake is presently not in attainment of the state's GPA goal for all great ponds. This is attributed to lower levels of dissolved oxygen at certain locations in the lake, as well as the amount of shorefront development, which poses a continuing threat to the ecosystem. Forest Lake is in attainment, even though the DEP lists it as "threatened" based on the amount of development around the lake and the potential for negative impacts on water quality in the future. Crystal Lake is also in attainment of the GPA classification and is not listed as threatened, although land use development levels are equivalent to those found at Forest Lake. Notched Pond is also in attainment and not considered to be threatened at this time.

Potential threats to surface water quality are classified as either point sources or non-point sources of pollution. Point sources are those that can be identified as coming from a specific location, such as a discharge from an outfall pipe. The only known point source of pollution in Gray is the fish hatchery which the state does plan to address in the future.

Non-point sources (NPS) come from more generalized locations such as nutrients from failed septic systems, contaminant runoff from buildings, parking lots, lawns, agricultural uses, and road salt, as well as erosion and sedimentation from improper construction or other activities that alter the surface of the land. Some of these potential threats were discussed earlier in this chapter which described the general land use patterns in each of the town's watershed areas. More detailed land use information can be found on Map 4-1 in Chapter 4. As a watershed becomes more developed with impervious materials there is a greater possibility for degradation of water quality due to NPS runoff.

Potential threats to groundwater quality includes those mentioned above with some additional considerations. Groundwater is primarily replenished by rainwater as it percolates through the surficial material down to the water table. Therefore, the creation of impervious surfaces can reduce recharge resulting in a decrease in the amount of water available. Gray currently addresses this issue, for its high yield aquifer, by means of its Aquifer Overlay Zoning district which regulates the amount of impervious material permitted while also requiring a larger minimum lot size.

Groundwater also has the potential to be negatively impacted through the removal of the aquifer's overburden by gravel extraction operations. Although the excavation process itself may not affect the aquifer it does reduce the filtering capabilities of the soil, and could increase evaporation and water temperatures if the excavation goes below the water table. There are a number of gravel pits located in the town's high yield aquifers, as illustrated on the Existing Land Use Map in Chapter 4.

Other threats to groundwater are posed by underground sources of pollution such as unprotected storage tanks for petroleum products, the burying of waste, or the seeping of contaminants into the water table from improper disposal. There are two sites in Gray which are of concern with regard to groundwater contamination. These include the old town landfill, located on the Shaker Road, and the McKin Site, on Mayall Road. The landfill was operated as an unlined facility from which contaminants were able to seep into the groundwater. The facility was closed with a synthetic cover in 1992 and various site investigations and monitoring activities were conducted subsequent to that closure. Water sampling conducted in 1994 found that tetrachloroethylene (PCE), a volatile organic compound (VOC), was present in detectable concentrations but not at sufficient levels to be included as a U.S. Environmental Protection Agency (EPA) Superfund Site. Another study was conducted under the auspices of the Maine DEP in an effort to model the potential impacts that pumping of the Gray Water District's wells might have on inducing contaminants into the water supply.[1] This modeling indicated that if the pumping rate remained below 500 gallons per minute (gpm) it would reduce the potential for contamination. The town is currently in the process of implementing a post-closure monitoring program of the landfill over the next 25 years as required by the DEP.

The McKin Site, located on Mayall Road, was used for the improper disposal of industrial solvents and other hazardous chemicals, during the 1980s. PCE was found to have migrated off the site into the groundwater which resulted in the facility being designated an EPA Superfund Site. Municipal water lines were extended into the area to service residences with affected wells and all future development is required to connect to the municipal water system. The EPA monitored the site for a period of time but determined that contamination levels had been reduced to a level that made continuous monitoring unwarranted. According to DEP records, PCE has been detected in the Royal River, but no sampling has been conducted recently. Contamination levels were not considered to be a further health threat.

5. Soils

The soils in Gray have certain characteristics that have been shaped over a long period of time due to the region's topography, climate, and the effects of living organisms acting on the soil. These soil characteristics make them more or less suited for various types of development or conservation activities. Soils have been mapped for Gray by the U.S. Soil Conservation Service (SCS) at a level of detail that is well suited for planning purposes at the town-wide level of analysis. The SCS mapping system groups soil characteristics into categories that are useful for evaluating, among other things, future development potential within Gray.

There are a number of ways in which soils characteristics can be evaluated to assess their development potential. One of the most common approaches involves determining the soil's

[1] *Additional Evaluations, Gray Landfill, Gray, Maine,* by Robert Gerber, Inc. for the Maine Department of Environmental Protection, September 1995.

potential to accommodate on-site septic systems for the treatment and disposal of wastewater. This method is appropriate for Gray because of the lack of a municipal sewage treatment system. Another useful factors to consider is the potential for increased construction costs of homes and other structures due to soil characteristics. Some of the factors that increase development costs include soils that are shallow to bedrock, steep slopes, floodplains and high water tables. In addition, if appropriate construction and maintenance methods are not used in such locations, negative impacts on adjoining properties and the natural environment can occur.

The SCS has created a rating system for soils, based on these considerations, that has been used to evaluate the suitability of soils in Gray to accommodate future development. The three primary factors used to create this "development suitability index" are the ability to install septic system leach fields, construct dwellings with basements, and construct subdivision roads. The results of this rating system do not imply that particular areas of town *can not* be developed, but that certain areas may be more appropriate for development based on cost and potential negative impacts over the long-term.

Map 5-4, entitled Soil Suitability for Development, illustrates the SCS ranking for the soils in Gray. The scale ranges from very high to very low suitability for development. Some of the areas least suitable for development are concentrated around the Collyer Brook and Royal River corridors. Others are found along Libby Brook and the Pleasant River. The primary limitations in these areas are poorly drained soils, floodplains, and steeper slopes.

From an overall perspective, based on this rating system, much of the existing development in Gray has occurred on soils that have a medium to low suitability for development. Conversely, much of the town's soils most suited for development are still undeveloped. These areas are located to the west of Little Sebago Lake, between Campbell Shore Road and Notched Pond, on Yarmouth Road to the east of the village, and between Yarmouth Road and the Maine Turnpike along the Cumberland/North Yarmouth town line.

6. Wildlife

The Town of Gray and neighboring communities are part of a region that is home to a variety of wildlife species. To a great extent, the management of these wildlife populations are conducted by State's Department of Inland Fisheries & Wildlife (IF&W), although municipal involvement in this process also occurs through various regulatory and non-regulatory activities. For the purpose of wildlife management, the IF&W has divided the state into 30 Wildlife Management Districts. Gray is included in WMD 21 which extends from Biddeford to the south, Lewiston to the north, and Naples to the west. To the west, the district is bounded by Interstate 95 and does not include any coastal communities. The predominant forest types in this region include stands of northern hardwood, pine-hemlock-hardwood, and oak-hickory. Wildlife species include larger game animals such as moose and deer, smaller fur bearers such as beaver, fox, and coyote, upland game birds such as wild turkey, various wading birds and waterfowl, as well as non-game species of song birds,

reptiles and amphibians. Although all of these species are not managed by the state they do fill important niches within the ecosystem of which Gray is a part.

The IF&W is in the midst of a major planning effort that will eventually result in new or revised management goals and objectives for more than 70 species and groups of species, from box turtles to black bear and moose to mayflies. The Department's Fish and Wildlife Advisory Council endorsed goals and objectives developed by the working groups for deer, bear, moose, wild turkey, least tern, piping plover, and migratory shorebirds. These goals and objectives will, in part, address the following areas.

- Provide increased hunting and viewing opportunity for deer, while preventing over-browsing of deer wintering habitat in northern, western, and eastern Maine;
- Balance the desire for deer hunting and viewing opportunity in central, southern, and coastal Maine with the need to reduce negative impacts of deer, such as browsing damage, collisions with motor vehicles, the and potential risk of Lyme disease;
- Provide increased hunting and viewing opportunities for moose, while maintaining the availability of mature bulls;
- Address concerns for moose/vehicle collisions in some parts of the state;
- Increase the size and distribution of the wild turkey population within all suitable habitat in Maine, and provide additional spring hunting opportunities, as well as a limited fall season in the future; and
- Increase the least tern and piping plover (both Endangered) populations, and the number and quality of nesting sites in Maine.

Management goals and objectives for 113 species of passerines (songbirds), Atlantic puffin, razorbill, harlequin duck, common eider, Tomah mayfly, and Clayton's copper butterfly are pending endorsement. In the next few years the Department will convene additional working groups to address woodcock, ruffed grouse, snowshoe hare, waterfowl, island nesting terns, rails, fisher, marten, and several species dependent on vernal pools (seasonal, fishless habitats) as breeding habitats.

One approach used by the IF&W to manage wildlife populations is through a permit system for hunting and fishing. However, a broader approach to wildlife management which is now more commonly accepted is the preservation of a variety of habitat types that are necessary to support healthy populations of all native species. The IF&W, as well as other public agencies and private conservation groups, have assembled inventories of important habitat types that can function as more of a *complete system* as opposed to smaller, fragmented pieces of habitat.

Map 5-5 presents important wildlife habitat information that has been identified in Gray by IF&W and the U.S. Fish and Wildlife Service (USFWS). Some of these habitat areas, such as streams, ponds, and wetlands, have been discussed to some degree previously in this chapter. However, this map illustrates how those resources are integrated within the town's larger ecosystem.

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Riparian Habitat - Highlighted on the map are the corridors abutting rivers and streams which are referred to as riparian areas. These buffers encompass 150 feet around streams (75 feet on either side) and 500 feet around the Royal and Pleasant Rivers (250 feet on either side). These setbacks are the minimum prescribed by Shoreland Zoning regulations although not all streams in Gray are currently protected by these regulations. This type of habitat is important for many species and the corridors formed by these buffers can also serve as travel corridors for animals and provide "linkages" between patches of habitat that are otherwise separated by development. However, the 150 foot buffer around streams is generally considered to be an insufficient width, by wildlife biologists, for use by larger mammals.

Waterfowl/Wading Bird Habitat - These areas, identified by IF&W, are comprised of freshwater wetlands and surface waters of small ponds. This habitat provides nesting/feeding/roosting areas for ducks, herons and other wading birds and song birds, as well as various aquatic species. The adjacent upland areas are also used by other species as well.

Priority Trust Species Habitat - As part of its program to protect and restore the Gulf of Maine watershed, the USFWS has mapped habitats which are important for 64 species of birds, mammals, fish, plants, invertebrates, and reptiles that regularly inhabit this region. These species must meet one of the following criteria: be federally threatened or endangered; be identified as threatened or endangered by two of the three states in the Gulf of Maine watershed; or be a species which has a significantly declining population nationwide. The important habitats for these species, as illustrated on the map, includes freshwater wetlands, forested wetlands and upland forest areas. It also includes areas identified as grasslands, which in Gray's case, includes many of the areas cultivated for agricultural purposes.

Deer Wintering Areas - As the name implies, deer wintering areas (DWA) are used by these animals as a protected refuge through the harsh winter months. A DWA is defined as a forested area used by deer when snow depth in the open/hardwoods exceeds 12 inches, when the deer are prone to sink in more than 8 inches, and the mean daily temperatures are below 32 degrees. As illustrated on Map 5-5, there are several DWAs scattered throughout the town with a particularly large area centered around the Ramsdell Road/Thayer Brook area. The boundaries of these DWAs have not been recently verified by IF&W, but land use development patterns indicate the largest wintering area is still primarily intact.

Rare, Threatened and Endangered Species - The IF&W also tracts the occurrence and status of animal and plant species that are rare, threatened, or endangered within the state. Two species have been observed in Gray: the Eastern Box Turtle (endangered) and the New England Cottontail (species of special concern). The map illustrates the approximate location where these species were observed along with a generalized buffer for habitat protection, which would need to be field verified. Two sitings are listed for the Cottontail and one for the Turtle.

Unfragmented Habitat Blocks - This final category of important habitat addresses the concept

discussed previously in this chapter which noted that the fragmentation of habitat into tracts of smaller sizes tends to diminish the potential for those areas to support viable wildlife populations. Map 5-5 illustrates larger tracts of land in Gray, as delineated by IF&W, that have not been bisected by roads or other types of development. A 1,000 foot buffer has been created around roadways (500 feet on either side) to delineate these unfragment habitat blocks. *It should also be noted that in many instances, the blocks located along the town's border extend into adjoining communities, making them larger than they appear on this map.* This multi-town aspect of these blocks is a particularly important feature and one of the reasons that IF&W is promoting a regional approach to habitat management and protection.

Overlaying other important habitat areas onto these unfragmented blocks, as shown on the map, provides a useful perspective for identifying opportunities for future conservation efforts, as well as where important habitat is being encroached on by development. A review of these unfragmented blocks reveals that in many locations throughout the town, development has begun to "nibble away" around the edges. Eventually, some of these areas will be bisected completely by new roads which will significantly reduce their value as wildlife habitats.

7. Forest and Agricultural Resources

A considerable portion of Gray's land area is forested. Analysis conducted as part of the Existing Land Use Chapter, revealed that over 17,000 acres in Gray are still undeveloped. Aerial photography and other data sources show that the vast majority of this undeveloped land is wooded, which represents approximately 60% of the town's land area.

A portion of this forested acreage is being managed for timber products. According to the town's assessment records there are 60 parcels, owned by 34 property owners, that are enrolled in the Tree Growth program. Three additional properties, located in the Depot Road area, are owned and managed by the State of Maine as conservation areas. These parcels are illustrated on Map 5-6. The Tree Growth program allows properties to be assessed for tax purposes at a reduced level in exchange for managing the land for its timber resources. The total acreage of the affected parcels is approximately 3,200 acres, although not all of this acreage is enrolled in the program. According to assessment records, approximately 19% are managed for hardwoods, 21% for softwoods, and 60% for mixed stands.

Map 5-6 also illustrates the location of parcels currently used for agricultural purposes. These properties were identified based on assessment records and a review of aerial photography. Agricultural parcels includes properties that are used for crops, hay, and other growing stock, as well as dairy farms, livestock, or equestrian related uses. It is expected that there are additional properties involved in agricultural activities in Gray that could not be identified from the information sources noted above.

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Blank Page Map 5-6 - Agricultural Resources

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The map also identifies the soils in Gray that are considered prime agricultural soils. Prime farmland soil, as defined by the U.S. Department of Agriculture, is soil that is best suited for producing food, feed, forage and fiber, and oil seed crops. It has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. In other words, prime farmland produces the highest yields while requiring minimal amounts of energy and economic resources, and farming it results in the least damage to the environment.

There are three categories of prime farmland shown on the map. One is considered to be prime without any supplemental actions, while the other two require either additional irrigation or drainage to be considered prime. Some of the town's existing farms are located on the prime soils although most of these include the type of soil that requires additional irrigation. A good percentage of the town's total prime soil acreage has been developed for other types of land uses. However, some sizeable sites are still undeveloped.

8. Historic and Cultural Resources

Gray has a long and rich history as a community which is still evident in many of its remaining buildings, sites and landscapes. The town was originally part of the Province of Massachusetts Bay and was incorporated in 1778. Since that time the town has experienced a great many changes which have contributed to the historical fabric of the community, but which have also resulted in the loss of many unique structures and other artifacts.

In the typical fashion of a New England town, Gray's land use pattern evolved with various village, neighborhood, and industrial settlement areas that were surrounded by agricultural and other land based activities. These original settlement areas, as noted in the previous Comprehensive Plan, include Gray Village, Dry Mills, West Gray, East Gray, North Gray, and South Gray.

Gray Village has been the center of commercial and civic activities since the town's inception. Due to its location at the intersection of six major roads the Village has attracted trade and been the conduit for goods shipped from other centers of commercial and industrial activity. This trade hub status was also supported by the existence of the Portland-Lewiston Interurban Line, which was an electric train system that operated with stops in Gray until 1933. The remnants of the right-of-way used by this rail line are still visible on the town's tax maps, south of the Village, paralleling the Portland Road. The Village contains the town's largest concentration of remaining historic structures, although many have reportedly been lost over time to fire and redevelopment activities. Some of the most prominent existing historic structures include the following.

- Old Town Hall/Fire Station
- Old Daniel Hall store (1836)
- Large Hall building (1905)
- Smaller wooden building once the pharmacy of R.G. Hall (c.1800s)

- Stimpson Memorial Hall (1900): Included on the National Register of Historic Places
- Old primary school (1902): Now School District Superintendent's Office
- Old Hancock School: Now Gray Public Library
- Pennell Institute (1876): The first building was used as a high school until 1962. The first floor of this building is now used by the School District's Continuing Education program and the second floor is occupied by the Gray Historical Society. The building is listed on the National Register of Historic Places.
- Newbegin Gym (1937): Located on the Pennell Institute campus this building is now used by the Gray Department of Parks and Recreation.
- The "Laboratory": A smaller building on the Pennell campus that is now vacant
- Gray Baptist Church (1830)
- Civil War Monument (dedicated 1911)
- Gray Village Cemetery: Site of a stone commemorating the "Stranger," an unknown confederate soldier who died in 1862
- Congregational Church (1901): Replaced the original church built in 1829.

The Dry Mills settlement area is located around Crystal Lake which was historically referred to as Dry Pond. Around the turn of the 19th Century this area was the location of saw mills and grist mills that were the main industry for the town at that time. During the 1880s commercial charcoal was also produced at kilns in the area. Beginning in the early 1900s the first summer cottages were built around the lake which eventually came to encompass its entire shorefront area. The two most significant structures in Dry Mills are the Dry Mills Store and the Dry Mills School. The school was moved to a new location on Weymouth Road in 1989, where it underwent renovations. The school building is included in the National Register of Historic Places. The Gray Historical Society would also like to move the store to the same area.

East Gray, centered around the intersection of Mayall and Depot Roads, was a thriving area for farming and lumbering between 1880 and 1950. The Maine Central Railroad operated a depot in this area which was used to transport agricultural and lumber products to market. A large brick kiln also operated in this area which produced the bricks used to construct the Pennell Institute and the Hancock Building in Gray. This area began to decline in the 1950s when the railroad closed its depot. Remaining structures of note in East Gray are the Parson Perley House constructed in 1796 and the Reverend Nathan Merrill house, circa 1766, which was the first framed house built in Gray.

The South Gray settlement area was a section of town which was developed primarily as a result of its proximity along roadways that provided access between Gray and Portland. Along Portland, Dutton Hill, and Longhill Roads, several taverns were in operation during the 1800s. Four schools also operated in this section of town of which three still exist and have been converted into residences. A number of the other early homes along these roads are also still in existence today.

West Gray was another active manufacturing area during the 1800s consisting of several small businesses. Robert Allen operated a store there beginning in 1843 and also offered services that

included tailoring, shoemaking, blacksmithing, milling and manufacturing of barrel parts. For a time, fine carriages and sleighs were also manufactured in West Gray.

The final original settlement area of North Gray was centered around the intersection of the Lewiston and Mayall Roads. This part of town also had a number of mills for lumber and grain beginning as early as 1760. There was also a pottery making operation, blacksmith shop and general store. Perhaps most significant to this area was the Mayall Woolen Mill which started operation in 1791. This mill is reported to be the first machine-powered woolen mill in the country. It was operated until 1905 when it apparently became uneconomical to continue its use at this location due to transportation limitations.

This brief summary of the town's historic settlement patterns, which is based on information compiled by the Gray Historical Society (GHS), provides a glimpse of various land use initiatives that still influence development activities within the community today. The Historical Society, which is located in the Pennell Institute building, has also gathered many artifacts from the town's past which are displayed at various times in their offices. The Society recently received a New Century Community Program Grant, from the Maine Historic Preservation Commission, which was used to organize and archive its inventory of historic records. The GHS is also in the process of developing a more detailed inventory of historically significant structures and sites in order to fully document these community resources. Table 5-1 lists some of the most important historic resources that have been identified as part of this on-going inventory. The dates identified in the inventory are based on local records as well as assistance provided by Earle Shettleworth, Jr. of the Maine Historic Preservation Commission who was instrumental in identifying the architectural styles of the various structures.

The list includes 70 historic buildings/structures and 11 historic sites which are notable because of their era of construction, historic interest, and/or as examples of architectural styles. The list divides the structures and sites by location, type of structure, and period of construction. Many of these resources are concentrated in Gray Village, as noted in the table, but an even larger number are dispersed throughout the remainder of the community. The location of these historic resources, by reference number, are illustrated on Map 5-7. Also noted on the map are the locations of two potential historic districts, the significance of which are discussed below, based on preliminary assessments completed by the GHS.

Table 5-1
Inventory of Historic Buildings and Sites
Gray, Maine - 2002

Gray Center

1. **Old firehouse, Town Hall and Office, 1835. Also was the location of the Gray Bank, est. by Samuel Mayall II.**
2. **Pennell Institute, 1876, and Pennell Lab. Bldg., gifts of Henry Pennell. Lab was the science laboratory and manul arts shop, was occupied for many years by the Gray News, and is now empty.**

3. Newbegin Gymnasium at Pennell, gift of George Newbegin, 1937.
4. **Stimson Memorial Hall, gift of the family of Theopholis Stimson, 1900.**
5. Congregational Church, 1900.
6. Former Hancock School, gift of James T. Hancock, 1930. Stick style trim. Became Gray Public Library. Addition, 1989.
7. Primary School, 1902. Stick style trim. Now S.A.D. 15 office.
8. Baptist Church, built in 1830 by the Universalist Society. Now houses antique business.
9. Old Congregational Parsonage, Greek Revival, 1840's. Across from former P.O. on Shaker Rd.
10. John T. Merrill House, mansard roof, 1870's. Now, home of Rear Admiral Willard Sweetser.
11. "Clark's block" includes several buildings, late 1700's-1800's. Main St., west side.
12. 14 Main St., Henry Pennell house, 1876. Was maternity hospital for Dr. Beck's patients.
13. 18 Main St., 1876. Perley Sawyer home from c. 1915. Home of Margaret Sawyer.
14. Douglass house, mansard roof, 1876.
15. Currently Mae Beck home, brick early Greek Revival, 1832.
16. Charles Pennell house, 32 Main St., c. 1803-1808.
17. Colley Farm/Webb, 1700's. Still occupied by Colley descendents.
18. Mayall/Snow House, 1830's Federal.
19. Morrill house, 1830's Federal. Now home of Evelyn Morrill Durgin.
20. Colonial Inn, 1832. Greek Revival. Now apartments.
21. Old Alms House, built by Theopholous Stimson. Brick, 1830's. Now rear of property occupied by ladder company.
22. Original Baptist Parsonage, 1840's.
23. 9 Brown St., now Helen Davis' home, built late 1800's.

Beyond Gray Center

24. William Merrill House, now home of Dr. Beebe and family. Brick Federal style on north side of Shaker Rd. Early 1800's.
25. Fogg House, Cape Cod style, on Lewiston Rd. across from Cole Farms 1700's.
26. Weeks' House. Currently Stansfield home, built 1700's.
27. Small (currently red) Cape Cod style house on north side of Yarmouth Road, said to be built in 1760's. Bay window added.
28. 1776 farmhouse, was Jim Gillies' home, Yarmouth Rd. Sold c. 1999.
29. Pastor Samuel Perley's Federal style home, late 1700's. Old stenciling inside. Yarmouth Rd., south side.
30. Cyphus Perley/Dr. Gates' house, c. 1800's. Yarmouth Rd., north side.
31. Goff House, brick Italianate, near corner of Mayall and Depot Rds., same builder as Pennell Institute. 1870's.
32. George Perley House, c. 1830's. Was Town Farm from 1879 to 1942, now a B&B.
33. Nathan Merrill House, Mayall Rd., 1766, considered Gray's earliest house still in existence.
34. Greek Revival cape on Long Hill Rd., mid 1800's. Bay window on side a late addition.
35. Hillcrest Farm, brick Federal, c. 1834. East side of Portland Rd., first house south of Long Hill Rd. Among owners: E. Cobb (1871), Charles Hill, and now, Donald Morse. Similar to #36.
36. Webster House, east side of Portland Rd., brick Federal, was an early tavern, built 1810-20. Current owners, the Cellers.
37. Farwell House, Portland Rd., Capt style, possibly latter 1700's.
38. Hunt/Wood House, Hunt's Hill, 1797.
39. Mayall/Snow House, 1830's Federal.
40. Jedediah Libby farmhouse, east side of Old Portland Rd., now Center Rd. Built in 1874 with Greek Revival details on site of earlier home of Royal T. Nash.
41. Cobb/Walter Gothic Revival house, Dutton Hill Rd., late 1800's.
42. Qinnegan Lodge, on Quinnegan Rd., Cape style, 1700's.
43. House on corner of Rte. 202 and Totten Rd., currently Clark house, mid 1800's.
44. Bob Niss cape style on north side of Rte. 202, 1750-1800. Bay window is a late addition.
45. Libby House on north side of Rte. 202, rural Federal, c. 1790's-early 1800's. Currently painted red.
46. Greek Revival house, latter 1800's. South side of Rte. 202.
47. Freeman farm on Rte. 202, built 1797. North side of Rte. 202.
48. John Huston home, across from #46, 1800-1849. Late addition bay.

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49. Mansard-roofed home, south side of Rte. 202 near town line. 1870's.
50. Boarding house for Mayall Mills workers in 1800's, built by W. Beebe.
51. Orin Whitney farm on west side of Portland Rd., 1800's. Previous owner, Wilbur Hill.
52. "Old Cook House", Patience Karlson home on east side of Portland Rd. south of Whitney Rd., a Cape Cod with pin construction and hewn beams, which date it to before 1825.
53. Interurban Railroad Station, served 1914-1933, on Yarmouth Rd. Now a private home, with addition.
54. **Dry Mills Schoolhouse, 1858, moved in 1898 to Game Farm Rd. Restored and ready for visitors.**
55. Eddie Morse/R.&E. Wink house, Depot Rd., early 1800's.
56. Wood house, 1800's, Ramsdell Rd.
57. Ida Whitney house, 1800's, Ramsdell Rd.
58. W. Whitney house, 1820's, Totten Rd.
59. Lund house, 1800's, Route 202.
60. Currently Geo. Pulkkinen farmhouse, 1800's, 903 Center Rd.
61. Home at mast yard site, 1800's on Hunt's Hill Rd. below Center Rd. intersection.
62. Shaw house, 1800's, 24 Cambell Shore Rd.
63. Hubert Cobb house (was a Shaw house), 1830's. 66 Cambell Shore Rd.
64. Cape Cod style farmhouse, 1800's Cambell Shore Rd.
65. Weathered clapboard house, 1800's Cambell Shore Rd.
66. Gerald & Audrey Burns house, 1800's, Mtn. View Rd.
67. Cape Cod style house, 1800's, corner Mtn. View and Elder Cemetery Roads.
68. Former S. Sawyer farmhouse, 1800's, Center Rd. near Frost Rd.
69. George T. Merrill Farm, est. mid-1800's.
70. Noyes/Skillings house, latter 1700's-1800's. (Property deed, lot #51, 1784. 1822 deed cites buildings on it.) Cambell Shore Rd.

Historic Sites

71. Indian Kettle.
72. Site of Gray Fair and racetrack, 1884-1902.
73. Site of old corn cannery.
74. Site of King's Mast Yard on Pleasant River, est. 1762 by Moses Twitchell.
75. Probable site of old blockhouse, 1700's.
76. Site of Mayall Woolen Mills, est. by 1791 on Collyer's Brook
77. Original site of Dry Mills Schoolhouse, built 1858, moved to site on Game Farm Road. See #54
78. Gray Cemetery/Grave of unknown Confederate soldier (Ave. H). Listed on National Heritage Trail.
79. Elder Cemetery
80. Site of old Dry Mills Post Office, once known as "the smallest post office in Maine". P.O. building to be moved to site beside #54.
81. Site (since Dec. 1997) of 1917 Civil War soldiers' monument

Note: Buildings highlighted in **bold text** denotes buildings on the National Register of Historic Places
Source: Gray Historical Society

The preservation of Gray's historic and cultural buildings and sites is an important part of enhancing the community's quality of life. The two general approaches that can be employed to achieve this goal are education and/or regulation. The education approach would involve making use of the information compiled by the GHS to advise owners of historic properties about the significance and value of their property and encourage them to preserve the integrity of these sites and buildings during any renovation or development activities. This can be an effective approach in protecting historic resources, but it is only voluntary on behalf of the property owner and there is no guarantee that individuals will participate.

The second approach would involve regulating the alteration of historic structures through the town's

zoning ordinance. This method would require the establishment of a historic district zoning boundary, within which certain design standards would have to be adhered to when changing the exterior architecture of a historic building. Historic districts usually include a concentration of historic buildings and sites that, when taken as a whole, remain in a setting that provides a visual presentation of the history of a particular place in the community. It is likely that the Village area would be the most appropriate location for consideration as a historic district given the resources that still exist there. There appears to be sufficient historic resources in this area to warrant the establishment of a preliminary district boundary which would then be used as a basis for a more detailed architectural survey of the structures. This survey is a necessary preliminary step to establishing a historic district. The results of the survey would provide the basis for developing architectural guidelines that would then be used to review development proposals within the district. This review role would be fulfilled by a Historic District Commission which would have to be established as part of the zoning ordinance that creates the district.

9. Implications for the Future

Much of this chapter can be summarized in one broad concept: natural resources within Gray and the region in which the town is located function as an integrated system. The effects of land use activities in one portion of town have the potential to impact other parts of the town, as well as neighboring communities. Conversely, land use activities in neighboring towns can affect the quality of Gray's natural environment.

All land use recommendations that are developed as part of this comprehensive plan have the potential to impact the features of the natural environment discussed in this chapter. Many of the implications for the future discussed at the end of the Existing Land Use chapter (Chapter 4) are also applicable to this chapter and do not need to be restated.

Even if no changes are made to the town's land use regulations as a result of this comprehensive plan update, this lack of action will have an impact on the community's natural environment because the town will continue to grow in the future, as discussed in the Population and Housing chapter. The key then is to determine which areas are most appropriate for accepting future growth. This decision should not be based on which portions of town are most suitable for development based on just soil characteristics or highway access. It should also take into consideration the long-term safety of the town's water quality, maintaining a diversity of natural habitat and preserving a quality of life that is appropriate for the community.

Although most watersheds in Gray do not appear to have reached a critical level at this time, continued monitoring and education will be warranted as the town grows in the future. The use of *best management practices* for agricultural, forestry, and other resource-based land use activities should also be implemented by all properties engaging in these activities. Watersheds that need to be more closely monitored in the future include the upper Collyer Brook, between the Lewiston and Shaker Roads, and the upper Pleasant River, around the Portland Road and Maine Turnpike. These

areas are the most densely developed portions of the town and are also the areas currently zoned for future commercial and industrial growth. Commercial and industrial land uses tend to have more impervious surfaces, such as larger buildings and parking areas, which can increase runoff into surface waters.

These same watersheds also overly the town's high yield groundwater aquifer that supplies water to the Gray Water District's municipal wells. Therefore, the continued oversight and regulation discussed above will also help to preserve the quality of the public water supply. This applies not only to future development, but existing land uses as well because properties owners within the water supply area will need to be regularly reminded of the potential impacts that their actions might have on water quality and the identified aquifer. It also means that the town and the Gray Water District will have to continue to work together closely to ensure that land use activities do not adversely affect the long-term use of this aquifer as a public water supply.

From a wildlife habitat perspective the town still has unique opportunities for preserving important habitats which encompasses relatively large tracts of land within Gray. However, if the current low density residential development patterns continue to occur in the future it will encroach on these areas and fragment larger tracts of land into isolated islands of wildlife habitat. These larger habitat blocks have also played a role within the town's forest products and agricultural businesses. For example, the existence of large, forested tracts of land have enabled the owners to better manage them for their timber products. The same is true for tracts of farmland within the community. This illustrates how habitat preservation can both serve the needs of wildlife and also support the local and state economies.

Gray has a relatively small amount of wetland wildlife habitat that has been deemed to be of particular importance by the State Department of Inland Fisheries and Wildlife, as well as the U.S. Fish and Wildlife Service. Although these areas receive some protection under the Shoreland Zoning regulations, continued growth within the adjoining upland areas around the perimeter of these wetlands will tend to marginalize their usefulness as habitat areas. The wetland networks associated with Gray Meadow, the upper Pleasant River/Thayer Brook corridor, and Libby Brook are likely to encounter this type of development pressure from growth in the future based on existing land use trends.

Finally, in order to preserve the town's historic and cultural resources continued education of property owners will be a critical factor. Without the informed interest and understanding of the public, Gray's varied cultural resources cannot be comprehensively identified, evaluated, and protected. To identify and evaluate this rich diversity of resources, it will be necessary to conduct detailed research and field surveys because a site, building, or a potential historic district must first be identified and evaluated before strategies for preservation can be developed and implemented.

Transportation 6

1. Introduction

Gray's transportation system should operate in a manner which helps to preserve and improve the quality of life of its residents, while also providing for the safe uniform flow of traffic. Achieving this goal will require sound and innovative planning solutions to address needs that will be created by future growth and development. This chapter evaluates all modes of transportation as they relate to recreational, residential, commercial, institutional, and industrial land uses within the Town of Gray.

The chapter also addresses alternative modes of transportation such as pedestrian, bicycle, and public transit. In addition to encouraging the use of alternative modes of transportation, emphasis is placed on establishing and maintaining safe, attractive neighborhoods for families and businesses throughout the entire community. The effect on the transportation system on the environmental quality of the community is also considered.

2. Summary of Major Findings and Conclusions

- State highways in the Town of Gray total 21.1 miles, with the town responsible for 15.3 miles of winter maintenance.
- Town roads total 56.3 miles with 50.9 miles paved and 5.3 miles of gravel surface.
- Private roads with public easements total 22.4 miles.
- There are 109 private roads in Gray.

- Traffic volumes have increased 2% to 4% between August 1995 and August 2000.
- The Maine Department of Transportation (MDOT) has identified three high crash locations in the Village area of Gray.
- Parking within the Village area is limited.
- MDOT has included four public transportation projects for Gray in the Statewide Improvement Program (STIP) for fiscal years (FY) 2002, 2003, and 2004.
- Alternative transportation modes in the town are limited to pedestrian sidewalks in the Village.
- The proposed Gray Connector will ease traffic through the Gray Village area.
- The town has proposed expanding the sidewalk network in the Village.
- Development adjacent to private easements and private roads is creating problems for Fire and Rescue access.

3. Existing Roadway System

3.1 Primary Highways and Arterial Roads

According to the Town of Gray Public Works Department, there are 99.9 miles of public roads and highways within the town's limits. The classification categories presented in Table 6-1 are used to identify the governmental agency (state, local, other) responsible for maintenance of particular roadway segments in the town.

Table 6-1 Summary of Public and Private Roads

Road Classification	Number of Roads	Total Mileage	Paved	Gravel
State Highways	6	21.1	21.1	---
Town Roads	80	56.3	50.9	---
Public Easements	46	22.4	---	5.3
Private Roads	109	---	---	---
Total	**241**	**99.9**	**72.1**	**5.3**

Functional classification reflects a highway's balance between providing land access versus mobility. Functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide. Generally, highways fall into one of four broad categories-- *principal arterial, minor arterial, collector road, or local roads.* Arterials

provide longer through travel between major trip generators (larger cities, recreational areas, etc.). Collector roads collect traffic from the local roads. The collector roads also connect smaller cities/towns with each other and to the arterials. The local roads provide access to private property or low volume public facilities.

Map 6-1 (at the end of this chapter) presents the road classification within the Town of Gray. As shown on the map, the Maine Turnpike, also referred to as Interstate 495, bisects the town roughly in half. This highway is a limited access, four-lane divided roadway with paved shoulders. Motorists traveling on the Maine Turnpike access Gray, surrounding towns, and the Lakes Region using Exit 11.

Arterial roadways located in the Town of Gray include Route 202 (West Gray Road), Route 100/26 (Old Portland Road), and Route 100/202 (Lewiston Road). Typically, these arterials are rural two-lane roadways with limited shoulders. Two-foot paved shoulders exist along Route 100/26 and Route 202/100.

MDOT has classified Route 26 as a principal arterial. This rural two-lane roadway has 3-foot shoulders. Route 26 provides access to the ski areas in western Maine and to Canada.

Route 115 and Depot Road are classified as major collectors. Both are rural two-lane roadways with limited shoulders.

In addition to the arterial and collector roadways, there are also a number of local roads within the Town of Gray. Typically, the local roads are rural two-lane facilities with no shoulders.

3.2 Traffic Safety

Traffic volumes along the principle routes within the Town of Gray were obtained from the Gray Bypass Study, being conducted by HNTB, and the MDOT 2000 Annual Report. Figure 6.1 presents the weekday traffic volumes for August 1995 and August 2000 through the Gray Village. As the figure shows, traffic volumes have increased approximately 2% to 4% between August 1995 and August 2000. The figure also indicates that there were minor shifts in the travel patterns on Route 100/26, south of Gray Corner, during that same time period.

The existing (2000) traffic volume counts along principle roadways, according to the MDOT 2000 Annual Report, are as follows:

Route 26

- 6,480 at New Gloucester Town Line
- 15,600 at Gray Corner

Route 202

- 10,450 near Mayall Road
- 11,770 at Colley Hill Road

Route 26/100115

- 11,770 South of Route 115
- 7,450 Near Cumberland Town Line

Route 115

- 13,080 West of Maine Turnpike
- 5,250 East of Main Street
- 7,230 East of Brown Road
- 3,930 West of Mayall Road

3.3 Safety

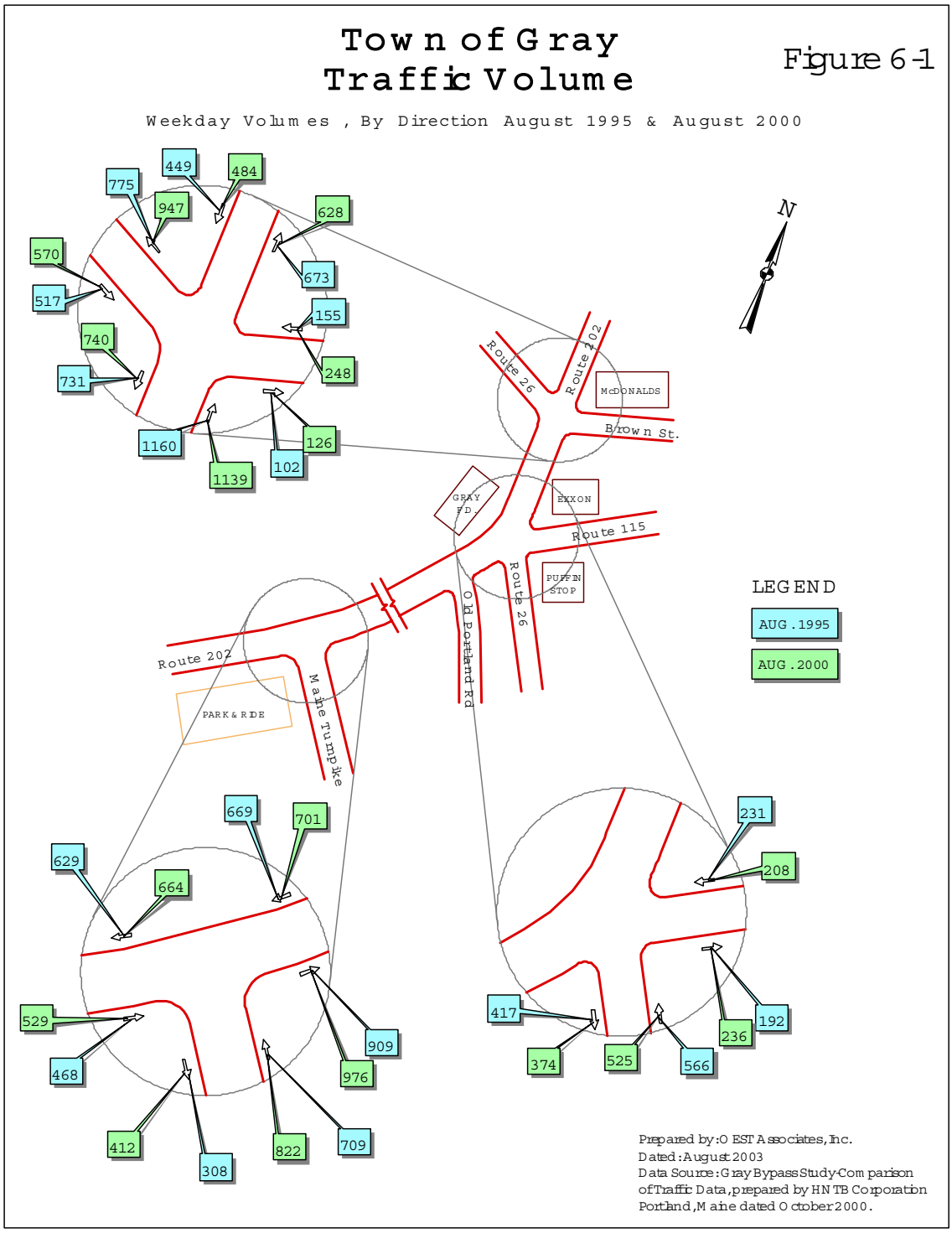
A review of automobile accidents was conducted by the MDOT for the area roadways in proximity to the intersection of Routes 4, 26, 100, 115 and US Route 202 in Gray. Data was analyzed for the years 1998 through 2000. Figure 6.2 illustrates crash locations along the highlighted road sections in Gray. The locations of automobile accidents within Gray Village are provided in Figure 6.3. Tables 6-2 through 6-4 provide crash summaries by principle route, crash types, and primary contributing factors.

Table 6-2
Crash Summaries by Principle Route
Town of Gray 1998-2000

Route name	Number of Crashes	Number of Fatalities	Number of Incapacitating Injuries	Number of Evident Injuries	Number of Possible Injuries	Estimated Economic Cost
SR Route 26	144	1	4	22	24	$5,068,000
SR Route 115	27	0	0	3	3	$249,000
TURNPIKE NB	41	0	0	3	4	$280,000
TURNPIKE SB	51	0	0	8	5	$511,000
US 202	238	1	3	31	42	$5,878,000
Total	**501**	**2**	**7**	**67**	**78**	**$11,986,000**

Table 6-3
Crash Types
Town of Gray 1998-2000

Crash type	Number of Crashes	Number of Fatalities	Number of incapacitating injuries	Number of Evident Injuries	Number of Possible Injuries	Estimated Economic cost
Bike	3	0	2	1	0	$408,000
Deer	112	0	0	1	1	$279,000
Fire	4	0	0	0	0	$8,000
Head-on/sideswipe	29	2	2	17	6	$6,398,000
Intersection movement	104	0	2	15	20	$1,702,000
Moose	11	0	0	3	0	$130,000
Object in road	37	1	0	5	3	$2,925,000
Other	5	0	0	0	0	$14,000
Pedestrians	3	0	1	3	0	$300,000
Ran off road	128	0	3	38	16	$2,478,000
Rear end/sideswipe	187	0	1	15	48	$2,420,000
Rock thrown	1	0	0	0	0	$4,000
Rollover	9	0	0	5	0	$198,000
Total	**633**	**3**	**11**	**103**	**94**	**$17,264,000**


Town of Gray
Traffic Volume
Figure 6-1
Weekday Volumes, By Direction August 1995 & August 2000
N
LEGEND
AUG. 1995
AUG. 2000
449
484
775
947
628
570
673
517
155
740
248
731
1160
126
1139
102
Route 26
Route 202
McDONALDS
Brown St.
GRAY FD.
EXXON
Route 115
PUFFIN STOP
Route 26
Old Portland Rd
Route 202
PARK & RIDE
Maine Turnpike
669
701
629
664
231
208
529
468
909
976
417
374
525
566
236
192
412
308
822
709
Prepared by: OEST Associates, Inc.
Dated: August 2003
Data Source: Gray Bypass Study-Comparison of Traffic Data, prepared by HNTB Corporation Portland, Maine dated October 2000.

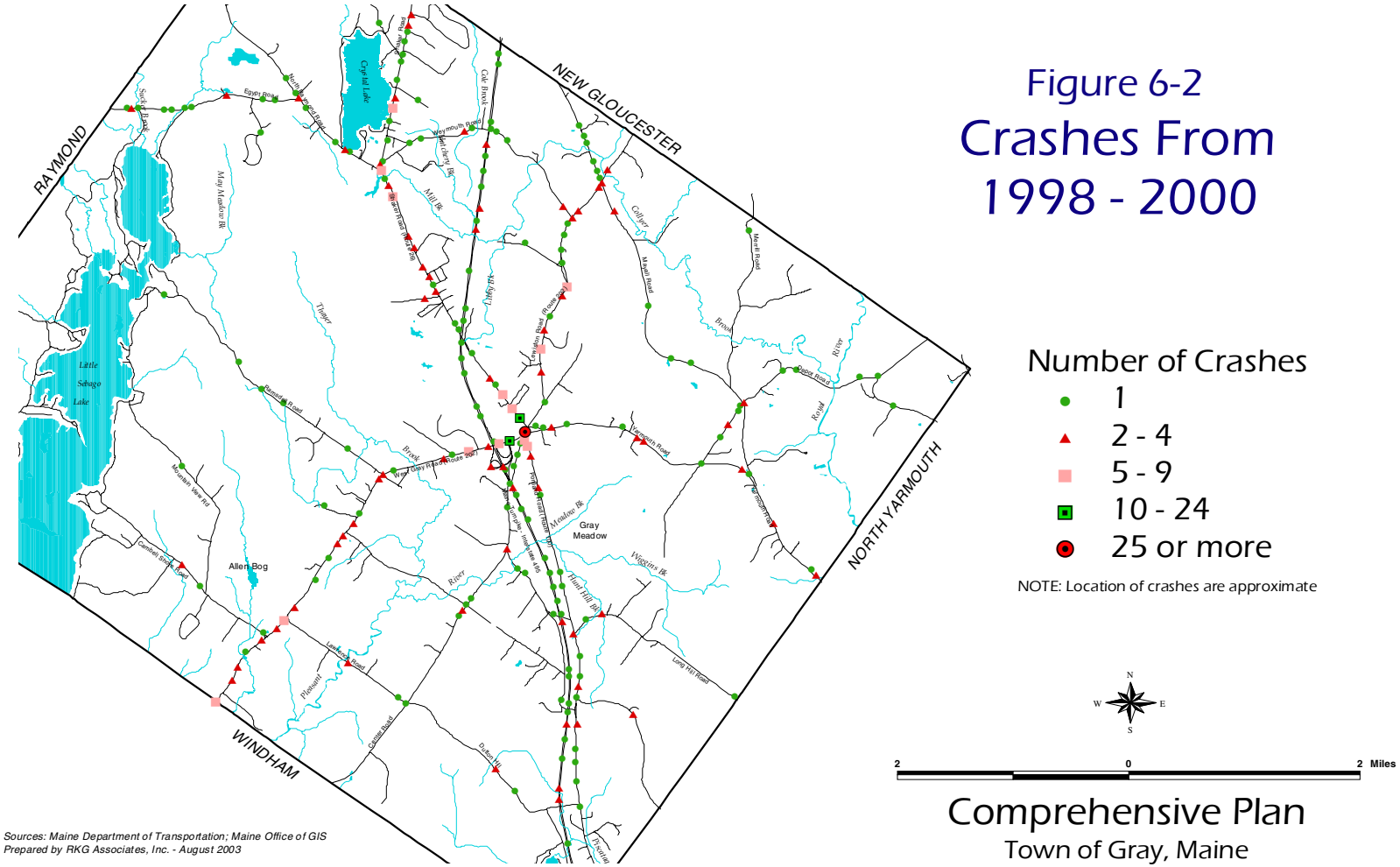


Figure 6-2
Crashes From
1998 - 2000
Number of Crashes
1
2 - 4
5 - 9
10 - 24
25 or more
NOTE: Location of crashes are approximate
RAYMOND
NEW GLOUCESTER
NORTH YARMOUTH
WINDHAM
Crystal Lake
Little Sebago Lake
Allen Bog
Gray Meadow
2 0 2 Miles
Comprehensive Plan
Town of Gray, Maine
Sources: Maine Department of Transportation; Maine Office of GIS
Prepared by RKG Associates, Inc. - August 2003

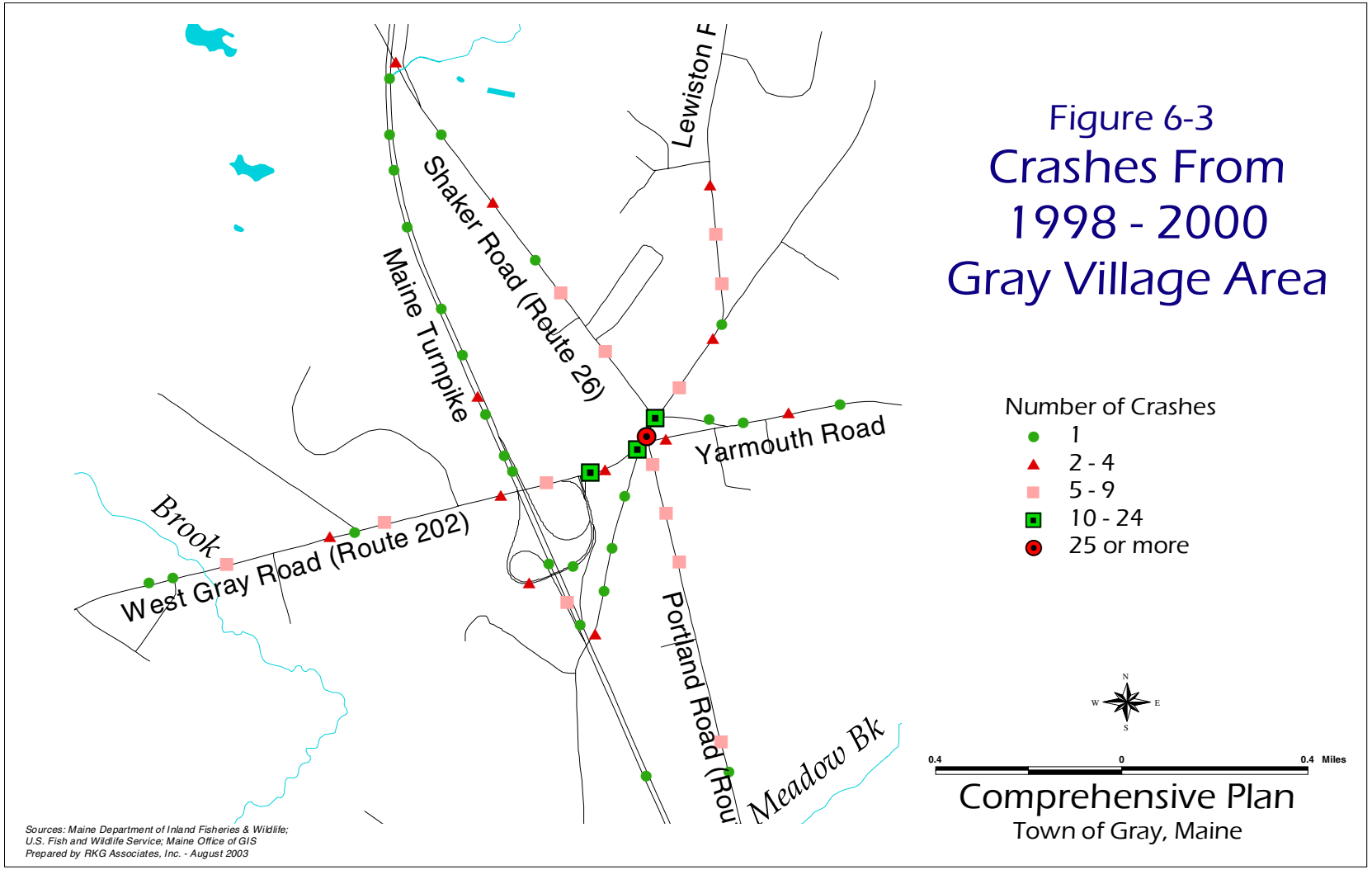


Figure 6-3
Crashes From
1998 - 2000
Gray Village Area

There are three High Crash Location (HCL) Links identified in the MDOT High Crash Location Listing (1997-1999) which are as follows.

- Route 202/115 between the Turnpike Exit and Route 100/26.
- Route 202 between Route 115 and Route 26.
- Route 26 between Route 202 and Gray Park.

These stretches of road had 8, 23, and 29 crashes respectively, during the HCL review period. The two HCL nodes listed below had 77 and 20 crashes, respectively.

- The intersection of Route 202/115.
- The intersection of Route 202 and Ramp A of Interstate 495.

Table 6-4
Primary Contributing Accident Factors
Town of Gray 1998-2000

Apparent Contributing Factor	Number of Crashes
Defective brakes	3
Defective tire - tire failure	2
Disregard of traffic control device	6
Driver inattention - distraction	147
Driver inexperience	17
Driving left of center - not passing	13
Failure to yield right of way	62
Following too close	35
Hit and run	3
Illegal, unsafe speed	93
Impeding traffic	2
Improper parking, start, stop	3
Improper passing - overtaking	16
Improper turn	16
Improper, unsafe lane change	13
No improper action	486
No signal or improper signal	2
None	7
Other human violation factor	21
Other vehicle defect or factor	3
Other vision obscurement	9
Pedestrian violation error	1
Physical impairment	9
Unknown	12
Unsafe backing	12
Vision obscured - sun, headlights	2
Total	**995[a]**

[a]Number of Drivers

A general summary of trends for all crashes during 1998-2000 in the study area would note the following:

- There have been 633 crashes involving 1,292 vehicles.
- The largest number of crashes occurred along Route 202 (238) followed by Route 26 (144).
- These crashes resulted in 3 fatalities, 11 incapacitating injuries, 103 evident injuries, 94 possible injuries and a total estimated economic cost of $17,264,000.
- The largest number of crashes was Rear End/Sideswipe type crashes (187%). The second largest was Ran off Road (128). **These two crash aspects are indicative of traffic that is stopped and/or turning into or out of driveways, which suggests that access management may be an area needing further review.**

Link and Node locations with a higher crash frequency between 1998 and 2000 are described below.

Intersection of Routes 202/115/4/26/100 (NODE 0507513)
There were 50 crashes resulting in two evident injuries and eight possible injuries at this node. The leading crash types were Rear End/Sideswipe (35), Intersection Movement (11) and Head on/Sideswipe (2).

The leading contributing factors were Driver Inattention-Distraction (19), Failure to Yield the Right of Way (6), Following Too Close (5), Improper Turn (5) and Improper/Unsafe Lane Change (3). Twenty one of the vehicles were making a left turn, 18 were stopped in traffic and 11 were slowing in traffic.

Route 26 from Gray Park Road to the Route 4 intersection (LINK 050753007666)
There were 28 crashes resulting in two evident injuries and three possible injuries at this node. Seventeen of these crashes occurred at driveways, 14 were Intersection Movement crashes, 13 were Rear End/Sideswipe, and one was a Run Off the Road type.

The leading contributing factors were Failure to Yield the Right of Way (8), Driver Inattention-Distraction (7), Following Too Close (4), Improper Turn (2) and Improper/Unsafe Lane Change (2). Eleven of the involved vehicles were making left turns, 4 were making right turns, 4 were slowing in traffic and 7 were stopped in traffic.

Route 202/115/4 just west of I-495 ramp (LINK 050616509722)
There were 19 crashes resulting in one fatality, one incapacitating injury, three evident injuries and four possible injuries. The fatality was a Head On/Sideswipe crash with vehicle crossing the center line and driver inattention/distraction being a factor. Four vehicles were involved in this crash.

Overall trends at this link are as follows:

- Eight crashes occurred at driveways.
- Nine crashes were Rear End/Sideswipe, six were Intersection Movement crashes and two were with a deer.
- Leading contributing factors were Driver Inattention-Distraction (7) and Failure to Yield the Right of Way (3).
- Six of the involved vehicles were making left turns, five were stopped in traffic and three were slowing in traffic.

Route 100/26 just south of Route 4 intersection (LINK 050751308102)
There were 18 crashes resulting in two evident injuries and one possible injury at this link. Thirteen of the crashes occurred at driveways (72.2%).

The leading crash types are Intersection Movement (9) and Rear End/Sideswipe (7). The leading contributing factors are Failure to Yield the Right of Way (5), Driver Inattention-Distraction (3), Improper Passing-Overtaking (3) and Improper Turn (2). Eight of the involved vehicles were making left turns, four were making right turns, three were stopped in traffic and three were slowing in traffic.

Intersection of I-495 Ramp and Routes 202/4/115 (NODE 0509722)
There were 17 crashes resulting in two evident injuries and five possible injuries at this node. The leading crash type was Rear End/Sideswipe (15). The leading contributing factors were Driver Inattention-Distraction (8) and Following Too Close (4). Eleven vehicles were stopped in traffic and five were slowing in traffic.

4. Parking

In the past, much of Gray's parking needs were met by on-street parking. Over time, increasing traffic has left less space for parked vehicles and a growing demand for parking spaces.

On-street parking within Gray Village is limited. The only on-street parking along Route 202 (Main Street) exists on the west side of the roadway between the Gray House of Pizza and the Old Fire House. The remaining parking within Gray Village is accommodated on-site by the businesses located along Route 202 (Main Street). In particular, the parking lots located at the Grocery Store/Subway strip mall and the Pennell building are well utilized for pedestrians traveling to businesses located along Route 202 (Main Street). There is also a parking lot along Brown Street that is utilized for shopping in Gray Village. The parking lot at Gray Plaza located along Route 100/26 (Old Portland Road) is also well utilized.

5. Future Roadway Improvements

Four public transportation projects are currently underway or scheduled for Gray, based on the MDOT Statewide Transportation Improvement Program (STIP), for fiscal years 2002 - 2004. The projects include the Gray Connector, Route 115, Route 26, and Routes 26/100.

Gray Connector - The Gray Connector is a new two-lane road which will extend from Route 4/202, connecting on the west side of Exit 11 of the Maine Turnpike, to Route 26, connecting at the Grover Gravel pit. The approximate cost estimate for the work is $4 million, funded 80% with federal dollars and 20% with state monies. The construction of the Gray Connector is expected to begin in FY 2003.

Route 115 - Improvements to Route 115 are planned from the intersection of Route 202 to a point approximately 0.7 mile east of the intersection. The improvements will consist of widening the roadway, adding shoulders, landscaping, and drainage. Currently, these improvement are in the engineering phase of project development.

Route 26 - Improvements to Route 26 will extend from north of Blueberry Lane through the Shaker Village in the Town of Poland. The improvements will include a bypass around Shaker Village and resurfacing of Route 26 in Gray. The approximate cost estimate is $5.3 million, funded 80% with federal dollars and 20% with state monies. The construction of the project is expected to begin in FY 2003.

Routes 26/100 - Improvements to Routes 26/100 will include resurfacing of the roadway from Long Hill Road to Route 4, a distance of 1.8 miles. The approximate cost estimate is $415,000, funded 80% with federal dollars and 20% with state monies. The construction of the project is expected to begin in FY 2003.

6. Alternative Transportation Modes

This section summarizes existing alternative transportation modes within the Town of Gray.

6.1 Pedestrian/Sidewalks

Pedestrian facilities currently existing in the Village area include a sidewalk network consisting of 3-foot paved facilities along Route 202 (Main Street), Brown Street, Route 100/26 (Old Portland Road), and Route 26 (Shaker Road). The sidewalk along Route 202 (Main Street) exists on both sides of the roadway from the intersection of Route 115 (Yarmouth Road) to just north of Route 26 (Shaker Road). The sidewalk along the east side of Route 202 continues to Colley Hill Road. The sidewalk along Brown Street exists on the north side of the roadway from the intersection with Route 202 (Main Street) to the merge with Route 115 (Yarmouth Road). The sidewalk continues along

Route 115 (Yarmouth Road) for approximately 0.25-mile. A sidewalk exists along east side of Route 100/26 (Old Portland Road) from the intersection with Route 202 (Main Street) to the Gray Plaza shopping center. Finally, sidewalks exist on both sides of Route 26 (Shaker Road) from the intersection of Route 202 (Main Street) to approximately 1.5 miles west of the intersection.

There are five signalized crosswalks within Gray Village. These signalized crosswalks are located at the intersection of Route 115 (Yarmouth Road) and Route 202 (Main Street) and the intersection of Route 26 (Shaker Road), Route 202 (Main Street), and Brown Street. Crosswalks are currently well marked.

The town has obtained a grant to extend sidewalks along the west side of Route 202/100 (Lewiston Road) from Gray Manor to the Village. The Gray Manor is a residential care center for Senior Citizens.

6.2 Bikeways

There is no integrated bikeway system within the Town of Gray. A signed bike lane route does exist however, along Route 26. In addition, 2-foot paved shoulders exist along Route 100/26 (Old Portland Road, Route 115 (Yarmouth Road), and Route 202/100 (Lewiston Road). However, these roadways are not signed as bike routes.

6.3 Public Transit

There is no public transportation provided by the Town of Gray. Neither is there rail or bus service for the residents of Gray to travel within the Greater Portland area or to the Lewiston/Auburn area.

A park and ride lot exists along Route 115 (West Gray Road) at Exit 11 of the Maine Turnpike. This lot has approximately 75 parking spaces consisting of three handicap spaces, four employee spaces, and 68 general spaces. The parking lot is well utilized.

Another signed park and ride lot exists in the Gray Plaza located along Route 115 (Yarmouth Road). However, a specific area within the this parking lot has not been designated for park and ride activities.

Gray is part of Maine School Administrative District #15. The other town in the district is the neighboring community of New Gloucester. The School District provides bus transportation for approximately 2,000 students utilizing a fleet of 20 buses.

6.4 Taxi and Air Service

There are Portland-based taxi and limousine companies that operate in the Gray area. Passenger air service is provided at the Portland Jetport to major U.S. cities by several national airlines. Air freight

service is also provided by several carriers.

7. Issues and Recommendations

This section provides a summary of issues and recommendations that were developed based on discussions held with the Comprehensive Plan Update Committee and Town of Gray officials.

7.1 General Issues

Issue 1 – Development is putting an increased demand on the town's roadway network.

Recommendation 1
Consider the implementation of an impact fee system in order to obtain financial contributions from new private sector development. The funds raised would be used to assist in financing the construction of new or expanded facilities necessitated by increased development.

7.2 Urban Roads

Residential areas within the Town of Gray are expanding rapidly and urban roads in the Village area are also used as neighborhood roads. Planning for the design of new roadways will play an important role in the future development of both of these areas.

The condition of Gray's urban roads varies greatly. Many of the older roads are rough and narrow with steep grades. Sight distance at intersections and road drainage are frequently inadequate. As a result, several of these roads are hazardous for pedestrians, as well as vehicle travel. A number of newer roads, while conforming to the standards of the time, share many of the same problems.

Issue 1 – The current condition of many urban roads are hazardous to vehicular and pedestrian travel.

Recommendation 1
Urban roads in new subdivisions should be constructed to a width of 36 feet with vertical curbing included on both sides (a width of 30 feet if vertical curbing is on one side); have sidewalks constructed to a 5 foot width on at least one side of the road; and have buffers of 3.5 feet between the road and sidewalk to provide for pedestrian safety.

Recommendation 2
Upon reclamation, urban roads in established areas should be widened to include a 6-8 foot shoulder for pedestrian and bicycle use (when there is no sidewalk), with 4 inch wide white edge-of-travel marking per M.U.T.C.D. (Manual on Uniform Traffic Control Devices) criteria.

Issue 2 - Street lighting is inadequate.

Recommendation 1
Street lights should be installed at intersections of established neighborhoods as urban roads are improved.

Issue 3 – Many old intersections are unsafe due to terrain (steep grades) and limited sight distance.

Recommendation 1
As older roads are upgraded, the Department of Public Works should continue its practice of increasing sight distance, cutting grades when possible, and aligning intersections.

Recommendation 2
Sight distance should be improved/preserved by pruning shrubs and trees that obscure vision.

7.3 Rural Roads

The Town of Gray's rural roads reflect the topographic characteristics of the surrounding area. Many of these roads are narrow with limited sight lines. There are also a number of dangerous intersections.

There has been a considerable amount of scattered residential development on many of the rural roads in recent years, which is increasing the intensity of traffic usage. A number of older secondary roads that were adequate in the past have now become hazardous due to physical limitations. In addition, existing rural roads have little or no provision for pedestrian or bicycle travel.

Increases in traffic and development have caused many roads originally classified as rural, to move toward the urban and collector/arterial classifications. This has resulted in roads and intersections that cannot handle the demands made on them. Many rural roads have also experienced new residential development resulting in an increase in both pedestrian and bicycle travel.

Issue 1 – Many rural roads are physically unable to handle increasing traffic and pedestrian volume.

Recommendation 1
As older roads are upgraded the Department of Public Works should continue its practice of increasing sight distance, cutting grades when possible, and aligning intersections.

Recommendation 2
Sight distance should be improved/persevered by pruning shrubs and trees that obscure vision.

Recommendation 3
When reclaiming, rural roads should be widened to include a 6-8 foot shoulder (where practical within existing rights-of-way) for pedestrian and bicycle use, with a 4 inch wide white edge-of-travel marking per M.U.T.C.D. criteria.

7.4 Minor Arterial Roads

Increased development in Gray and surrounding towns has resulted in a major increase in traffic. Collector/arterial roads located in Gray are used as commuter routes to the Greater Portland and Lewiston/Auburn areas. These roadways are becoming more congested.

Issue 1 – Many of the minor collector/arterial roads have congested segments.

Recommendation 1
Improve the lane direction signs at the Gray Corner intersection. (See Section 7.5 - Intersections)

Recommendation 2
Construct additional sidewalks in Gray Village (along Main Street) and beyond. (See Section 7.6 - Pedestrian Travel).

Recommendation 3
Provide for wide yellow crosswalks within Gray Village with large signs stating "Pedestrians have the Right of Way." This would provide better utilization of municipal parking areas. (See Section 7.9 - Parking).

Recommendation 4
Widen Route 100/202 (Lewiston Road) to Colley Hill Road with sidewalks and breakdown lanes.

Recommendation 5
Encourage development on Route 100/26 (Old Portland Road) and Route 100/202 (Lewiston Road) rather than at the Gray Corner and convert this area to public use, preservation, traffic management.

Recommendation 6
Connect Center Road to Route 115 (West Gray Road) and to Route 26 (Shaker Road) via Frost Road to the vicinity of the new Gray Connector, along the Connector to Route 26 (Shaker Road).

Recommendation 7
Construct a new road from lower Road 100/26 (Portland Road) to Yarmouth Road of Depot Road.

Recommendation 8
Widen Route 26 (Shaker Road) to a three-lane facility from the intersection of the proposed Gray Connector to Libby Hill Road.

Recommendation 9
Widen the Dry Mills/North Raymond Road intersection.

Recommendation 10
Coordinate with the Maine Turnpike Authority to reduce or remove the tolls at the Gray/New Gloucester barrier to alleviate truck traffic through Gray Village.

Recommendation 11
Widen North Raymond Road and Egypt Road to add paved shoulders which can also be used for bicycles and pedestrians.

Recommendation 12
Connect Center Road and Route 100 through the acquisition of the MDOT lot.

Issue 2 – Interrupted traffic flow results in vehicular delays and congestion.

Recommendation 1
When large, undeveloped parcels of land along the arteries are considered for development, a collector road and buffer zone with landscaping should be required.

Recommendation 2
As on-street parking is eliminated due to road/intersection changes, provisions should be made for centralized parking.

Recommendation 3
With increased development and/or change of use, vehicular curb cuts should be limited.

Issue 3 – Some rural and urban roads have become minor arterial roads due to an increase in traffic volume. These roads were not constructed to safely handle this amount of traffic.

Recommendation 1
Identify those rural and urban roads that have become minor arterials such as Yarmouth and North Raymond Roads, and future arterials/collectors such as Depot and Egypt Roads.

Recommendation 2
Those roads that are structurally inadequate should be reconstructed to meet current standards.

Recommendation 3
As traffic increases, measures such as the addition of turning lanes need to be addressed in order to prevent future congestion.

Recommendation 4
Rural and urban roads with an increase in vehicular traffic need to be periodically assessed for change in road status.

7.5 Intersections

Several intersections in the Town of Gray are near failure. Most are located at the Gray Corner. Short-term, creative solutions will be critical in order to accommodate current and anticipated traffic volumes.

Issue 1 – Gray has several problem intersections.

Recommendation 1
Identify and establish priorities for improvements at problem intersections.

Recommendation 2
An ongoing process for assessing the service and safety level of intersections should be established.

Recommendation 3
The intersection of Routes 202/115/4/26/100 and the intersection of the I-495 ramp and Routes 202/4/115 should be given high priority as noted in Section 4.3.4.

Issue 2 – Increased commercial and residential development has resulted in further deterioration of problem intersections.

Recommendation 1
Consider the implementation of a roadway impact fee system.

7.6 Pedestrian Travel

Pedestrian travel has not been a priority in the development of Gray's transportation system. As a result, many heavily developed areas lack an interconnecting sidewalk system.

Issue 1 – There is a frequent occurrence of segmented sidewalks throughout the town.

Recommendation 1
As roads are improved, sidewalks should be provided.

Recommendation 2
Sidewalks should be provided in more densely constructed residential developments.

Recommendation 3
As improvements are made to rural and existing urban roads, wider shoulders should be provided to allow for safe pedestrian and bicycle travel.

Recommendation 4
Sidewalk gaps along urban roads in school zones should be identified and improved.

7.7 Bicycle Travel

There is no integrated bikeway system within the Town of Gray. A signed bike lane route does exist along Route 26 and a 2-foot paved shoulders exist along Route 100/26 (Old Portland Road, Route 115 (Yarmouth Road), and Route 202/100 (Lewiston Road). However, these roadways are not signed as a bike route.

Issue 1 – There is a lack of dedicated bike/pedestrian paths.

Recommendation 1
As improvements are made to rural and existing urban roads, wider shoulders should be provided to allow for safe pedestrian and bicycle travel.

Recommendation 2
Establish bikeways on minor arterial roads.

7.8 Public Transit

There is no public transportation provided by the Town of Gray. Two park and ride lots currently exist in the Gray Village. A park and ride lot, located adjacent to the Maine Turnpike, is also well utilized.

Issue 1 – Gray has very limited public transit service.

Recommendation 1
Working with other communities or regional organizations, evaluate the demand and need for public transit service.

Issue 2 – The community does not provide transportation for the infirm, disabled, and house bound.

Recommendation 1
The town should pursue options for providing transportation and funding for this segment of the community.

7.9 Parking

In the past, much of Gray's parking needs were met by on-street parking. Over time, increasing traffic has resulted in less space for parked vehicles and a growing demand for parking spaces.

Issue 1 – There is an absence of a parking plan for businesses/properties within Gray Village.

Recommendation 1
Establish a parking plan to reduce the interruption of traffic flow through Gray Village.

7.10 Environmental and Aesthetic Quality

There are many benefits to addressing Gray's environmental and aesthetic concerns as they relate to transportation. Maintaining and enhancing Gray's rural and village atmosphere is beneficial to its residents as well as its businesses. Well designed communities are able to attract more business and can improve the quality of life for residents. Careful planning of roads, bridges, bikeways, intersections, and pedestrian walkways can also have a direct effect on preserving a small town way of life.

Issue 1 –Development may cause Gray to lose its rural character

Recommendation 1
Road improvements should involve design amenities that include landscaping and attractive bridge repair.

Issue 2 –Traffic delays may cause deterioration of air quality.

Recommendation 1
Air quality should be considered when designing road improvements.

Issue 3 –Water quality degradation due to roadway runoff.

Recommendation 1
Establish a roadway stormwater system to collect and direct runoff into treatment devices prior to discharging into water courses, wetlands, or surface water bodies.

8. Implications for the Future

This chapter of the comprehensive plan has presented an overview and analysis of the town's transportation system. The discussion revealed a number of issues that may affect residents and commuters through Gray during the coming years.

The recent trend in transportation planning, as evidenced by the Maine Sensible Transportation Act and ISTEA (Federal legislation), as well as the requirements of the Clean Air Act demand that transportation planning be undertaken differently than it was in the past. Transportation improvements, such as widening to increase the capacity of roadways or construction of new roads, will be allowed only after alternative modes of transportation and demand management efforts have been exhausted. Gray has limited alternative modes of transportation available to residents and commuters. As discussed in this chapter, there is a limited interconnecting sidewalk system within Gray Village and there are no interconnected sidewalks outside of the Village. In addition, there is no integrated bikeway system or public transit system available within the town's jurisdictional limits. A well utilized park and ride lot, however does exist at Exit 11 of the Maine Turnpike. The Town of Gray is at a disadvantage because of its dispersed land use patterns which makes many alternative transportation modes and demand management techniques difficult, if not impossible to pursue.

The construction of the Gray Connector will relieve a portion of the traffic traveling through Gray Village. This should also contribute to making the Village more pedestrian friendly and provide some options for increased on-street parking.

As commercial and residential development expands throughout the Town of Gray, there is some question about the suitability of the roadways to support increased traffic. If the roadways are not upgraded eventually, slower response times for public safety and fire and rescue will become commonplace. However, as the roadways are upgraded, additional development may occur.

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Recreation and Open Space

7

1. Introduction

The first part of this chapter examines recreational facilities and services available to the residents of Gray. An inventory of existing municipal and school district recreation facilities is also presented, as well as an assessment of the condition of those facilities with regard to improvements that may be required in order to continue meeting the needs of the community. In addition, information is presented on recreational facilities available to residents that are owned or managed by groups other than the municipality.

The second portion of the chapter discusses the concept of maintaining open space within the town. This evaluation of open space first identifies land that is considered permanently protected from development and then offers some criteria and methods for identifying and preserving additional open space in the future.

2. Summary of Major Findings and Conclusions

- Gray's primary recreation services are administered from several centralized facilities that are operated by the town and the regional school district. These facilities are used for the town's and the school district's recreation programs as well as by private recreation organizations that operate in Gray.

- This centralized and shared approach to providing recreation facilities within the community helps to avoid a redundancy of facilities and thereby minimizes capital expenditures. However,

it also results in more intensive use of existing facilities since they are serving multiple groups.

- Gray's approach to sharing recreation facilities amongst multiple users requires a high level of coordination and cooperation and may warrant a more institutionalized system for decision-making than that which presently exists.

- From a facilities standpoint the most immediate concern relates to the need to focus available resources towards upgrading existing recreation facilities and providing a higher level of maintenance as opposed to constructing new facilities. There is also a need to increase staffing levels in order to support current levels of service, as well as any expansion of maintenance services.

- In the mid- to long-term planning periods the community will need to consider creating additional recreation fields as well as new neighborhood or community parks to support future residential development in portions of the town that do not have convenient access to existing facilities.

- From an open space perspective the town has a relatively small amount of land that is permanently protected from development. Less than 2% of the town's land area is permanently protected and approximately half of that acreage is managed by the State of Maine.

- There is still a large amount of undeveloped land remaining in Gray which offers the potential for preserving important tracts of land as open space in the future. However, there is no group in the community that has as its primary responsibility the preservation of open space and protection of natural resources.

3. Existing Recreation Facilities

The Parks & Recreation Department (P&RD) is the municipal organization responsible for overseeing recreation activities within the town. The Department is responsible for the coordination, supervision, implementation and administration of many activities, programs, and events throughout the course of the year. The Department has two full-time employees which include the Director and Assistant Director. The Department also makes use of 25 to 30 seasonal and contracted services personnel for implementing the various programs and activities currently offered to town residents.

The provision of municipal recreation activities occurs at three primary facilities in Gray; the Newbegin Center, the Gray-New Gloucester (GNG) school complex, and Wilkies Beach on Crystal Lake. The town also oversees the operation of the Libby Hill Forest trail system which is located adjacent to the school complex. The location of these facilities are illustrated on Map 7-1. The Newbegin Facility is part of the historic Pennell Institute complex, which encompasses four buildings and recreation fields, located on Yarmouth Road (Route 115) in Gray Village. The complex is comprised of four parcels, two of which are owned by the School District and two by the

INSERT MAP 7-1 - Recreation and Open Space

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town, that contain approximately seven acres. Buildings located on the site include the Pennell Institute, Pennell Lab, Newbegin Gymnasium, and a maintenance structure. The Parks & Recreation Department makes use of and maintains the gymnasium, recreation fields and maintenance building for delivering the town's recreation services. The main Institute building and the Lab (formerly the *Gray News* building) are owned by the School District. The main building houses the District's Continuing Education program's offices and classrooms on the first floor while the Gray Historical Society maintains a museum on the second floor. The Lab building is presently vacant. Both the main building and the Lab are listed on the National Register of Historic Places.

A. Municipal Recreation Facilities

Pennell Institute/Newbegin Hall Complex

Table 7-1 presents a listing of municipal recreation facilities located at the Pennell Institute complex. The gymnasium has a basketball court on the upper floor which is used for recreational league play as well as other activities offered through the department. The facility is also used for community events and is periodically rented-out for private functions. There is a stage at one end of the gymnasium but, according to the Director, it is not currently used for performances. The lower level of the building contains a recreation room that includes game tables, a lounge area, and a kitchen. The Assistant Director's office, bathrooms and storage areas are also located on this level.

Table 7-1
Municipal Recreation Facilities

Pennell Institute/Newbegin Hall Complex
1 gymnasium (1 basketball court) and recreation room (in lower level)
2 softball fields (1 regulation)
1 basketball court (all-weather surface)
2 basketball backboards (located in parking lot)
1 volleyball court (sand surface)
1 multi-purpose field (soccer, flag football, etc.)
playground apparatus

Wilkies Beach
guarded swimming/boat launch

Libby Hill Forest
trail system (hiking, skiing, biking)

The outdoor recreation facilities listed in Table 7-1, with the exception of the volleyball court, are actually located on the adjacent parcel of land, containing approximately four acres, which is owned by the School District. However, the P&RD oversees the maintenance of these facilities. There are approximately 45 parking spaces on the town-owned lot with an additional 20 on the school-owned parcel that are sometimes used as overflow parking for larger events.

Facilities Assessment - There are several major issues that need to be addressed at this facility, according to the Recreation Director. The first is the creation of more office and storage space. The Director's office is currently located in a small room in the facility's maintenance building that contains inadequate space to serve the department's needs. In addition, the playing fields need to be resurfaced and the "remnants" of playground equipment on the site should be replaced.

The facility's gymnasium building is in good condition, according to the Director, but has inadequate

space to serve all of the department's programs. Presently, all non-league activities, such as educational and craft classes, are conducted in the gymnasium. This space is not well-suited for these activities and this creates scheduling conflicts with sports programs. In addition, space in the basement that currently must be used for storage could be better utilized for programs and activities if other storage space were available.

Wilkies Beach

The Wilkies Beach facility is comprised of two parcels located on Crystal Lake at the intersection of North Raymond Road and Mayberry Road. The lakefront beach parcel contains approximately 0.75 acres. The second parcel is used for parking and can accommodate approximately 40 cars. The parking area is located across Mayberry Road from the beach area. The facility offers swimming and a boat launch for Gray residents with fees of 50¢ for children and $1.00 for adults. A season pass is also available for $25. The facility is open year-round and is used as an access point for ice fishing during the winter months. Also, town-run programs, such as swimming lessons, occur between Memorial Day and Labor Day. The facility is jointly maintained by the P&RD and the Department of Public Works.

Facilities Assessment - The surface of the boat ramp at this facility is in need of renovation and is currently undergoing an upgrade, according to the Recreation Director, with assistance being provided by the State. The only other issue relates to the existing parking lot which can exceed capacity at peak times resulting in on-street parking. Having the parking lot located across the street (Mayberry Street) from the beach also creates safety concerns for pedestrians. One alternative to this situation would be to acquire the vacant parcels that abuts the parking lot which would allow for the relocation of Mayberry Road and the creation of additional parking.

Libby Hill Forest Trails

The Libby Hill Forest is a 70 acre town-owned parcel located behind the Gray-New Gloucester school complex on Shaker Road. This tract of land contains a network of recreational trails that includes approximately five miles of non-motorized trails and two miles of logging roads that can be used by motorized vehicles. The trails also cross a portion of the Middle School property, as well as a privately-owned parcel that lies between the school and the Libby Hill parcel. The main trail head is located in the parking lot of the Middle School although access can also be obtained via Libby Hill Road, which is a gated roadway.

The trail system was constructed between 2000 and 2002 by volunteers under the auspices of the Libby Hill Committee with oversight from the P&RD. The trails are marked with directional and information signs and can be used for hiking, running, cross-country skiing and mountain biking. The trails are groomed for winter use and a shed was recently constructed, near the town's transfer station at the Public Works Department, for storing the facility's snowmobile/grooming equipment. The trail system is available for use by town residents and is also used by the school's cross-country and skiing teams, as well as for educational purposes. The motorized portion of the trail network is used by snowmobiles and other off-road vehicles (ORV). This trail network is linked to a town-

wide system of trails/roads, which is illustrated on Map 7-1, that are used by the local snowmobile association and other recreational vehicles.

Facilities Assessment - The planned improvements for the Libby Hill facility are relatively complete at this time. The primary issue affecting this property in the future will involve minimizing the potential negative impacts of development on adjoining parcels of land that could adversely affect the various uses of this site. In order to minimize these impacts it will be necessary to acquire abutting properties or secure easements with adjoining landowners that will allow for significant buffers around the Libby Hill parcel and for the continuous use of town-maintained trails that cross private property.

The other issue that needs to be addressed is the long-term disposition of Libby Hill Road. This road cuts through the town's property and is the only access to a number of large and presently undeveloped parcels that lie to the west of Libby Hill. The town will need to take steps to ensure that this road is not eventually opened to vehicular traffic while also addressing the needs of other property owners that presently rely on it for access.

B. School Recreation Facilities

The Gray-New Gloucester (GNG) school complex, located on Shaker Road, includes the regional high school and middle school buildings, as well as a complex of outdoor recreation fields. The entire facility is situated on two parcels of land containing approximately 80 acres. Table 7-2 presents a summary of indoor and outdoor recreation facilities located at the GNG school complex, as well as the Russell Elementary school which is located in the Village area. As noted in the table, there are also three tennis courts located on the GNG school property that are owned by the town.

Table 7-2
School Recreation Facilities

Gray-New Gloucester High School
2 gymnasiums (1 hardwood floor, 1 multi-purpose floor, 2 stages, weight room)
1 running track (all-weather surface) and field event areas (high jump, long jump, pole vaulting)
1 baseball field
1 softball field
1 soccer field (lighted - overlies baseball field)
3 multi-purpose/practice fields
3 tennis courts (lighted, town-owned)

Gray-New Gloucester Middle School
1 gymnasium
2 softball fields
1 baseball field
1 soccer field (overlies baseball field)
1 field hockey field

Russell Elementary School
1 multi-purpose room
1 baseball field
1 playground

Recreation facilities at the school complex serve a dual role within the community's overall recreation system. One is the support of the very active school recreation program that includes numerous team sports for boys and girls as well as the physical education component of the school district's core curriculum. The second role of these facilities is to support various activities sponsored by the town's P&RD and other privately-

sponsored recreation leagues. The town's Recreation Department currently makes use of one gymnasium for its indoor soccer and recreational basketball leagues. The high school also provides indoor space, at one of its gymnasiums, for various community meetings and performances. The outdoor fields are used by the local Little League and Babe Ruth baseball league, as well as the Patriots Soccer Club soccer league. With the exception of the Douglas Field Little League baseball field, located in the Village area, the fields at the school complex are the only ones available for league use that are not sponsored by the town or the school district. Maintenance and upgrading of the facilities at the school complex is the responsibility of the School District although local organizations within the community, such as the Booster Club and local sports leagues, also contribute through fundraising efforts and by volunteering time and equipment.

Facilities Assessment - The GNG school complex is a major component of the town's recreation system for school, municipal and private recreation activities. However, the concentration of activities occurring at this facility results in an a greater impact to the field surfaces than if they were used only by the school district. According to the district's Athletic Director, an increase in maintenance levels of existing facilities is needed to continue the current system of shared use among all recreational groups within the community. In addition, the installation of irrigation systems and fencing at more of the fields, such as the multi-purpose/practice fields, would allow for expanded use in accommodating existing and future demand within the community.

The gymnasiums also receive a similar intensity of use but, according the Director, are not being used to their maximum capacity due to staffing and funding issues. The school district recently instituted a program of user charges for non-district use of the high school gymnasiums on weekends and the middle school gym has been closed on weekends due to lack of staffing. The Director believes that current demand for gym space, which includes cultural and community events, could be adequately served through increased funding for staffing versus the construction of new facilities.

Finally, the tennis courts at the high school, which are owned by the town, are in need of surface upgrading at an estimated cost of $45,000. Due to their condition, these facilities are not presently used by the P&RD for any sanctioned recreation programs, although the school district uses them for physical education classes.

C. Other Recreation Facilities

Along with the town and school facilities described above there are also a variety of other public and private recreational facilities that play a role in providing recreation opportunities for the residents of Gray. Many of these facilities are located within Gray but some are regional facilities located in other communities. A description of these facilities and the types of recreation opportunities they provide is presented below:

- **Douglas Field -** A Little League baseball field located behind the Town Hall on Shaker Road. The field was constructed on town-owned land but is used and maintained by the

Gray Little League association.

- **Spring Meadows Country Club -** A privately-owned 18 hole golf course located on Lewiston Road which is open to the public and offers, in addition to golf, fishing in stocked ponds, cross-country skiing, and other winter activities.

- **Maine Wildlife Park -** A 250 acre parcel of land located on Shaker Road and operated by the Maine Department of Inland Fisheries and Wildlife (IF&W). It is primarily operated as an educational facility featuring a variety of rehabilitated wildlife species and other interpretive displays. There is also a short interpretive trail network (approximately one mile) and a fish hatchery on the site.

- **Pineland Public Reserved Land -** This site contains approximately 1,200 acres of land that is managed by the State's Bureau of Parks and Lands for wildlife, recreation, and open space. The land in this reserve is dispersed within the towns of New Gloucester, Pownal, North Yarmouth, and Gray. Approximately 280 acres are located in Gray where a parking area on the Depot Road provides access to three miles of trails (refer to Map 7-1). The portion of the property located in Gray is also the proposed terminus of the Bradbury Mountain Corridor, a trail that would link Bradbury Mountain Park, which is located in Pownal, with the Pineland Reserve.

- **Pineland Farms -** This site is located in New Gloucester adjacent to the Gray town line. This former State school has been converted to an office park that includes an eight mile trail network which is expected to be open to the public for walking/hiking and skiing. This property abuts the Pineland Public Reserved Land owned by the State. There are an additional 1.5 miles of horseback riding trails at the facility's equestrian center located in Gray as illustrated on Map 7-1.

- **Bradbury Mountain State Park -** A 590 acre tract of land located in the town of Pownal and managed by the Bureau of Parks and Lands. The facility is open year round and offers picnicking, a playground, ballfield, 41 campsites, and trails for biking, hiking, horseback riding, cross-country skiing and snowmobiling. The Gray P&RD makes use of this facility for various activities during the year.

- **Morgan Meadow Wildlife Management Area (WMA) -** A 1,072 acre tract of land in Raymond that abuts the Town of Gray in the area around the North Raymond Road. The facility is a forest/wetland complex that is managed by the IF&W and offers opportunities for hunting, canoeing, hiking, and wildlife viewing.

- **Twin Brooks Campground -** A privately-owned campground located at the north end of Little Sebago Lake in Gray. The facility offers a lakefront beach, tent and trailer campsites, and boat ramp access to the lake.

- **Little Sebago Lake Boat Launch -** This is the only public access point onto Gray's largest lake which it shares with the Town of Windham. The launch facility is located in Windham.

- **Bike Routes -** A signed bike lane exists on State Route 26 (Shaker Road) and 2-foot paved shoulders exist along Route 100/26 (Portland Road), Route 115 (Yarmouth Road), and Route 202 (Lewiston Road). However, these are not part of an integrated bikeway system.

- **Snowmobile Trails -** Approximately 46 miles of these types of trails are located in Gray and are illustrated on Map 7-1. The Gray Snow Wolves is the local snowmobile club which oversees the use of these trails. The trails rely on the ability to cross many privately-owned properties in Gray which necessitates that the club obtain written permission from owners to do so. Some trails are available only for winter use while others can be used year-round for other off-road vehicles.

D. Town-Wide Recreation Needs Assessment

Overall Gray has a very extensive and successful recreation operation that offers a variety of programs and activities to town residents. Statistics compiled by the P&RD indicates that approximately 950 people participated in team-oriented sports, such as youth basketball and adult flag football, during the 2001-02 fiscal year. In addition, another 1,100 people participated in educational and social activities, such as craft programs, training classes and concerts, that were sponsored by the Recreation Department. It should be noted that these figures probably include people that participated in more than one activity. While the majority of these activities were focused at the Newbegin Gym and Pennell Institute fields, some activities also made use of the facilities maintained by the school district.

Aside from town-sponsored recreation there are also privately sponsored leagues within the town, such as the Gray Little League and Patriot Soccer Club, that provide other opportunities for town residents interested in baseball and soccer. It is estimated that there are approximately 500-600 people participating in these two leagues. Although these leagues are independently organized they rely almost completely on town- and school-owned fields and gymnasiums for playing their games. This field usage is in addition to the numerous school teams at the Middle and High Schools that use these facilities during the school year.

This sharing of facilities between the Recreation Department, School District, and private associations is a very practical approach to meeting the community's facility needs. It eliminates duplication of facilities and helps to reduce capital costs that could otherwise be incurred for the construction of new facilities. However, it also results in a much higher intensity of use for the existing facilities that necessitates an increased level of maintenance. It also requires more administrative oversight for scheduling and supervision which affects staffing levels.

Discussions with town and school officials, as well as people involved with the private leagues,

indicates that the primary focus of the community's recreation program, with regard to facilities, should be to upgrade existing facilities through better maintenance and the installation of new equipment, such as sprinkler systems, lighting, fencing, etc. This increased level of maintenance, combined with an increase in staffing levels, would allow for a *higher* level of usage for existing facilities which would help to defer the need for new construction.

Achieving this higher usage level would require more cooperation and coordination between the multiple public and private organizations involved in providing recreation activities in Gray. Although these groups do coordinate their activities, managing increased usage may require that a more formalized process or joint committee be established in order to create a more institutionalized method for addressing these issues. This joint committee could be instrumental in establishing rules or criteria for the shared use of these facilities, as well as determining financial responsibilities for all participants with regard to the cost of maintenance and rehabilitation.

The approach discussed above, which seeks to maximize use of existing facilities, should be sufficient to serve the town's recreation facilities needs in the short-term. However, the construction of a few new playing fields would allow field use to be rotated, thereby providing the opportunity to "rest" some of the fields which would improve their condition. Future growth in the community will result in the need to construct additional recreation facilities to support that growth if the town wishes to maintain its current level of service for team/league oriented sports.

In addition to better management of existing facilities, there are existing shortages, based on recreation industry standards, within the town's existing inventory of parks and facilities. Table 7-3 presents a hierarchy of park facilities often found within a municipal recreation system. The table also identifies the services and optimum acreage found at these facilities, based on National Recreation and Park Association guidelines. Presently, Gray's recreation facilities are centralized at the Newbegin/Pennell facility, the school district complex and the Libby Hill facility which allows for efficiency in delivering the town's recreation services. However, it also means that most residents have to travel a distance to reach those facilities which may reduce access for potential users. The town might want to consider acquiring land at various locations within the community that could eventually be turned into neighborhood parks as growth in those areas result in increased demand for services. Map 7-1 identifies the potential location of these neighborhood/community parks based on existing and future locations of anticipated development. These parks could contain facilities such as a multi-purpose fields, basketball/hardcourts, playgrounds, and surfaced walking paths. The locations of these future parks could potentially be combined with efforts to create open space within the community as discussed later in this chapter. If the Russell Elementary school, and its associated recreation facilities, are upgraded based on plans under consideration, this could fill the need for one of the future neighborhood parks identified on the map, although it is not centrally located within the service area delineated on the map.

Table 7-3
Parks, Open Space, and Pathways Classification System

Classification	General Description	Location Criteria	Size Criteria
Mini-Park	Used to address limited, isolated or unique recreational needs	Less than a 1/4 mile distance in residential setting	Between 2,500 sf and one acre
Neighborhood Park	Neighborhood park is the basic unit of the park system and serves as the recreational and social focus of the neighborhood	1/4 to1/2 mile distance from serviced neighborhoods	Minimum 5 acres, 5 to 10 considered optimal
School-Park	Depending on circumstances, combining parks with school sites can fulfill the space requirements for other classes of parks, such as neighborhood, community, sports complex, and special use.	Determined by location of school district property	Variable - depends on function
Community Park	Serves broader purpose than neighborhood park. Focus is on meeting community-based recreation needs, as well as preserving unique landscapes and open spaces.	Variable - usually serves two or more neighborhoods and ½ to 3 mile distance	Usually between 30 and 50 acres
Natural Resource Areas	Land set aside for preservation of significant natural resources, remnant landscapes, open space and visual aesthetics/buffering	Resource availability and opportunity	Variable
Greenways	Effectively tie park system components together to form a continuous park environment	Resource availability and opportunity	Variable
Sports Complex	Consolidates heavily programmed athletic fields and associated facilities to larger and fewer sites strategically located throughout the community	Strategically located community-wide facilities	Usually a minimum of 25 acres, with 40 to 80 being optimal
Park Trail	Multi-purpose trails located within greenways, parks and natural resource areas	Separate/single purpose hard-surfaced, multi-purpose hard-surfaced, and nature trails (hard or soft surfaced)	Not Applicable
On-Street Bikeways	Paved segments of roadways that serve as a means to safely separate bicyclists from vehicular traffic	Designate portions of roadway for preferential or exclusive use of bicyclists	Not Applicable
Cross-country Ski Trail	Trails developed for traditional and skate-style cross-country skiing	Loop trails usually located in larger parks and natural resource areas	Not Applicable

Source: National Recreation and Park Association, 1996

Emphasis should also be placed on acquiring land adjacent to the Newbegin/Pennell facility and the school district complex which would allow for the creation of new recreation facilities in the future, if the town determines that it has the financial capacity to increase staffing levels to support those facilities. In addition, the future disposition of the Pennell Institute and *Gray News* building, which are presently owned by the School District, should consider the potential for the creation of additional office and storage space for the P&RD which is presently experiencing shortages in both areas. Future improvements to the Newbegin/Pennell facility should be approached from a "campus planning" standpoint which would integrate current considerations for relocating/expanding the town offices, the need to upgrade the Russell Elementary School (as well as the Memorial Elementary School located in New Gloucester), and improved site conditions for the Douglas Field Little League baseball field located behind the town offices.

Other facilities that the town should consider adding to its inventory of recreation facilities are listed below. The need for these facilities is based on public input received during the comprehensive plan vision process, public opinion surveys conducted by Maine's Bureau of Parks and Lands in the 1993 State Comprehensive Outdoor Recreation Plan (SCORP), and discussions with town, school, and recreation league representatives.

- 3 to 4 multi-purpose fields
- 3 to 4 basketball/hardcourts
- dedicated pedestrian/bikeways
- outdoor ice skating facility
- more waterfront access
- a community center
- swimming pool
- skateboard park

From a personnel perspective, the Recreation Director indicates that additional staff and maintenance support is currently needed for the department. Addressing the existing demand for services with current staffing levels does not allow the Director to adequately address recreation programming needs and long-term facilities planning for the community.

4. Open Space

Open space is a broad term that encompasses Gray's forests, fields, wetlands, hilltops, and other undeveloped land within the community. The type, location and amount of open space helps to define the character of a community and contributes to residents' quality of life. The analysis presented in the Land Use chapter of this plan (Chapter 4) revealed that much of the land area within Gray is undeveloped open space. In fact, over 17,000 acres, which represents approximately 62% of the total land area within the town, is still undeveloped. However, most of that acreage is privately owned and not permanently preserved as open space and therefore could be developed at some point in the future. This portion of the chapter presents an inventory of open space parcels within Gray that have some degree of permanent protection and the ownership status of those parcels. Some alternatives and guidelines are also presented about long-term open space preservation within the community.

A. Existing Open Space

The parcels of land in Gray that are considered to be protected open space fall into two primary categories. The first category include parcels that have been set aside as open space during the subdivision approval process under the town's cluster zoning provision. As part of this process 246 acres of open space, in 14 parcels, have been deeded to the town or placed under a conservation easement which restricts the parcel from being developed in the future. These parcels are depicted on Map 7-1 as *Conservation/Deed Restricted* parcels. These parcels range in size from less than one acre to 80 acres and are scattered throughout the town. None of these properties are currently used for active recreation purposes, but do provide passive open space within the community.

The second category of protected open space parcels is comprised of land controlled by the State's Bureau of Parks and Lands. There are four such parcels in Gray, which total approximately 280

acres, and are part of the Pinelands Reserve which was described previously in this chapter. As illustrated on Map 7-1, these parcels are located in the northeast corner of the town and have approximately 2,500 feet of frontage on the Royal River in Gray.

The combination of recreation/deed restricted parcels and State reserve land indicates that Gray has approximately 526 acres of permanently protected land. This represents a little less than two percent of the town's total land area of 27,760 acres.

B. Open Space Planning

The long-term preservation of open space will be an important consideration for the town if it is to maintain the existing community character and continue to offer activities that residents have come to expect from living in Gray. Given the fact that there is still a significant amount of undeveloped land within the town it is easy to become complacent about the need to actively pursue land preservation in a pro-active manner. However, as development continues in the future it is likely to occur in areas that would be more appropriate as open space or used for recreational purposes. Therefore, it is important that the town develop an open space plan that identifies those areas considered most suitable for preservation and the potential mechanisms that can be used to ensure their protection.

The first step in creating an open space plan is the establishment of criteria that will assist the community in determining which parcels are most important for preservation. A series of criteria that Gray should consider as a basis for its open space planning are presented below.

1. Preservation of Water Quality Should be a Priority - Gray's rivers, streams, lakes, wetlands, and aquifers are critical components of the town's ecosystem. They are important for drinking water, wildlife habitat, and recreational purposes. They are also resources that have regional significance in other communities.

2. Open Space Should be Accessible - Future open space preservation should place emphasis on making those areas accessible to the public. If physical access is not possible it should at least be visually accessible from other public locations.

3. Open Space Preservation Should Address Multiple Purposes - Wherever possible open space preservation should address multiple needs within the community. For example, land obtained for a future recreation facility by the town would also add to the open space inventory. Similarly, land obtained for aquifer protection could also serve to protect river corridors or wildlife habitat in certain parts of the town.

4. Create Open Space Corridors - Too often open space protection takes the form of isolated *pockets of green space* amidst the surrounding built up areas. This is currently the case with regard to Gray's open space areas. In order to avoid this scenario future open space

protection efforts should attempt to link together other protected parcels in a *greenbelt* configuration. This means that protecting land adjacent to previously preserved areas, including parcels in other towns, would be given priority within the town's open space planning efforts. These greenbelts could follow a number of existing corridors within the town such as rivers and streams, scenic roads, or snowmobile trails.

5. Place Emphasis on Agricultural and Forestry Parcels - Land that is actively used for agricultural and forestry related products are an important part of the town's economy and culture. There may also be a greater willingness on the part of the owners to maintain their land in an undeveloped state since they are involved in a resource based activity.

6. Consideration Should be Given to Historic Resources - Gray has many historical structures and sites that are significant to the town's culture and identity. Very often the undeveloped land around these historic resources contributes to the sites' historical integrity and context. Therefore, parcels adjoining historic structures or other historic sites should be a key consideration in the town's open space preservation efforts.

Using the criteria listed above, as well as other natural resource features found within Gray, a ranking of the potential importance of parcels within the community from a conservation perspective was prepared. The results of this analysis are illustrated on Map 7-2. A series of nine criteria were established which if found to exist on a parcel, increased the value of that parcel. Parcels that have existing development were included if they were greater than 10 acres in size. The criteria used included the following which <u>are not</u> listed in order of importance.

- A National Wetlands Inventory (NWI) wetland exists on the parcel
- The parcel has frontage on a stream or river
- The parcel abuts existing conservation land
- The parcel falls within the town's current aquifer protection zoning district
- The parcel is actively used for agriculture or forestry
- There is some significant wildlife habitat located on the parcel
- The parcel represents part of an unfragmented block of habitat greater than 250 acres in size
- There are slopes in excess of 25% found on the parcel
- The parcel represents part of the town's hilltop areas such as Pumpkin or Adams Hill

This assessment can be used as a starting point for the town's efforts to protect open space in the future. The ranking system could be adjusted as the town proceeds with this process if additional criteria are deemed important for inclusion or, if it is determined that certain criteria should be assigned greater significance as part of the analysis.

The second component of the open space plan involves determining the local entity(s) responsible for overseeing the plan preparation and implementation, as well as the mechanisms that could be used to preserve important parcels of land. Presently, there is no entity within the community that

has, as one of its primary functions, the responsibility for open space advocacy in Gray.

Although the Planning Board has responsibility for securing open space during the subdivision approval process the Board needs guidance as to where priorities should be placed and how these parcels should be used. Therefore, the town may want to consider expanding the responsibilities of the Recreation/Conservation Committee to include open space preservation. In addition, more staff support might be necessary to assist this board in its efforts.

From a regulatory perspective the town currently relies on its subdivision and zoning regulations to preserve open space and recreation areas. Within the subdivision regulations the Planning Board is also enabled to accept a payment in lieu of land dedication for the purpose of creating additional parks or recreation facilities. However, the fee is relatively small, $300 per proposed dwelling unit, and as a result has not generated funds significant enough to create any new facilities in town. The cluster zoning ordinance has been used to preserve some acreage but is not being used consistently enough to have a significant impact on open space preservation.

The town will need to use a variety of mechanisms to preserve open space in the future since it would not be feasible, nor necessarily desirable, to purchase all of the parcels deemed worthy of protection. These mechanisms should include all tools available to the community such as regulations, incentives, and acquisition. Consideration should be given to the following alternatives in the comprehensive plan's implementation strategy for preserving open space in Gray.

- Revise the subdivision/fee structure with more specific criteria for establishing open space or recreation areas within subdivisions. Consider increasing the fee based on a more targeted approach to open space preservation.
- Consider requiring cluster subdivisions on parcels that have been identified as important open space areas within the community. Any revisions to ordinance should also attempt to create more incentives to make this a more attractive alternative for land development.
- Establish a dedicated funding source within the municipal budget for open space preservation.
- Evaluate the potential open space/conservation value of properties acquired by the town due to delinquent tax payment.
- Work with large land owners to identify alternative development/conservation strategies for their property. This might be accomplished by retaining the services of a professional land conservation specialist to work on the town's behalf.
- Consider establishing a local land trust or joining with an existing regional group such as the New Gloucester Land Preservation Trust. The Gray Community Endowment is a philanthropic organization that is currently working as an "umbrella group" within the town to support various community needs. This organization could be the focal point for land conservation efforts in the future.

Blank Page Map 7-2 - Ranking of Parcels Based on Potential Conservation Value

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5. Implications for the Future

The information presented in this chapter indicates that Gray faces a number of challenges in the coming years if it is to continue to provide a quality recreation program that meets the needs and desires of the community. In the short-term those challenges will include finding ways to increase staffing levels for the recreation program in order to better manage and maintain the town and school district's existing facilities. It will also include the need to upgrade and expand some existing facilities which are presently inadequate to meet current demands for service.

Related to this issue is the multiple facilities planning that is currently on-going in the Village area. At this time consideration is being given to expanding or moving the town offices, upgrading or relocating the elementary school and school district's operations, and upgrading the Recreation Department's administrative/maintenance facilities. The proximity of all these facilities to one another clearly warrants a comprehensive approach to these new planning initiatives. If done well these facilities could result in the creation of public spaces that provide an "anchor" within the Village and sets the tone for future private development that will follow.

Another important short-term issue is the need to better coordinate the demands placed on the town's existing recreation facilities by the numerous town, school, and private groups that rely on them. A more cooperative approach to this issue could really serve the town well by maximizing the use of existing facilities and sharing resources in the most economical means possible.

An issue which has both short- and long-term consequences relates to land preservation. In the short-term it will be important for the town to take immediate steps to acquire land around the existing recreation and school facilities in order to allow for future expansion, but still maintain a centralized delivery system. In the long-term the town must begin to take focused and sustained actions to preserve land for future recreation facilities and the preservation of critical open space. Although there is still a large amount of undeveloped land remaining in the town the most important parcels of land, from the community's perspective, that should be preserved could be developed or otherwise rendered unsuitable for recreation use or open space preservation if not acted upon in the immediate future.

Municipal Facilities and Utilities 8

1. Introduction

This chapter examines municipal services from the perspective of capital facilities and equipment needs. The facilities examined in this evaluation include the town offices/town hall, public works, solid waste, library, fire and rescue, police, and schools. A section is also included that examines the town's fiscal trends over the last few years with regard to revenues, expenditures and capital investment. Information has also been included pertaining to the municipal water system and other public utility systems.

The focus of this analysis is on the various building and equipment needs required to service existing and projected demands for municipal services. Staffing levels, however, are also discussed. Much of the information presented in this chapter was obtained through interviews with town department heads. Where previous facilities' analyses have been completed, information from such studies have also been included.

2. Summary of Major Findings and Conclusions

- Gray is presently confronted with the need to upgrade, expand or reconstruct many of its municipal and school buildings. These needs are attributable in part to growth within the community and to deferred capital investment in the past.

- A number of the potential facility improvements being considered involve decisions that will affect multiple town and school buildings. This makes it particularly important that the town pursue a realistic and comprehensive approach to capital facilities planning.

- The town has initiated a formalized capital investment program that will extend the fiscal impacts of capital costs over a longer period of time and make expenditures more predictable.

- The town office building has insufficient office and storage space to support existing staffing levels and demand for service. Stimpson Hall is an adequate facility for most municipal board meetings, but does not provide suitable space for larger public gatherings and community events.

- The public works garage and recycling building are probably approaching the end of their usefulness due to physical and economic obsolescence.

- The library is in good condition from a structural standpoint, but is strained from a space needs perspective.

- The Fire Department's Central Station is in good condition but has inadequate space to serve the needs of the department. Although the department's Village and Dry Mills sub-stations provide useful storage, the facilities are functionally obsolete and should probably be considered for replacement in the future.

- The town has reached a level of development that may warrant consideration of expanded police services beyond the current reliance on County and State police services.

- The town and school district are facing a decision of either making major investment in two elementary school facilities or the potential alternative of consolidating its three neighborhood schools into two.

3. Town Offices and Stimpson Hall

The town office building and Stimpson Memorial Hall house the town's administrative functions and community meeting space facilities. These two buildings are located on a one acre parcel of land on Shaker Road near the center of the Village. The site contains 45 parking spaces that service both buildings.

The town office building is a two story structure containing approximately 2,300 square feet of space. The upper level of the building provides office and administrative space for the Town Manager, Tax Collector/Finance, and Town Clerk functions as well as lobby space and public restrooms. The lower level contains the offices of Planning, Code Enforcement, and Assessing. Staffing within all of these departments currently totals 10 full-time personnel.

Stimpson Memorial Hall is a two story structure that was constructed in 1900 and is listed on the National Register of Historic Places. The main floor of the building is an auditorium type space with a raised stage which can accommodate approximately 150 people. This area is presently used for

Town Council meetings, other town and school board meetings, and by other various civic groups. The basement of the building is finished and includes a smaller meeting room as well as the broadcast facilities of the local cable access television channel. The upper floor of the building is currently not useable since insulation has been added to address energy efficiency issues. The building is estimated to contain approximately 4,000 to 5,000 square feet of space on the main floor (including the stage area) and basement level.

Needs Assessment - Overall, the town office building appears to be in relatively good condition, but is only partially compliant with ADA (Americans with Disabilities Act) requirements. However, from a space needs perspective the structure is undersized to support existing staffing levels and increasing records storage requirements. A recently completed space needs analysis indicates that, based on state standards used by the Buildings and Services Division, a facility of 4,500 to 5,500 square feet is required to serve the existing needs of the town's administrative departments and allow for 25% expansion that may be required to accommodate future growth.

Two options are currently being considered to address the deficiencies in the town office building. The first is expansion of the existing building through annexation of the adjacent (and presently vacant) post office building. Preliminary plans developed for the town indicates that the two buildings could be connected in a suitable fashion which would add 1,800 to 2,000 square feet of space to the existing town office facilities. It is likely that some parking spaces would be lost as a result of this expansion, but there should still be an adequate number of spaces remaining for normal demand. The estimated cost to undertake this alternative is just under $1.0 million.

The second alternative being considered is the acquisition and renovation of the Pennell Institute building located on Main Street in the Village. The building is owned by the regional school district and it presently houses the district's special education and continuing education programs, as well as the town Historical Society's museum collections. This structure, which is part of a complex of buildings and athletic fields shared with the town's Parks and Recreation Department, was built in 1876 and is also on the National Register of Historic Places.

The historic portion of the Institute building is a two story brick structure, to which a contemporary single story addition has been attached. The new addition and the first floor of the original structure contain classroom and administrative space for the school district's programs. The Historical Society's facilities are located on the second floor of the original structure. The entire structure is estimated to contain approximately 7,000 square feet of space.

The school district is currently considering vacating the building as part of a reassessment of all district facilities. If this occurs the building would be turned over to the town for municipal use. Preliminary estimates to renovate the structure for use as a town office facility are approximately $1.0 million. This would allow all existing functions at the current town offices to be relocated to this building and also provide space for the Parks and Recreation Director, who presently has an office in the recreation maintenance building. Conversion of this building to town offices may

eventually result in the relocation of the Historical Society as the town's administrative space demands increase in the future. Conversion of the building may also necessitate the installation of an elevator as well as other improvements to comply with ADA requirements. In addition, existing parking lots and traffic circulation on the Pennell property and adjoining recreation facilities at Newbegin Hall will need to be reconfigured and upgraded if the building is converted for use as town offices.

Stimpson Hall provides a centrally located meeting space for the community but has issues that need to be considered. These include bringing the building into compliance with ADA requirements that necessitate the installation of a restroom on the main floor and an upgraded ramp and vestibule at the entrance. Consideration may also have to be given to installing an elevator for access to the lower level. Aside from these issues the building needs an upgraded heating, ventilation and air conditioning (HVAC) system and other improvements to make it more energy efficient.

From a staffing perspective the Town Manager feels that the Code Enforcement department should have two (2) full-time personnel in order to address current demands for inspections. Aside from this, staffing levels are adequate to meet the town's needs for the immediate future.

4. Library

The Gray Public Library is located on Skilling Street in the Village just a few blocks from the main square. The building was constructed in the 1930s and originally functioned as a school house (the Hancock School). An addition was constructed in 1988 which added approximately 2,200 square feet of space bringing the existing building area to almost 4,800 square feet. The building is located on a 1.6 acre parcel of land which has parking for 17 vehicles.

The library is a single story structure with an unfinished basement area. The main floor of the structure is divided into five primary functional areas. The original portion of the building contains the public access computer terminal area, the reference collection area, and a small reading room that was created in 2002. The new addition houses the children's area, shelving for the library's main book and audio/visual collection, and the circulation desk/staff work area. The basement area is used by the Friends of the Gray Public Library to store books which are used in the annual book sales to raise money for the library. The basement also contains the building's mechanical systems.

The library has approximately 30,000 items in its collection and an average annual circulation of about 56,000 items. Approximately 1,500 to 2,000 new items are added to the library's collection annually. There are currently 7,160 registered users of the library, a figure that increased by 9% during 2002. Circulation increased by 20% over the past year.

The library has eight (8) public access computer terminals which offer high-speed access to the Internet. According to the Library Director, computer usage is the fastest growing service provided by the library with a current average of 3,000 users annually. The facility is expected to be linked

to the state's card catalogue by February 2003, which will allow inter-loan book requests to be made on-line from the library or from remote terminals.

Current staffing at the library includes two (2) full-time personnel, which includes the Library Director, and two (2) part-time personnel who work a combined 40 hour week. With this level of staffing the library is opened to the public 37 hours per week.

Needs Assessment - According to the Library Director, the overall physical condition of the library is very good. However, all available space is currently being used to its maximum extent which limits the ability to add new and updated information to the library's collection. In an effort to address this and other issues, the library's Long Range Planning Committee initiated a two year planning process to assess the needs of the facility over the next 25 years. The Committee wrote a successfully funded grant application to the state which financed the hiring of a consultant to prepare a facilities assessment report. According to the draft report, the consultant has recommended construction of a 4,800 square foot addition within the next 5 to 7 years. Aside from an increase in shelf space, this addition would allow for the creation of a new young adult area (which is not currently available), expansion of the children's area to include space for crafts, upgraded and enlarged audio/visual facilities, and an expansion of the reading room. The estimated cost of this facilities upgrade is approximately $1.2 million.

Another building consideration currently being evaluated involves finishing off a portion of the basement, approximately 900 square feet, for use by the Friends of the Library. This area would include meeting space as well as a kitchen and restrooms. Estimated cost of the project is approximately $125,000 plus an additional $50,000 if an elevator is required to service this area.

Other issues identified by the Library Director include the need for a regular replacement program for computer equipment and the installation of a wireless network which would allow personal laptop computers to be used at any location in the building. In addition, the Director foresees the need for expanded services to young adults, the elderly and homebound, and an increased outreach to children that are home-schooled.

From a staffing perspective the Library Director feels there is a need for an additional full-time staff person and expanded hours for the part-time position. This would allow increased supervision and assistance in the computer area and the ability to support the general increase in demand for services at the facility.

5. Public Works

The Department of Public Works (DPW) oversees the summer and winter maintenance of roads, bridges and sidewalks as well as all drainage facilities in the town. The DPW currently maintains approximately 60 miles of town roads on a year-round basis and an additional 10 miles of state roads in the winter. The town also makes use of private contractors to maintain 28 miles of private roads

during the winter.

The public works garage is located on Seagull Drive, off Shaker Road, behind the Central Fire Station facility. It is located on a 30 acre parcel which also contains the fire station, solid waste transfer station, and capped landfill. The public works facility is comprised of two garages and a sand/salt storage area. The main garage is a five bay, concrete block facility which was constructed in 1956. It is used to store and maintain the department's trucks and other vehicles and also contains some office space and a break room/meeting area. The second garage is five bay pole barn structure, constructed in 1989, which is used for cold storage of the department's dump/plow trucks. One of the bays is used by the Fire Department for equipment storage.

Also located on the site is a wooden salt shed and an uncovered sand pile. The department can store approximately 200 tons of salt and 8,500 yards of sand at the facility at one time for winter use.

The DPW operates a regular paving and road rehabilitation program for all of its roadways, bridges and sidewalks through the Capital Improvements Plan (CIP). Through this program the town has recently finished reclaiming portions of several roadways that required reconstruction including Hunt Hill Road and Mayall Road. The paving program allows the town to hot top all of its roadway surfaces once every six years. Annual contribution identified in the CIP for roads is approximately $300,000.

The town has nine bridges that the DPW is responsible for maintaining and which are inspected every two years by the Maine Department of Transportation (MDOT). Two of these bridges, which include Knights Bridge on Mayall Road and Mayall Bridge on McGuire Road, need to be replaced at a cost of approximately $150,000 each. The DOT will no longer provide matching funds, as it has in the past, to replace these structures, and so the town must assume full responsibility. A reserve fund has been establish in the CIP for the replacement and future maintenance of these structures.

The town presently has approximately 2.7 miles of sidewalks, of which 1,700 feet are currently under construction on Main Street in the Village. Annual costs identified in the CIP for sidewalk reconstruction and expansion is $30,000 plus an additional $10,000 for maintenance in the municipal budget. The town has a Sidewalk Committee which prepared a five year plan for sidewalk expansion that has recommended construction of sidewalks in the following areas.

- North Raymond Road from Shaker Road to the town beach (700 ft.)
- Shaker Road, from terminus of existing sidewalk, to Libby Hill Road (3,500 ft.)
- Route 100, from Gray Plaza to Post Office (1,000 ft.)
- Route 115, Gray Corner to Appletree Village (1,500 ft.)

The town also has a regular replacement schedule for its major pieces of equipment. Light vehicles, such as pickup trucks and cars, are on a 10 year rotation. Heavy equipment is on a 12 year rotation. Annual costs identified in the CIP reserve fund for these vehicles is approximately $75,000.

From a staffing perspective, the department currently has seven (7) full-time personnel, which includes the Director's position, and one (1) regular part-time position. During the winter maintenance period the department hires an additional three (3) part-time personnel.

Needs Assessment - According to the Public Works Director, a facilities needs assessment has determined that the main garage facility is inadequate to meet the current needs of the department with regard to servicing, maintaining and storing equipment. The roof of the building was replaced 15 years ago with an expected useful life span of 20 years. There are also safety issues, with regard to roadway access, between the DPW and the solid waste transfer station that causes conflicts between residential vehicles and large trucks. In addition, the U.S. Environmental Protection Agency (EPA) now requires that all sand and salt storage areas be covered.

In light of these conditions the town commissioned the preparation of a facility's master plan that would address issues at the DPW as well as the public safety building and solid waste facilities. The plan calls for the construction of a new public works garage, on an adjoining parcel of land, which would include 14 truck bays, an office, lunch room, and locker rooms. The garage would also have an oversized bay with a lift that would be suitable for servicing most town vehicles. This new facility would have a new roadway access from Shaker Road which would separate it from solid waste operations. The existing pole barn facility would remain in use at its present location.

In addition, a new sand and salt storage shed would be constructed with a capacity of 7,500 yards of sand and 400 tons of salt. This building would be located on the site of the DPW's existing salt/sand storage area and would be large enough to allow mixing under cover. The total estimated cost for construction of the new garage and storage facility is approximately $1.8 million.

The final departmental issue relates to current staffing levels. According to the Director, current staffing levels make it difficult to maintain adequate coverage during the summer months when all personnel take vacation time. He feels that the three (3) part-time positions funded during the winter months should be transitioned into full-time positions.

6. Solid Waste

Gray disposes of its household solid waste at the Regional Waste Systems Inc. (RWS), a waste-to-energy incinerator, located in Portland. RWS is a non-profit solid waste management corporation that serves 27 cities and towns in Cumberland, Oxford, and York Counties in Maine. It is governed by a 28-member board and is owned and controlled by 21 member municipalities of which Gray is one. The town's existing contract with RWS extends to 2014.

The town's current level of household waste disposal is approximately 2,300 tons annually that are sent to the regional incinerator. In conjunction with this the town is also recycling almost 50% of its total waste stream. Mandatory recycling items include glass, tin cans, newspaper, corrugated cardboard and other paper, and plastic. Other bulky items which can also be recycled include light

metals, shingles, sheetrock, tires, mattresses, carpet, and processed wood. The town is also awaiting approval from the state for the establishment of a composting program which would allow residents to bring leaves and other materials for recycling. The composted material could then be made available to residents.

The town's solid waste is processed at the transfer station/recycling center, which is located on Seagull Drive, adjacent to the Public Works facility and central fire station. There is no curbside pickup of waste so residents are responsible for bringing all material to be disposed of to the facility. Residents now pay $10 "per load" for household waste and itemized fees for other bulky items. There is no disposal fee for the mandatory recyclable materials.

There are two main buildings at the facility which include the compacter building and recycling building. The compacter building is a steel skinned structure, approximately 20 feet by 30 feet in size, which contains a hopper that funnels trash to an underlying container where it is compacted. The container can then be placed on a truck for transport. The recycling building is also a steel skinned structure, approximately 40 feet by 100 feet, that contains bins and four vertical bailers used for processing the recyclable materials. In addition there is a small office/break room that is shared by the staff. Also located on the site are seven outdoor bins made from pre-cast concrete used for storing bulky recycling materials. Other equipment operated by the department includes a backhoe and a forklift.

Needs Assessment - According to the Solid Waste Director, the compacter building is in relatively good condition and the compacter unit was rebuilt approximately four years ago. However, due to the design of the compacter the town must use a trash container that can be hauled by only one transport company. Therefore, future renovation/reconstruction of this building should allow for more standardized roll-off containers to be used which would allow the town to get competitive bids for hauling. It would cost approximately $7,000 to retrofit the structure for this type of compacter.

The Director feels that the recycling building, which was constructed in 1982, is in need of upgrading to serve the needs of the department. Issues at this building include the need to replace overhead doors, lack of restrooms, poor heating system, roof leaks, and the need to widen loading docks. He would also like to see the installation of another bailer, preferably a horizontal style unit, which is more efficient for plastic materials.

The overall functioning of the transfer station site is considered to be problematic because access is gained through the DPW facility which creates safety conflicts between residential vehicles and large trucks. This issue, as well as deficiencies in the recycling building, would be addressed as part of the proposal currently being considered to reconstruct the DPW facilities. As part of this plan, Solid Waste would take over the existing Public Works garage which would be joined to the recycling building by means of an addition. The estimated cost for the Solid Waste facility's portion of this redevelopment project is approximately $560,000.

The Director would also like to see a regular replacement schedule for vehicles and other equipment established in the town's capital improvements plan. Consideration is currently being given to transferring the Public Works Department's backhoe to Solid Waste in order to replace the current vehicle which has reached the end of its useful life.

7. Fire and Rescue Services

Fire protection and emergency medical services in Gray are provided by the Gray Fire-Rescue Department. The department includes a dispatch operation which handles all emergency calls, assists the Public Works Department with its dispatch needs and processes other town related calls during non-business hours. The Fire-Rescue Department administers these services from the Central Fire Station facility located at the intersection of Shaker Road and Seagull Drive. The station house is part of the municipal services complex that also includes the public works and solid waste/recycling facilities. The department also maintains two substations which are located in Dry Mills and the Village.

The Central Fire Station is a two story masonry structure that was constructed in 1991. The ground floor of the facility has three double door vehicle bays, a hose tower, meeting room with kitchenette, dispatch area and entrance lobby. The upper floor contains eight offices which are used by the Chief, Assistant Chief, Fire Prevention/Safety Officer, and EMS Captain/Deputy. Two of the offices are used as bunkrooms for the per diem personnel and one is used as a substation by the Cumberland County Sheriff's Office for deputies covering the Gray area. The remaining office is used as a workroom and there is also a lounge area that is used by on-duty department personnel. The building also has a semi-finished basement which is currently used as an exercise area by the department as well as for the storage of town property.

The Village sub-station is a four bay wood frame structure located at the Gray Corner intersection. This building was constructed in the 1800s and was formerly used as the town hall. This is an unmanned station which the department presently uses to house its two forestry fire fighting vehicles. The Dry Mills sub-station is a two bay concrete block structure that was constructed in the early 1980s. The station is located on Shaker Road just south of its intersection with the North Raymond Road. This facility is unmanned and is used by the department to house one engine and a canteen unit.

The department provides 24 hour coverage, seven days a week for fire protection and emergency medical services in the town. These services are presently provided without full-time staffing and is comprised of a combination of contracted and volunteer personnel. The contracted services coverage relies on fire fighters and emergency medical technicians (EMT) who are full-time personnel of fire departments in neighboring municipalities. These personnel work a 24-hour shift in Gray and are paid on a "per diem" basis by the town. The department does have one full-time fire fighter position but it is currently vacant. The town also has mutual aid agreements with all of the adjoining municipalities which provides assistance for emergency calls in Gray. The portion of Gray

which lies to the west of Little Sebago Lake actually relies on the Raymond Fire Department, through the mutual aid agreement, for first response to emergency calls due to the limited road access to this area from within Gray.

In conjunction with the per diem personnel Gray also relies on volunteers, referred to as call personnel, for responding to emergency situations in the community. These call personnel are residents of Gray who are employed in other professions and respond to emergency calls when they are available. The department currently has a roster of approximately 50 call personnel. All call personnel are reimbursed on an hourly basis for responding to calls in Gray. The department budgets for up to 4,000 hours of assistance by call fire fighters, which according to the Fire Chief, is usually sufficient for current levels of demand.

The department's dispatch operation is staffed by five full-time personnel who provide 24 hour coverage for emergency calls. Currently, 9-1-1 calls for assistance go to the public safety answering point (PSAP) for the area which is located in Windham and operated by the Cumberland County Sheriff's Department. These calls are then routed to the dispatch center in Gray.

The department has 13 major pieces of equipment which are listed in Table 8-1. The department has a regular replacement schedule for most of its major equipment which is funded through the town's CIP. Current annual appropriations to this capital reserve fund are approximately $92,000. The replacement schedule calls for the purchase of a new squad car in 2003 to replace the 1985 model.

Table 8-1
Major Equipment Inventory - 2002
Gray Fire-Rescue Department

Model Year	Type	Replacement Year
2000	Engine E-3	2020
2000	Rescue R-2	2010
1997	Platform L-1	2022
1996	Engine/Tanker E-2	2016
1996	Rescue R-1	2011
1991	Support S-7	2024
1985	Squad S-6	2003
1985	Canteen	NA
1981	Engine	2006
1973	Engine E-4 (Reserve)	NA
1970	Forestry	NA
1968	Tanker	NA
1933	Antique Parade Unit	NA

Needs Assessment - The Central Fire Station is in good condition and is centrally located, according to the Chief. Most areas of Gray can be reached by emergency vehicles within 4 to 5 minutes from this facility. However, the station lacks sufficient classroom type space for training personnel and is also in need of additional storage, according to the Chief. He also feels that a fire drill building constructed on the property would be very useful for training purposes. These issues would be addressed as part of comprehensive municipal complex upgrade being considered at this site for fire-rescue, public works and solid waste departments. As part of this upgrade the Central Station would have two vehicle bays added, the existing training area would be expanded to approximately 2,400 square feet, and a portion of the existing bays would be converted for additional storage space. The facility upgrade would also include the installation of an elevator for second floor access and the

construction of a separate training building. The total estimated cost of these improvements is approximately $890,000.

The Village and Dry Mills sub-stations are not critical in terms of response time for the department but do provide useful vehicle storage space, according to the Chief. The Village facility is in need of a partial roof replacement, window and door upgrades, furnace upgrade and insulation. Although this facility is located at the busiest intersection in Gray, the Chief indicates that response time during peak traffic periods has not resulted in significant delays. However, due to its location, site constraints and age the long-term functionality of this facility for the department is marginal. The Dry Mills station is in better condition according to the Chief and is primarily in need of overhead door replacement and other minor maintenance upgrades. The long-term functionality of this facility is also questionable but is still useful to the department, and it is relatively inexpensive to operate on an annual basis.

The Chief feels that the town should investigate the potential for a future sub-station in the eastern portion of Gray due to longer access times to this area and the recent opening of the Pinelands office facility immediately over the town line in New Gloucester. The department is currently exploring the creation of a regional facility in this area that might actually be located at Pinelands and shared by the towns of New Gloucester, Pownal, North Yarmouth, and Durham, which could all be served from this location.

From a staffing perspective the Chief feels that the per diem approach for providing 24 hour coverage for the community has worked well. However, maintaining adequate personnel for this system is a concern and can only be supported if there is a sufficient pool of fire fighters and EMTs available from neighboring departments that are interested in participating. According to the Chief, all shifts are only filled 75% of the time which leaves gaps in the coverage. Although the department also relies on the services of call fire fighters their availability to respond during daytime hours is limited.

From an equipment standpoint the Chief feels that the current vehicle replacement schedule is adequately serving the needs of the department. However, he would like to see the addition of a haz-mat trailer, which could outfit 12 personnel, added to the department's inventory. This equipment would be used to supplement the County's haz-mat services.

The final concern for the department is the availability of an adequate water supply. The Chief would like to see a more comprehensive approach to extending water lines into developing portions of the community. He also feels that the town should require the installation of 30,000 gallon, underground cisterns as part of the subdivision process. Although a number of dry hydrants have been installed throughout the town, they are not reliable sources of water and require regular maintenance

8. Police Services

Gray does not presently operate a police department as part of its municipal services. The town currently relies on the Cumberland County Sheriff's Office (CCS) and the Maine State Police (MSP) to respond to police calls in Gray. Deputies from the CCS use an office in Gray's Central Fire Station as a sub-station and the MSP operate from Troop B headquarters located on Shaker Road, at the entrance to the Maine Wildlife Park in Gray. Although both the CCS and MSP respond to calls in Gray, personnel from these departments are also generally responsible for providing assistance to three other towns in addition to Gray.

In 1998 the town's Public Safety Committee was charged with investigating possible alternatives for police protection in Gray. The Committee contacted a number of police oriented organizations in the state, such as the Maine Community Policing Institute and the Maine Chiefs of Police Association, for information in order to assess the town's existing conditions. Information was also gathered from other communities, with full-time police departments, that were similar to Gray. The Committee also attempted to conduct a opinion survey of town residents through the *Gray News* in order to ascertain the public's desire regarding this issue, but received very few responses to the questionnaire.

Based on the results of its investigation the Committee arrived at several possible alternatives that they felt should be considered by the town. These included the following options:

1) Establishing the town's own police department
2) Contracting with the Cumberland County Sheriff's Office for dedicated police services
3) Contracting with the Maine State Police for dedicated police services
4) Create a regional police department (not part of original recommendations)

Cost comparisons were developed for each of these alternatives in order to facilitate the community decision-making process. The first alternative, establishing a town police department, the Committee considered staffing levels of one, three, and five officers. Although it was concluded that five full-time personnel were necessary for 24 hour coverage, seven days a week, the Committee felt that other staffing levels should be presented as well. The estimated annual costs for each option were: 1 officer - $79,000; 3 officers - $175,000; and 5 officers - $261,000. These costs included salaries, benefits, vehicle purchase and maintenance, uniforms, equipment, and supplies. The costs do not however, include the need for providing a police station facility or the need for dispatch services that would be required to support departmental operations.

Similar cost comparisons were prepared by CCS and MSP for providing officers that would be assigned specifically to Gray for 24/7 coverage or some other level of contracted patrol coverage. The annual cost estimates provided by the CCS were as follows: 1 officer - $68,600; 3 officers - $205,800; and 5 officers - $343,000. The estimated annual costs for comparable service by the MSP was: 1 officer - $62,800; 3 officers - $188,500; and 5 officers - $314,000. These costs also included

salaries, benefits, vehicle purchase and maintenance, uniforms, equipment, and supplies. It is assumed that the CCS would continue to operate out of the sub-station at the Central Fire Station and the MSP would use the Troop B headquarters to provide their services. The proposal from Cumberland County indicates that the same personnel would be used to provide services to Gray. The MSP alternative however, did not provide the same guarantee of dedicated officers for the community.

9. Schools

Educational services in Gray are provided through a regional school district, Maine School Administrative District #15 (MSAD), which also includes the town of New Gloucester. The Gray-New Gloucester (GNG) district provides education for grades kindergarten through twelfth, as well as special education and continuing education programs. Educational services are administered through the Superintendent of Schools Office which oversees the operation of six school buildings including the Dunn Elementary School, Memorial Elementary School, Russell Elementary School, GNG Middle School, GNG High School, and the Pennell Institute. Table 8-2 provides a listing of these facilities along with their most recent enrollment levels and design capacity. The remaining school district facility is the building that houses the Superintendent's office.

Table 8-2
Gray-New Gloucester School District Facilities - 2002

Facility	Grade/Use	Enrollment	Capacity
Dunn School	K-5	325	425
Memorial School	K-5	250	250*
Russell School	K-5	260	341
Middle School	6-8	566	600
High School	9-12	663**	850
Pennell Institute	Special & Cont. Ed.	NA	NA

*Includes the use of a double portable classroom
**Does not include 53 tuitioned students from Raymond
Source: Superintendent of Schools

Needs Assessment - The GNG School District is in the process of completing a multi-year assessment of its school facilities. This assessment includes both a physical evaluation of structures as well as the preparation of projected enrollment levels over the next decade. The study[1] which examined enrollment projections was completed in 2001 and provided an estimation of enrollment levels through 2010 at each grade level. The analysis also presented three alternative projections that evaluated the potential impacts that the Pineland development in New Gloucester could have on future enrollment levels. The study concluded that Pineland would not have a substantial impact on enrollment resulting in only minor differences in the three projection scenarios. Table 8-3 presents projected enrollment for the district based on the *Best Fit Model* presented in the

[1] *SAD 15 Enrollment Projections 2001-2010 FINAL REPORT,* prepared by Planning Decisions, Inc., February 2001.

2001 study. Overall, the projections suggest that the district's enrollments are expected to remain relatively flat in grades K-5 and decline in grades 6-12 through the remainder of the decade. According to the Superintendent the projected trends appear to be materializing in the districts enrollment levels over the past two years in grades K through 8. However, the projections for grades 9-12 understate anticipated enrollment levels, according to the Superintendent. He indicates that the number of high school students are expected to peak in year 2004-05 at approximately 820 students and then begin to decline for the remainder of the decade. This peak enrollment level includes the tuitioned students from the Town of Raymond.

Table 8-3
Projected Enrollment Levels 2001-2010
Gray-New Gloucester School District(1)

School Year	K-5	6-8	9-12(3)
2002-03 Actual(2)	835	566	716
2003-04 Projected	881	485	683
2004-05	876	444	691
2005-06	886	412	690
2006-07	879	437	637
2007-08	886	433	609
2008-09	879	452	567
2009-10	883	441	562
2010-11	890	440	572
Change 04-11	+9	-45	-111

NOTE: Enrollment projections do include special education students
(1) Represents combined enrollment for the towns of Gray and New Gloucester
(2) Enrollments as of October 1, 2002
(3) Assumes an average of 50 students from Raymond through 2010-11
Source: Planning Decisions, Inc. and Superintendent's Office

Dunn School - The Dunn Elementary School contains grades K through 5 and is located on Morse Road in New Gloucester. The facility was built in the 1940s and renovated in 1998 for approximately $3.6 million. The renovation included the addition of a new gym/cafeteria facility. The building also has room to create additional classroom space if needed. According to the Superintendent, this facility is in relatively good condition but does need a roof rehabilitation and the creation of outdoor playing fields. Another issue related to this facility is that it is not centrally located which results in additional transportation costs and other related issues.

Memorial School - The Memorial Elementary School is located in New Gloucester on Intervale Road and contains grades K through 5. The facility was constructed in 1948 with additions in 1960 and 1972. This facility is presently operating at capacity with the use of a double portable classroom which was added in 2000. According to the facility's assessment study[2] this school building is "generally worn out" and in need of considerable renovation or replacement. The site on which the building is located is also problematic in that it is undersized and does not allow for easy expansion

[2] *Comprehensive Plan & Facility Space Needs Study, MSAD #15 Elementary Schools,* PDT Architects and Allied Engineering, Inc., December 2000.

of the facility. Options for addressing the issues related to this school are discussed later in this section.

Russell School - The Russell Elementary School contains grades K through 5 and is located on Gray Park Road in Gray Village. Like the Memorial School the facility was also constructed in 1948 with additions in 1960 and 1968. An examination of this facility indicates that this school, portions of which are approximately 50 years old, is also in need of significant renovation or reconstruction. In addition, the school site, which is less than five acres, does not meet the minimum state recommended size of eight acres (23 acres is the preferred size). Vehicular access to the site is also difficult and the fact that all of the abutting property is developed, limits the potential for reconfiguration or expansion. Options for addressing the issues related to this school are also discussed later in this section.

Middle School - The Middle School is located on Libby Hill Road in Gray and contains grades 6 through 8. The building was constructed in 1989 and is part of the school complex that also includes the High School, which is located on an adjoining parcel. According to the Superintendent, the Middle School is in excellent condition, has been well-maintained, and is not in need of any major facility upgrading at this time. The issue that will need to be addressed at this facility is the condition and quantity of outdoor playing fields. These facilities are intensively used by the school district teams, the town's Parks and Recreation Department, and private athletic leagues in the community. As a result, there is a need for higher levels of maintenance on these fields. In addition, consideration should be given to acquiring abutting land, where available, for the creation of additional fields. These issues are discussed in more detail in the Recreation and Open Space Chapter (Chapter 7) of this plan.

High School - The High School is also located on Libby Hill Road and contains grades 9 through 12. Portions of the facility were constructed in 1960 and 1976, and originally functioned as both a middle school and high school until such time as the present middle school was constructed. According to the Superintendent, this facility is structurally sound and in generally good condition. There is, however, a ventilation issue in the 1960s portion of the building that needs to be addressed. The primary concern with this facility is that it is expected to reach capacity within the next few years. After reaching the expected peak enrollment period in 2004-05, enrollment is projected to decline to levels that can be accommodated within the capacity of the building. However, in order to address the peak enrollment level consideration is being given to converting approximately 6,000 square feet of shop space into four classrooms as well as space for art/music instruction. It may also be possible to reuse the portable classrooms currently in use at the Memorial School if that facility is renovated in the next few years.

Pennell Institute - The Pennell Institute is located on Main Street in Gray's Village area. The building is a two story brick structure which was constructed in 1876. A one story addition was added in the 1960s. The facility presently houses the district's offices for special and continuing education programs as well as four classrooms and a conference room. According to the

Superintendent, the facility is in fair condition and is in need of a roof replacement, electrical upgrade, and treatment for radon. There is also a shortage of on-site parking. A complete facility evaluation and cost estimate has not yet been prepared for the structure because the district is considering giving the building to the town for use as municipal offices. This alternative was discussed earlier in this chapter. If the town does decide to take this building the district would have to relocate the programs currently housed there. Possible alternatives for this scenario include renovating the basement of the Superintendent's Office for the special education program and transferring adult education to the high school.

Superintendent's Office Building - The Superintendent's office building is located on Shaker Road in Gray Village and contains the administrative offices for the district. The building is a wood frame structure that was constructed in 1902 and originally used as a primary school. According to the Superintendent, the building is in excellent condition and has adequate space for current staffing levels although storage space is limited. Issues for the facility include the need to upgrade the septic system, create additional parking and improve traffic circulation. Circulation is an issue because the building shares the parcel with the Russell School which uses the Superintendent's office driveway, which is inadequately sized, for use as an access road to the school for cars and busses. These site issues will be addressed as part of the Russell School renovations if the district decides to upgrade that facility.

Elementary School Facilities Alternatives - As discussed previously in this section, the study of elementary school facilities commissioned by the school district has determined that the Russell and Memorial elementary schools are in need of substantial renovation and upgrading. Several options are currently being considered by the district to address these deficiencies which include renovating existing facilities, partial demolition and new construction, and closing some existing buildings and consolidating students into fewer elementary schools. The primary options presently being considered included the following:

1. Renovate and expand both the Memorial and Russell Schools
   (estimated cost $12.4 million)
2. Close the Memorial School and renovate/expand Russell School to 450 student capacity
   (estimated cost $6.4 million)
3. Close both the Memorial and Russell Schools and construct a new school which would possibly be located on the Dunn School site
   (estimated cost $12.2 million)

The school district has been gathering public comments from residents as to which option should be pursued. The Superintendent and the School Board distributed a questionnaire to voters, in both Gray and New Gloucester, on Election Day of 2002, which received a 41% response rate (2,090 of 5,006 voters responded). The questions and responses are presented in Table 8-4.

Table 8-4
Summary of Responses from "Voters Survey" - November 2002
Towns of Gray and New Gloucester

Question	# Responding "Yes"	# Responding "No"
1. Do you favor the closing of Memorial and Russell School to build a consolidated school in an effort to receive maximum State of Maine funding?	728 (34.8%)	1,362 (65.1%)
2. Would you favor consolidation of Grades K-2 at one school (Russell or Memorial) and Grades 3-5 at Dunn?	715 (33.3%)	1,426 (66.6%)
3. Do you favor keeping all three elementary schools even if it is at a higher cost to local taxpayers than consolidation?	1,086 (54.4%)	908 (45.5%)
4. If you would prefer to renovate both Memorial and Russell schools, which of the following do you favor? (choose only one)		
A) On-going renovations of Memorial and Russell Schools at local expense.	442 (27.4%)	
B) Complete renovation/reconstruction of Memorial and Russell Schools at local expense.	509 (31.6%)	
C) Renovation of Memorial and Russell Schools only if they are at maximum state funding participation in six to ten years.	658 (40.8%)	
5. Do you favor the district selling or transferring ownership of the Pennell Institute/School building?	1,240 (66%)	636 (34%)

Source: Superintendent of Schools Office

Although the results of the survey presented in Table 8-4 may not represent the views of all residents, since it was not a statistically valid survey, they do provide insight into the view of voters within both communities. The general indication is that residents would like to maintain their existing neighborhood elementary schools versus a more consolidated approach to providing educational services. However, it is less clear that people are willing to pay higher costs for doing so if state funding is not available to support this approach. Initial discussions with state officials indicate that state funding may not be available to keep operating all three elementary schools. The Superintendent anticipates that the school district will make a final decision in 2003 which will be followed by an application to the state.

10. Utility Systems

A. Water Distribution

The Gray Water District is responsible for water distribution in Gray. The District was incorporated in 1930 and currently serves 950 customers. The major corridors serviced by the

water system include: Route 26, Gray Road, Lewiston Road, Portland Road, Yarmouth Road, Mayall Road, Merrill Road, and Depot Road, which are illustrated on Map 8-1. Hydrants are provided along the distribution routes. The system layout is shown on the Water Distribution Map. There are also six dry hydrants located away from the distribution system for firefighting. Residents in the remaining parts of Gray get their drinking water from private wells.

The District's water source is a gravel pack well with an authorized pump rate of 300 gallons per minute (GPM). The average pump rate is 200GPM. The annual withdrawal is just over 101,000,000 gallons. The water quality has been rated Maine's best.

The District is planning an extension of its distribution system on Portland Road to Whitney Road. The expansion is also shown on Map 8-1.

B. Sanitary Sewer

There is no municipal sanitary sewer system in Gray. All areas are served by on-site septic systems.

C. Natural Gas

There is no natural gas service in Gray.

D. Telephone

Pine Tree Networks provides telephone service in the Town of Gray. In addition, they provide DSL service to limited areas. DSL service is available to areas within 18,000 feet of a switch. Presently Pine Tree maintains three switches in town located on Route 26, Campbell Shore Road, and Intervale Road.

E. Cable Television

Cable television is available throughout Gray. Service is provided by Time Warner. The firm also provides high speed broadband (internet) service throughout the community.

11. Fiscal Capacity

A key factor in evaluating municipal infrastructure needs is the fiscal capability of a community to finance identified improvements. This section examines recent trends in municipal expenditures and revenues for the Town of Gray. Changes in property values are also discussed. Data used in this analysis was primarily obtained from the "Independent Auditor's Report" that was contained in various *Annual Reports of the Town of Gray*. It should be noted that financial data in Gray is reported on a Fiscal Year (FY) basis that begins on July 1st and ends on June 30th.

Blank Page for Map 8-1 - Water Distribution System

Blank Page for Back of Map 8-1

As illustrated in Tables 8-5 and 8-6 municipal expenditures in Gray (between FY 1998-1999 and FY 2001-2002) grew from $7,267,537 to $9,608,984. Yearly increases (Table 8-6) ranged from 8.5% to 11.1%. Education, by a significant margin, represents the largest municipal expenditure (51.1% to 53.9% of total expenditures) during the four fiscal years examined. The second largest expenditure category, Public Works, increased in terms of total dollars allocated each year, but declined in terms of a percent of total expenditures (Table 8-5). Other major funding categories, in terms of percentage of total expenditures, include General Government, Protection/Public Safety and Other.[3] It is interesting to note that while Debt Service and Capital Outlay have represented about 6% to 8% of actual expenditures during the past four fiscal years, the amount of funding allocated to these types of expenditures (see Table 8-6) have declined slightly during the period reviewed.

Table 8-5
Actual Expenditures
FY 1998-1999 to FY 2001-2002
Gray, Maine

	FY 1998-1999	Percent of Total	FY 1999-2000	Percent of Total	FY 2000-2001	Percent of Total	FY 2001-2002	Percent of Total
General Government	$ 486,218	6.7%	$ 558,100	7.0%	$ 578,898	6.5%	$ 674,658	7.0%
Protection/Public Safety	422,795	5.8%	493,801	6.2%	536,775	6.1%	568,088	5.9%
Public Works	1,149,708	15.8%	1,178,323	14.8%	1,295,745	14.6%	1,318,465	13.7%
Recreation	130,693	1.8%	143,248	1.8%	169,769	1.9%	160,540	1.7%
County Tax	270,462	3.7%	249,224	3.1%	262,708	3.0%	296,249	3.1%
Education	3,713,232	51.1%	4,166,313	52.3%	4,694,140	53.0%	5,177,450	53.9%
Social Groups/Health and Welfare	27,927	0.4%	31,356	0.4%	24,827	0.3%	24,400	0.3%
Other	460,673	6.4%	413,089	5.2%	567,767	6.4%	721,094	7.5%
Debt Service	268,855	3.7%	258,509	3.3%	248,100	2.8%	237,608	2.5%
Capital Outlay	336,974	4.6%	424,511	5.3%	420,207	4.7%	356,552	3.7%
Tax Increment Financing	-	-	50,963	0.6%	53,768	0.6%	73,880	0.8%
Total	$7,267,537	100%	$7,967,437	100%	$8,852,704	100%	$9,608,984	100%

Source: Based on the "Independent Auditor's Reports" contained in various Annual Reports of the Town of Gray, Maine

[3]The "Other" category involves a variety of insurance and employee benefit types of related expenditures. The largest component of this category is usually employee benefits.

Table 8-6
Percent Expenditure Changes by Year
Gray, Maine

	FY 1998-1999 to FY 1999-2000	FY 1999-2000 to FY 2000-2001	FY 2000-2001 to FY 2001-2002
General Government	14.8%	3.7%	16.5%
Protection/Public Safety	16.7%	8.7%	5.8%
Public Works	2.5%	10.0%	1.8%
Recreation	9.6%	18.5%	-5.4%
County Tax	-7.9%	5.4%	12.7%
Education	12.2%	12.7%	10.3%
Social Groups/Health and Welfare	12.3%	-20.8%	-1.7%
Other	-10.3%	37.4%	27.0%
Debt Service	-3.8%	-4.0%	-4.2%
Capital Outlay	26.0%	-1.0%	-15.1%
Tax Investment Financing	-	5.5%	37.4%
Total	9.6%	11.1%	8.5%

Source: Based on the "Independent Auditor's Reports" contained in various Annual Reports of the Town of Gray

An examination of municipal revenues, noted in Tables 8-7 and 8-8, indicates that the largest portion of town funds, approximately 70% per year, were obtained from General Property Taxes. The category designated as Other Taxes, the second largest revenue source, primarily represents revenues from excise taxes. The next largest source of revenue, Intergovernmental, represents a variety of different state government funding initiatives. A significant portion of this funding involves revenue sharing and the homestead exemption. This source of funding, as indicated in Table 8-8, has declined slightly during the past two years. The remaining revenue categories provided less than 10% of total funding received by the town. It is interesting to note that Charges for Service, which represent only about 3% of total revenues, increased during each of the four years examined, as did General Property Taxes. Overall revenue increased yearly (Table 8-8) in a range of 6% to 11% during the past four years. Property tax revenues are based on local property valuation and tax rates. Table 8-8 illustrates local property valuations and property tax rates for the past five years.

Table 8-7
Actual Revenue
FY 1998-1999 to 2001-2002
Gray, Maine

	FY 1998-1999	Percent of Total	FY 1999-2000	Percent of Total	FY 2000-2001	Percent of Total	FY 2001-2002	Percent of Total
General Property Taxes	$5,434,324	70.0%	$5,900,250	70.1%	$6,105,048	68.4%	$6,992,859	70.5%
Other Taxes	873,355	11.2%	986,601	11.7%	1,017,224	11.4%	1,240,239	12.5%
Intergovernmental	762,803	9.8%	957,581	11.4%	938,073	10.5%	891,805	9.0%
Charges for Service	245,318	3.2%	277,190	3.3%	315,975	3.5%	340,670	3.4%
Interest	200,810	2.6%	203,349	2.4%	381,975	4.3%	198,895	2.0%
Other	246,315	3.2%	92,112	1.1%	165,091	1.9%	252,425	2.6%
Total	$7,762,925	100%	$8,417,083	100%	$8,923,386	100%	$9,916,893	100%

Source: Based on the "Independent Auditor's Reports" contained in various Annual Reports of the Town of Gray, Maine

Table 8-8
Percent Revenue Changes by Year
Gray, Maine

	FY 1998-1999 to FY 1999-2000	FY 1999-2000 to FY 2000-2001	FY 2000-2001 to FY 2001-2002
General Property Taxes	8.6%	3.5%	14.5%
Other Taxes	13.0%	3.1%	21.9%
Intergovernmental	12.9%	-2.0%	-4.9%
Charges for Service	12.9%	14.0%	7.8%
Interest	1.3%	87.8%	-47.9%
Other	-62.6%	79.2%	52.9%
Total	8.4%	6.0%	11.1%

Source: Based on the "Independent Auditor's Reports" contained in various Annual Reports of the Town of Gray, Maine

As noted in Table 8-9 local property valuation has increased between 2.7% to 3.3% yearly. It is currently estimated that local valuation currently represents about 80% of true market value. This ratio of local assessment ($352,755,072) to market value, equates to a market value of approximately $440,943,840.

Table 8-9
Local Property Valuation and Tax Rates
FY 1997-1998 to FY 2001-2002
Gray Maine

Fiscal Year	Total Local Valuation	Percent Change	Tax Rate (Per $1,000 Valuation)	Percent Change
1997-1998	$315,493,592	___	$16.80	___
1998-1999	$324,070,730	2.7%	$17.55	4.5%
1999-2000	$332,027,530	2.5%	$18.46	5.2%
2000-2001	$342,898,351	3.3%	$18.44	-0.1%
2001-2002	$352,755,072	2.9%	$20.50	11.1%

Source: Town of Gray, Fiscal Year 2002-2003 Proposed Budget

12. Implications for the Future

This chapter has presented an overview of the existing municipal services and infrastructure presently operated by the town and school district. The information presented here indicates that Gray is currently confronted with many questions regarding possible changes in municipal facilities that are used by town departments and the school district to deliver services to the community. Many of these facilities are in need of renovation, expansion, upgrading, or replacement due their age, functional obsolescence, or increased demand for service.

Some of the issues about facilities are related to growth in the community which results in the need to provide existing services to more people, households, roadways, vehicles, etc. However, some of the deficiencies in the town's infrastructure are also attributable to the lack of sustained capital investment over a continuous time period. This is a common occurrence in most communities where emphasis is often placed on controlling expenditures in an effort to reduce tax increases. The result however, is that a backlog of deferred facility needs develops that may suddenly require attention at the same time. The way to avoid this situation is through long-term planning for capital improvements through a capital investment program (CIP) which the town formally initiated in 2002 with its *Capital Investment Program Handbook.* The CIP, in conjunction with this comprehensive plan, can be used by the town to identify capital needs and make regular annual contributions to reserve funds that will be used to address existing and anticipated facility needs. This will not reduce the town's capital expenditures but it will help to extend the fiscal impact over a longer period of time and make expenditures more predictable.

While the CIP will be an asset for future community planning there are numerous facility related issues confronting the town at this time that require more immediate attention. There are also issues related to what levels of service the town wishes to maintain in areas such as police and fire protection, library, recreation, and school facilities. Many of these issues represent quality of life decisions on which the community must come to some consensus about how to proceed. Another key to addressing existing facility needs will be to set priorities for the order in which improvements will be made. These priorities should be determined not only by cost or safety considerations, but also be based on a logical and comprehensive approach that considers the sequencing of improvements from both a physical planning as well as a financial investment perspective. Capital improvements should also be based on which alternative will not only serve the immediate needs of the community, but also position the town to upgrade facilities beyond the foreseeable planning horizon of this comprehensive plan.

Economic Development 9

1. Introduction

In 2001 an economic growth strategy was prepared for the Town of Gray[1]. The strategy examined the economic development capacity of the town, as well as various types of existing retail, commercial and industrial development activities. Based on this analysis a specific strategy and detailed recommendations for improving economic development opportunities in Gray were identified.

The study also noted that Gray is at an economic crossroads. Its location, between the Portland and Lewiston metropolitan areas at the confluence of a number of state highways, literally puts Gray at the economic crossroads of south-central Maine. At the same time, the town is at a crossroads with respect to its community and economic development policies.

This chapter represents a summary of the *Economic Growth Strategy for Gray*. More detailed economic data and conclusions are contained in this publication which is included, by reference, as part of this comprehensive plan. **Specific recommendations relating to economic development activities for Gray are outlined in Chapter 2 (Implementation Strategy).**

[1] *Community Economic Growth Strategy for the Town of Gray, Maine* prepared for The Gray Community Economic Development Committee by Planning Decisions, Inc. (July 2001).

2. Summary of Major Findings and Conclusions

- Gray needs a clear, consistent direction with respect to economic development that is supported by municipal officials, community and business organizations and residents of the community.

- The town needs to improve the flow of traffic in and through Gray Village.

- Gray must provide the infrastructure needed to support economic development, including an improved water supply and an expanded supply of land suitable for development.

- The community must market Gray as a good place to live, work and do business.

- The town must assure that economic growth is a positive addition to the community, that new businesses are of a high quality and that the town's business districts are attractive and inviting to both businesses and customers. This will require revising the zoning ordinance to establish higher standards for new commercial development, as well as making Gray Village more pedestrian friendly and visually attractive.

3. Economic Development Capacity

A community's economy is partially based on the collection of infrastructure and services that are required to support economic growth and development. Key findings in the *Gray Economic Growth Strategy*, which are also discussed in previous chapters of this comprehensive plan, included the following:

- Sewers - Gray currently has no public sewer system. The lack of a sewer system affects both the type and size of businesses that could be attracted to Gray. Businesses that aren't interested in a sewer system tend to have a lower volume of effluents or cleaner effluents. In addition, the location of these businesses will likely be more haphazard. This is not to say that Gray won't attract businesses, rather that it will be more difficult for Gray to attract a cluster of larger production-oriented businesses.

- Water - Gray does have a public water system that is sufficient for today's demands. However, there are limits to its expansion. High elevations could make expansion prohibitively expensive. The amount and rate of supply also limits possible expansion of the system. The system can safely supply 300 gallons per minute and current use is approximately 200 gallons per minute. If a user or group of users come on-line that demand a significant amount of water, the Water District would have to increase its capacity at a very large expense. The Gray Water District currently is exploring the possible development of a new well to serve the system.

- Transportation - The ability to 'get there from here' is an important component of any economic development portfolio. Gray Village is the node for no fewer than six transportation corridors that move traffic of all sizes in all directions. It is easy to get to Portland, Lewiston-Auburn, and points beyond on the Maine Turnpike. It is also easy to get to North Windham, Yarmouth, and other communities on local roads. Gray is at the crossroads of the region. While safety and congestion are issues in Gray Village, the proposed Route 26 bypass should ease some congestion concerns. Gray, however, has a strong transportation resource in its economic development portfolio.

- Three Phase Electrical Power - This method of distributing AC power, in a range of 2 to 5 kilowatts or greater, has grown in popularity. This form of electrical service is more efficient especially when large amounts of power is required for equipment, such as mainframe computers, and various types of manufacturing processes. Currently access to three phase power in Gray is available along the entire Route 100 corridor from Cumberland to New Gloucester and along portions of Routes 26 and 115. Gray's access to three phase power is competitive with other towns in the region.

- Telecommunications - Access to a high-speed and reliable telecommunications system is key to the success of numerous businesses. Gray's telecommunications access is competitive with any other community in southern Maine and superior to many. Time Warner Cable offers high speed cable access to the Internet throughout Gray. Pine Tree Telephone offers Direct Service Line (DSL) service within three miles of Gray Village, an option which offers higher speeds than typical modems without cable's higher expenses. These and other technologies allow Gray to be competitive with almost any other community in Maine and New England.

- Land Availability - In addition to the infrastructure necessary to attract economic development, there needs to be land on which development can occur. As discussed in Chapter 4 (Existing Land Use) the Town of Gray has a relatively small amount of commercially and industrially zoned land.

- Education - A well-educated work force is a key asset in promoting economic development. Currently businesses in Gray have access to a quality local school system, that continues to improve, and various regional technical and higher education resources.

- Institutional Support - Organizations and institutions that provide financing, information assistance and training resources are a critical and often overlooked component of economic development. Gray's level of institutional support is better than some towns and worse than others. The training resources that are readily available in Gray are very good, as is the technical information assistance offered through Maine's various business advocacy groups. For the most part, these are regional resources to which all of Gray's neighbors have access.

Gray has also been willing to use Tax Increment Financing (TIFs) in the past to help finance business development. However, many of the larger neighboring communities have economic development offices and can put more resources into business assistance and recruitment than Gray.

4. Retail and Service Sectors

The retail and service sectors are key components of Gray's economy. Based on a space utilization study it was determined that these types of uses in Gary contain approximately 399,000 square feet of space in various types of uses (see Table 9-1).

Table 9-1
Retail and Service Sectors
Square Footage
Gray, Maine (2001)

	Square Footage	Percent of Total
Retail	220,000	55%
Service	100,000	25%
Office	45,000	11%
FIRE	34,000	9%
Total	399,000	100%

Source: Planning Decisions, Inc.
Note FIRE - Finance, Insurance and Real Estate

While the economic activities of various types of businesses differs, the primary economic role of the retail and service businesses in Gray is as a convenience retail and service center meeting the day-to-day needs of residents of the immediate area, people who work in Gray, and people passing through the community. For example, approximately 37% of total retail space (75,000 square feet) is devoted to the sale of convenience goods. In addition, a significant portion of restaurant and food/beverage establishments are devoted to the convenience market (57,000 square feet).

Another key factor in understanding the retail and service market involves the identification of a commercial center's primary trade area (PTA). The PTA, which is defined as the contiguous area from which 70% to 80% of the customers originate, represents the population that travels to the retail center regularly and frequently for goods and services. Beyond the PTA there is usually a secondary market that represents 5% to 10% of the center's customers. The population of the secondary market is typically less reliant on the center for goods and services and may utilize the center for only specific goods and services.

Based on an analysis conducted for the *Gray Economic Growth Strategy*, the PTA for Gray Village was identified as the Towns of Gray and New Gloucester. Two secondary markets were also identified that included parts of Raymond and Poland to the north and North Yarmouth to the east.

A survey of customers at various business locations, as well as an evaluation of different social and economic indicators associated with residents of the primary and secondary trade areas, was then used to identify the following key issues related to possible retail and service sector growth.

- **Future of the Convenience Center Role**

  The Gray trade area is quite small. To date, its somewhat isolated geographic location has allowed retail and service businesses to capture a reasonable share of the market. As competition increases in North Windham, West Falmouth and in other locations, Gray will need to continue to capture an adequate share of the market to support the existing base of businesses. This will require that businesses remain highly competitive and that Gray be a convenient and attractive place to shop.

- **Expansion of Comparison and Specialty Goods Retailing**

  The sales of comparison and specialty goods is relatively limited in Gray. The limited size of the trade area makes it unlikely that traditional merchants will locate in Gray. At the same time, the regional access created by the Turnpike creates some limited opportunities for attracting comparison or specialty retailers who draw on a regional or larger market and who function essentially as destination businesses.

- **Traffic Congestion**

  Traffic congestion in Gray Village is viewed as a significant impediment to economic growth. Customers see congestion as an impediment to shopping in the Village while businesses also express concern about the traffic situation. Additional business development east of the Turnpike will be potentially limited until improvements in the traffic situation are made.

- **Aquifer Protection**

  The aquifer that serves as the Water District's supply extends under Gray Village. To protect the quality of this source, the town has enacted aquifer protection regulations that essentially preclude any significant business development in Gray Village.

- **Visual Attractiveness**

  While the previous comprehensive plan and other town documents talk about preserving the New England character of Gray Village, the existing visual character is not particularly appealing. Similarly, the main roads into the community do not present an appealing "first impression" of the community. Retaining consumer spending in Gray may be enhanced by making the shopping environment more appealing.

- **Pedestrian Orientation of the Village**

  Gray Village has essentially been transformed from an historical village center into an automobile oriented shopping area. Most of the recent construction in the Village has been designed to accommodate vehicles not pedestrians. The scale and layout of the Village Center still makes a more pedestrian oriented pattern possible, but this would need to become a major focus of the community's future planning efforts.

5. Commercial and Industrial Sectors

While Gray lacks a concentration of commercial and industrial uses, the *Gray Economic Growth Strategy* identified almost 300,000 square feet of occupied industrial-type space in the community including manufacturing, warehousing and distribution, and contractors. In addition the inventory noted that there is almost 45,000 square feet of office space, some of which is occupied by businesses that do not serve the local economy. This section briefly examines several key issues relating to increasing commercial and industrial growth in Gray.

A. Potential Development Areas

Based on the location of existing commercial and industrial business, as well as other factors, the *Economic Growth Strategy* identified three areas in Gray that offer potential for commercial/industrial development: the Portland Road corridor south of the flats; Route 100 north of Gray Village; and Route 115 west of the Turnpike. Outlined below are short evaluations of each area.

- Outer Portland Road - This area has fairly good access to the Turnpike and soils along the corridor are generally suitable for on-site sewage disposal. Although public water is not available, aquifer protection is not a key issue. Only a portion of the corridor is zoned commercial and certain type of uses (contractors, manufacturing or wholesale/distribution) are not permitted. This area appears to have a reasonable amount of potential for non-residential land uses that do not require a high value location. This will likely require changes in existing zoning, with suitable limitations, to allow for more of a commercial/industrial mix in this area by allowing offices, warehousing/distribution, contractors, light manufacturing, and similar types of uses. To improve traffic safety and

the character of this area, the town should also consider additional access limitations and some basic site design provisions for new non-residential development.

- Route 100 North - This area has good to fair roadway access, although you have to travel through the Village to reach the Turnpike, and soils along the corridor are generally suitable for on-site sewage disposal. There are, however, scattered wetlands and hydric soils within the corridor. Only a small portion of this area is served by public water and most of the corridor is adjacent or located within the aquifer. It is felt that this location would be appropriate for the types of land uses recommended for the Outer Portland Road corridor. This would require a change in zoning in order to permit small business offices, contractors and automotive services. In addition, access limitations and some basic site design provisions should also be adopted in order to maintain traffic capacity and the visual quality of the area.

- Route 115 Fringe West of the Turnpike - The future construction of the "Village By-Pass" from Exit 11 of the Maine Turnpike to Route 26 (the Shaker Road) on the west side of the Turnpike creates a significant economic development opportunity that should be considered. The town should explore designating a large area in the McConkey Road/Nothbrook area as a future "Economic Development District" to accommodate economic growth in the community for the long term future. The objective of this designation would be to allow property owners to continue to utilize their property for current uses, including agriculture, but assure that this area is "reserved" for future non-residential development as market demand and property owner interest warrants. Although the area is served by a water main, along West Gray Road, soil conditions vary with some large wet areas that are not suitable for on-site disposal. Generally the area is not located in the Aquifer protection district, but portions of the site, north along the Turnpike and Route 26, are located in the aquifer.

B. Competitive Environment

The regional environment for attracting commercial/industrial development is highly competitive. The primary competitors of Gray for quality commercial/industrial development are Windham, Lewiston-Auburn, Freeport, the redevelopment of the Pineland Center and, to a lesser extent, the communities on the northern fringe of Portland including Falmouth, Yarmouth, and Cumberland. Based on this analysis specific competitive strengths and weaknesses for Gray relative to economic growth in the commercial/industrial sectors are outlined below.

Strengths	Weaknesses
• Good highway access • High quality communications infrastructure including Internet access and telephone service • Affordable tax rate • Lower land costs • Less expensive labor supply • Lower cost of doing business • Availability of financing through use of TIF's • No crime	• Lack of public sewerage • Limited water volumes/pressure • Limited non-residentially zoned land • Lack of business support services - hotel, restaurant, business services • Outdated zoning regulations • Poor image as a result of publicity • Lack of housing • Competition from the redevelopment of Pineland

C. Key Issues and Implication

The analysis of the commercial and industrial sectors identified key issues that need to be addressed in order to promote new economic growth and development in Gray.

1. Sewer Availability

The lack of a public sewer system puts Gray at a competitive disadvantage with respect to attracting certain types of commercial/industrial uses. Since it is unlikely that the town will be able to develop a sewer system in the foreseeable future, efforts at promoting economic growth will need to focus on uses that can operate using on-site sewage disposal.

2. Public Water Supply

The Gray Water District has limited supply capacity and its distribution system results in areas that have limited flows and/or pressure. Assuring that there is adequate water supply for both domestic and fire protection needs is a key issue that needs to be addressed. This may require the establishment of a closer working relationship between the town and the District both in planning for and financing water system improvements to support economic growth.

3. Land Availability

While the community has some vacant land suitable for commercial and industrial development, there is a limited supply of "improved" land where utilities are available and the land has been divided into lots. Having a choice of sites is a key factor in attracting business to the community.

4. **Community Capacity**

Although the town has established some capacity to promote the community and to work with potential growing businesses, the level of service it can provide is less than that found in a number of competing communities. To the extent that it is a buyers' market with a number of potential locations available to a business considering expanding or locating in Gray, the town needs to be prepared to present a competitive position.

6. Economic Growth Strategy

The recommendations identified in the *Gray Economic Growth Strategy* is intended to guide implementation activities for the Town of Gray and the community's economic development organizations over the next several years so that sound economic expansion occurs in a manner that maintains and enhances the quality of life in the community. The growth strategy covers three broad areas, general economic development, the retail and service sectors, and the industrial and commercial sectors. Within each area, the strategy establishes objectives for economic improvement. **Specific activities for accomplishing these objectives are outlined in the Implementation Strategy (Chapter 2).**

A. General Economic Development

This section of the strategy deals with the broad area of capacity to accommodate growth, undertake economic development activities and function competitively in the regional economy.

Objective#1 - Enhance the Capacity of the Gray Community to Play an Active Role in Promoting Sound, Sustainable Economic Development

The town has a limited commitment and modest capacity to promote economic growth at a time when it is literally ringed by communities with active, aggressive economic development programs. Competing favorable for economic growth in the future will require that the community become more committed and skilled in this area if it desires to continue to attract sound economic growth.

Objective #2 - Increase the Awareness and Consideration of Gray as a Business Location

Gray's location between the Greater Portland and Lewiston-Auburn metropolitan areas can be a strength, but it also allows it to be overlooked in the business location and site search process. This situation will become more acute with the development of the Pineland Center into an employment complex and enhanced economic development efforts in Windham.

Objective #3 - Improve Traffic Flow Through Gray Village

Traffic congestion within Gray Village is perceived as a major obstacle to economic growth and the quality of life of the community. Customers of retail and service businesses may avoid using local businesses at certain times, while businesses see this as a significant negative factor in business locational decisions.

Objective #4 - Improve the Image of Gray as a Desirable Community in Which to Locate a Business

The image of a community is greatly influenced by its physical appearance. It influences how businesses view the community as a business location and affects the willingness of customers to shop in town. The existing entryways to the community from the Maine Turnpike and along Routes 100 and 115 are not particularly attractive nor appealing. Gray Corners similarly presents a mixed image of Gray.

Objective #5 - Improve the Ability of the Gray Water District to Support Economic Growth

The availability of adequate public water for both domestic and fire protection purposes is essential for sound, economic growth.

B. The Retail and Service Sectors

This section of the strategy deals with the retail and service sectors and Gray's role as a retail and service center.

Objective #6 - Retain and Expand the Range of Convenience Goods and Services Available in Gray

Gray functions as a local convenience center providing residents of the local trade area with goods and services to meet their day-to-day needs. Many of Gray's retail and service businesses support this rule. However, the regional retail environment is constantly changing as new competition develops.

Objective #7 - Increase the Share of Convenience Spending Done in Gray by Residents of the Local Trade Area

Many Gray businesses, especially those offering convenience goods and services, draw most of their customers from a small, local trade area. However, these consumers do a significant share of the spending on convenience goods and services outside of Gray in other retail centers. The

long term health of the community's retail and service sectors is dependent on continuing to capture a significant share of convenience spending in Gray.

Objective #8 - Expand the Range of Comparison or Specialty Goods Available in Gray

There is a limited number of businesses located in Gray that offer comparison or specialty goods. Many that do are niche businesses that offer specialty products that are purchased by consumers from a broad area. Gray's location adjacent to the Turnpike combined with lower space costs make it appropriate for some niche, retail businesses.

C. The Industrial and Commercial Sectors

This section of the strategy deals with the industrial and commercial sectors and Gray's role as an employment and business center.

Objective #9 - Increase the Supply of Well Located and Serviced Land to Accommodate Office, Manufacturing Distribution, and Similar Uses

Rezoning over the last decade has reduced the supply of vacant, developable land available to accommodate economic growth. The town's major assets for these uses are the Turnpike and the resulting access to a large, diverse labor supply. Therefore, being able to accommodate development near Exit 11 is important.

Objective #10 - Increase the Number of Industrial/Commercial Businesses in Gray

Gray's location with respect to Exit 11 of the Maine Turnpike creates a suitable location for some types of industrial and commercial businesses.