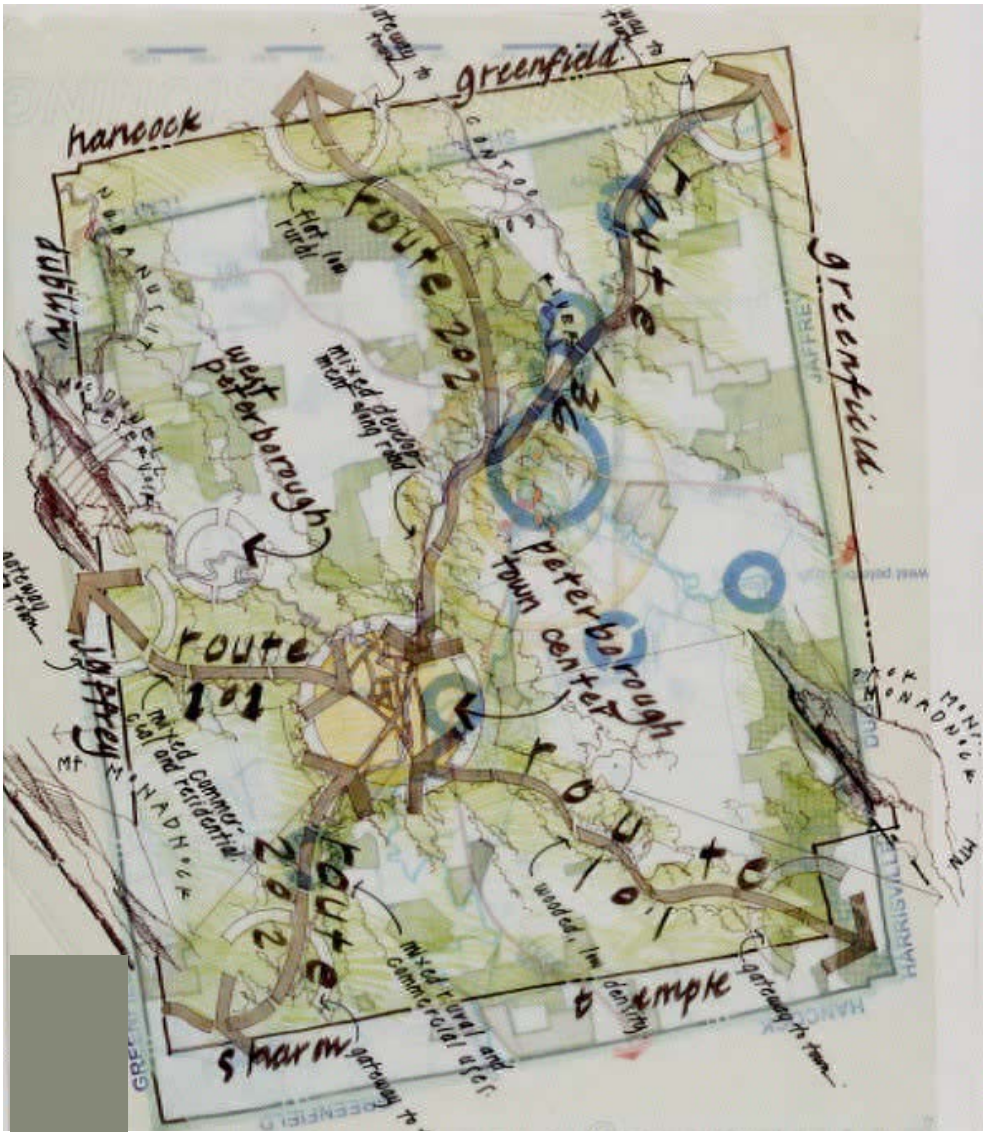
Chapter

8

LAND USE PLAN



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Chapter

8

I. Introduction

In this chapter, vision statements are translated into a plan that depicts and describes the proposed location, extent, and intensity of future land uses in Peterborough. This section is, as required by the state statutes, based on a study of population, economic activity, and natural, historic, and cultural resources (RSA 674:2, II (b)). The section includes an analysis of existing land uses, developable land, development potential scenario, and the current zoning districts in Peterborough, as well as a review of earlier Master Plans and other plan recommendations. Implementation strategies recommended to accomplish the vision are addressed in a separate chapter.

Two new state statutes also play a role in the development of this plan: RSA 9-A: 1 says that local planning boards are encouraged to develop plans that are consistent with the policies and priorities established in the state comprehensive plan.

RSA 9-B, State Economic Growth, Resource Protection, and Planning Policy, which states it is New Hampshire's policy that state agencies (and, by extension, local boards when developing plans that are consistent with state plans) act in ways that encourage smart growth.

RSA 9-B: Smart Growth is defined as "the control of haphazard and unplanned development and the use of land which results over time, in the inflation of the amount of land used per unit of human development, and of the degree of dispersal between such land areas. "Smart growth" also means the development and use of land in such a manner that its physical, visual, or audible consequences are appropriate to the traditional and historic New Hampshire landscape.

Smart growth may include denser development of existing communities, encouragement of "mixed use" in such communities, the protection of villages, and planning, so as to create ease of movement within and among communities. Smart growth preserves the integrity of open space in agricultural, forested, and undeveloped areas. The results of smart growth may include, but shall not be limited to:

- Vibrant commercial activity within cities and towns;
- Strong sense of community identity;
- Adherence to traditional settlement patterns when siting municipal and public buildings and services;
- Ample alternate transportation modes;
- Uncongested roads;
- Decreased water and air pollution;
- Clean aquifer recharge areas;
- Viable wildlife habitat;
- Attractive views of the landscape; and
- Preservation of historic village centers.

II. EXISTING LAND USE

Since the type and intensity of existing land uses have a strong influence on future development patterns, it is important to understand how land and other resources are used before recommendations can be developed regarding future land uses.

Many factors influence a community's land use patterns; historically, this would include natural resource constraints and opportunities, agricultural and forestry practices, and the development of industry. For the past 30 years, since the inception of zoning in Peterborough, regulations have also been a factor in shaping the type of development. This section reviews Peterborough's past development patterns, and examines the current land use pattern relative to the zoning regulations.

A. Land Use Categories

The first step in the land use analysis is to determine how to classify the various structures, uses, and land areas that exist within the Town. The second step is to utilize a combination of tax assessing data, visual surveys, and aerial photographs to locate the various categories of uses on the ground. In general, land is classified according to its physical characteristics and the present use occurring on it. Following is a listing and description of the present land uses found in Peterborough:

- RESIDENTIAL: Identifies all structures in which dwelling units are found. These include standard (site-built) single-family homes, duplexes, multi-family, factory-built modular homes, mobile homes (now classified as "manufactured housing"), apartment buildings, and seasonal cottages.

- COMMERCIAL: Identifies uses that supply goods and/or services to the general public as a principle use of the property. These range from grocery stores and retail sales of products to professional offices.

- INDUSTRIAL: Land and structures used for manufacturing, processing, packaging, storage and/or warehousing.

- PUBLIC/SEMI-PUBLIC/INSTITUTIONAL: Establishments and facilities supported by and/or used exclusively by the public or non-profit organizations. This includes fraternal, religious, charitable, educational, governmental, and public utility facilities.

- PROTECTED LANDS: All lands in Peterborough that are under a conservation or preservation easement, either publicly or privately held, with the stipulation that they cannot be developed.

- RECREATIONAL: Land and/or facilities that are devoted exclusively for public or private recreational pursuits and may be owned either publicly or privately.

B. Land Use Determinants

Natural and man-made features typically act singularly or in combination to influence growth and development in a town. The major physical and topographic features, such as the existence of flat or gently-sloping land, steep slopes, rivers, wooded and open spaces, etc. are the primary factors that influence the initial as well as the subsequent development of land. Secondary factors usually consist of man-made features such as roads, railroads, utilities, and major commercial, industrial, or recreational facilities, which attract and/or stimulate new or expanded development.

In Peterborough, topography and water have played a significant role in the Town's development. Most of the development has occurred in the Contoocook River valley, running north-south through the length of town, where both the river and Nubanusit Brook provided power sources for factories and mills. These influences are all described in more detail in the 1992 Master Plan.

C. Historic Development Patterns

Peterborough's development pattern can be described as having four components: (1) highway development along Routes 101 and 202; (2) village nodes; (3) neighborhoods; and (4) frontage development along the town roads. An examination of old town maps indicates that Peterborough always had a dispersed development pattern; this is likely because the Town was divided into lots as soon as the land grant was sold. A 1954 map does not look appreciably different in terms of dispersal than today's land use map.

The first Master Plan, written in 1974, identified five distinct villages or neighborhood areas; by 1992, those had increased to eight. The observation was also made in the 1992 Plan that the distinction between town and country had become blurred, with some areas connected by highway strip development, a type of development not typical of an old-fashioned New England Village.

D. General Land Use Pattern

Today, the general land use pattern is not appreciably different from that of 1992. As noted above, some of the village areas are connected by strip development and are not typical of an old fashioned New England village. The remainder of the Town is still predominantly rural, although there are pockets of residential development throughout. The 1992 Master Plan provides a detailed description of these individual areas. This Plan utilizes findings of the 1992 Plan as a basis for the update.

E. Existing Land Use Analysis

This section examines the various land use categories described above that exist in Peterborough today. Identification of uses is based on tax assessing information, aerial photographs, and visual surveys. Categories are presented graphically on the Existing Land Use Map.

- RESIDENTIAL

Residential development in Peterborough is comprised primarily of single-family homes. As the map illustrates, this development is dispersed throughout the entire Town, much of it as frontage development along town roads. In addition, there are clusters of village or neighborhood development. There are several apartment/condominium developments as well.

- COMMERCIAL

Commercial activity in Peterborough is, for the most part, located along Route 202 and in the Downtown/Village areas. There are several areas where commercial activity is clustered (outside of the Downtown). One of these is at the intersection of Routes 101 and 202 South to the Monadnock Plaza; another is at Noone Falls; and 202 North has a small cluster of commercial uses in the area north and south of the Contoocook Valley Regional High School.

Professional services comprise the largest percentage of commercial uses in Peterborough, at 20%, followed by retail sales at 15%, and healthcare at 14%. Overall, 473 business establishments have been identified by the Economic Vitality Subcommittee.

- INDUSTRIAL

Industrial activity does not comprise a significant portion of developed land uses in Peterborough. There are only eight businesses that have been identified as such through the assessing data. They are:

  - Two printing operations: Sims Press and NEBS
  - The Harris Construction Company, Inc.
  - Carroll Concrete Company
  - The Peterborough Basket Company
  - New Hampshire Ball Bearing
  - Woodmaster
  - NV Kanvas

- PUBLIC/SEMI-PUBLIC/INSTITUTIONAL

These uses are principally municipal government functions, such as town government offices and facilities; the category also includes churches, cemeteries, post offices, schools, and the library. This does not include town-owned recreational facilities, which are identified separately.

- RECREATIONAL

The Town of Peterborough owns three public parks: Putnam Park in the downtown, Teixeria Park in West Peterborough, and Adams Playground on Union Street. Adams Playground is a 50-acre park that provides tennis courts, a swimming pool, basketball courts,

baseball and softball fields, a volleyball court, an outdoor ice skating rink, a skateboarding park, a children's playground center, and office space for the Recreation Department. In addition, there is a town beach at Cunningham Pond. And, although outdoor recreation takes place on many other lands all around Town, they are not specifically identified as "recreational," since they fall under the protected lands category or the public lands category.

The table and graphs following present the estimated acreage devoted to each of the land uses described above; in addition, the table also presents the percentage each category represents of land that is actively used as well as total land area. Agricultural uses have not been included. Information is derived from the Tax Assessor's database. Calculations of acres are based on the following:

- All residential uses (single-family, duplex, and multi-family) are allocated one acre for computation purposes. The rationale for this is that, despite the size of the residential lot, in most cases only about an acre of land is actually devoted to the use; although there may be more in some cases.

- The land area devoted to roadways is calculated for a 50-foot right-of-way since, even though the actual traveled way is much less than the 50 feet, no development can occur within the right-of-way.

- For all of the other uses, the actual acreage was taken from the Assessor's data or calculated from the Town's Internet Mapping System.

TABLE #1:
EXISTING LAND USE CATEGORIES, 2003

Land Use	Acres	% of Developed Land Area	% of Total Land Area
Residential	1,681	33%	7%
Commercial	660	13%	3%
Industrial	200	4%	1%
Public/Semi-Public	620	12%	3%
Recreation	1,203	24%	5%
Roads	702	14%	3%
Total Developed	**5,066**		**21%**
Total Land Area	23,732		
Vacant	**18,666**		**79%**

SOURCE: TOWN OF PETERBOROUGH

According to these figures, about 21% of Peterborough's land area is developed; and of that, most of the development is devoted to residential uses, followed closely by recreation. Note, however, that much of the land that is designated for recreational use is not actually "developed" but rather is used for so-called passive recreation – hiking, for example.

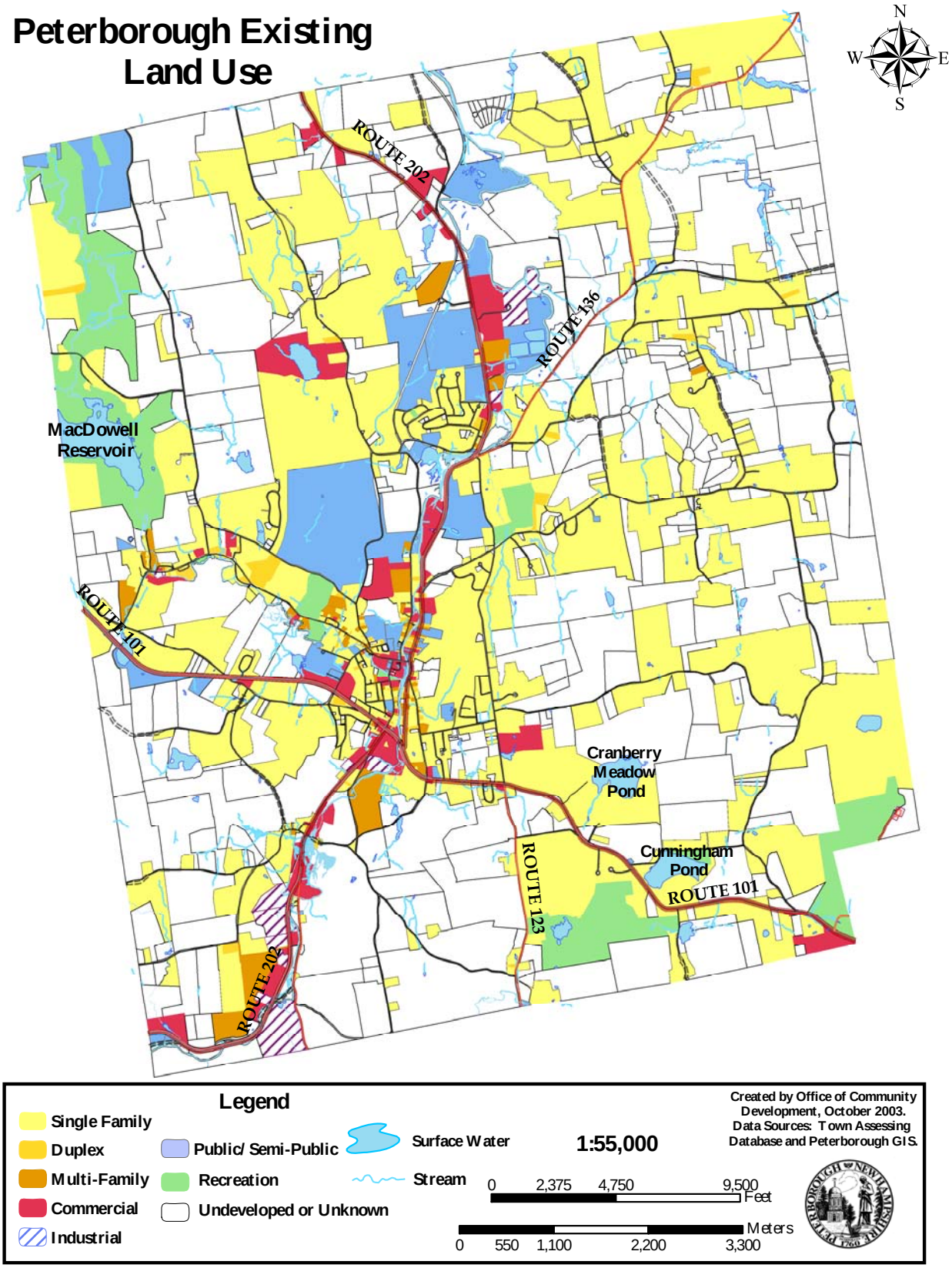

Peterborough Existing Land Use
N
W
E
S
ROUTE 202
ROUTE 136
MacDowell Reservoir
ROUTE 101
Cranberry Meadow Pond
Cunningham Pond
ROUTE 123
ROUTE 101
ROUTE 202
Legend
Single Family
Duplex
Multi-Family
Commercial
Industrial
Public/ Semi-Public
Recreation
Undeveloped or Unknown
Surface Water
Stream
1:55,000
0 2,375 4,750 9,500 Feet
0 550 1,100 2,200 3,300 Meters
Created by Office of Community Development, October 2003.
Data Sources: Town Assessing Database and Peterborough GIS.

FIGURE #1:
DEVELOPED LAND AS A PERCENTAGE OF TOTAL LAND AREA, 2003

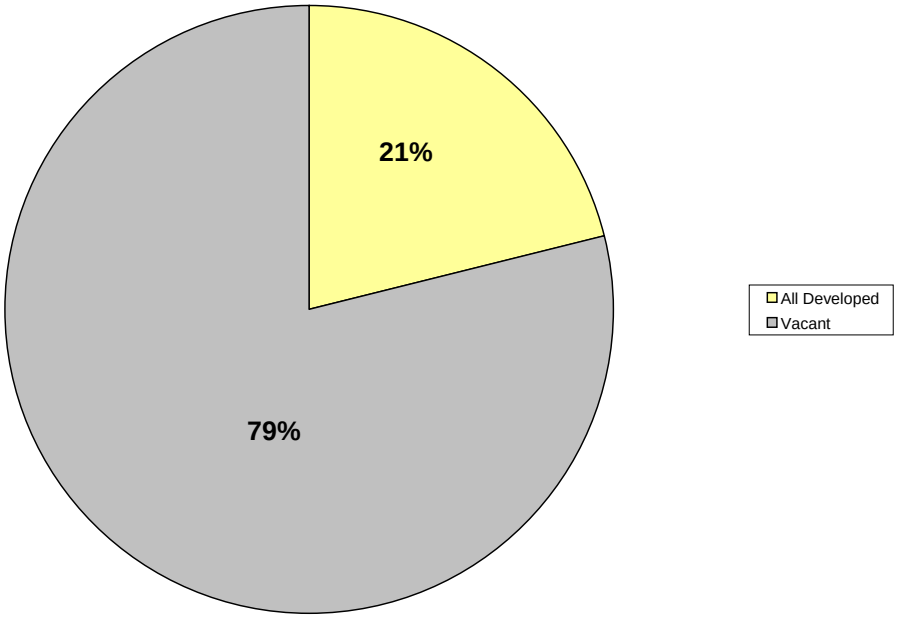
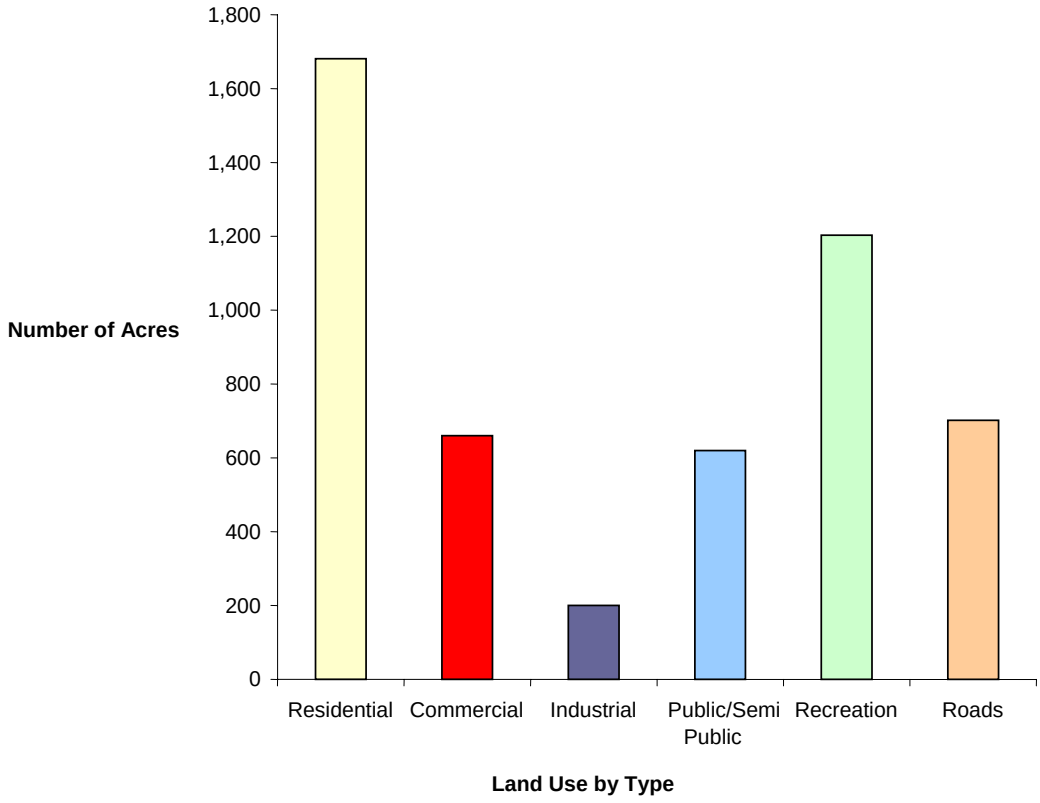


FIGURE #2:
EXISTING LAND USES AS A PROPORTION OF ALL DEVELOPED LAND, 2003



III. ANALYSIS OF DEVELOPABLE LAND

Based on the calculations of land area that is committed to a given use, approximately 79%, or more than 18,000 acres of land are available for development in Peterborough. However, in actual practice, this might not be feasible due to zoning restrictions and environmental concerns. In addition to land that has natural or regulatory constraints, there is also land that cannot be developed due to conservation easements or some other form of protection. There are currently over 4,000 acres in Peterborough that fall into this category.

Table #2 illustrates the wetlands and conservation shorelands that are regulated by the zoning ordinance. These sensitive areas are not allowed to be used for development. Steep slopes and floodplains, which are not prohibited from development by town regulations, constitute lands that are generally considered to be sensitive and problematic for development.

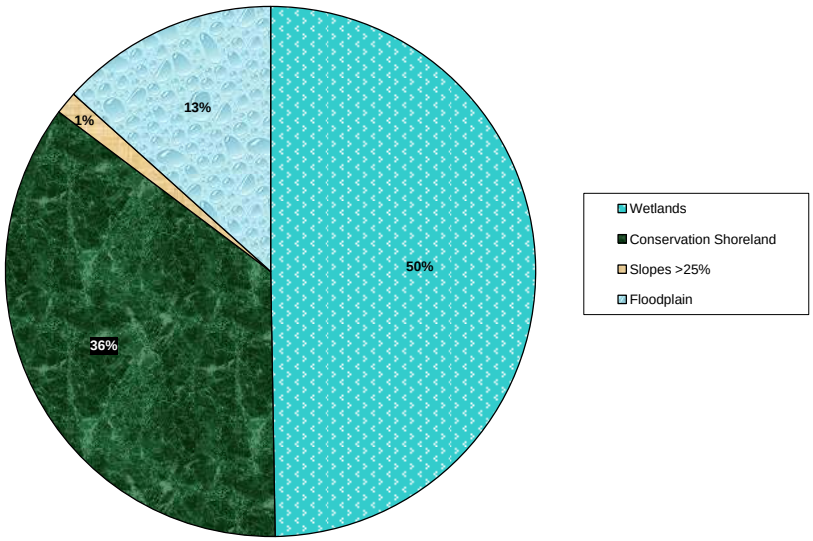
TABLE #2:
DEVELOPMENT CONSTRAINTS

	ACRES
Wetlands	3,560
Conservation Shoreland	2,561
Total Zoning Constraints	**6,121**
Slopes >25%	91
Floodplain	963
Total Natural Constraints	**1,054**
Total Constraints	**7,175**

SOURCE: TOWN OF PETERBOROUGH

FIGURE #3:
CONSTRAINTS TO DEVELOPMENT

As Table #2 indicates, of the Town's 23,732 acres, over 6,000 acres are restricted by local zoning, and another thousand acres have limitations due to their sensitive nature; this accounts for approximately 30% of the total land area in Peterborough.

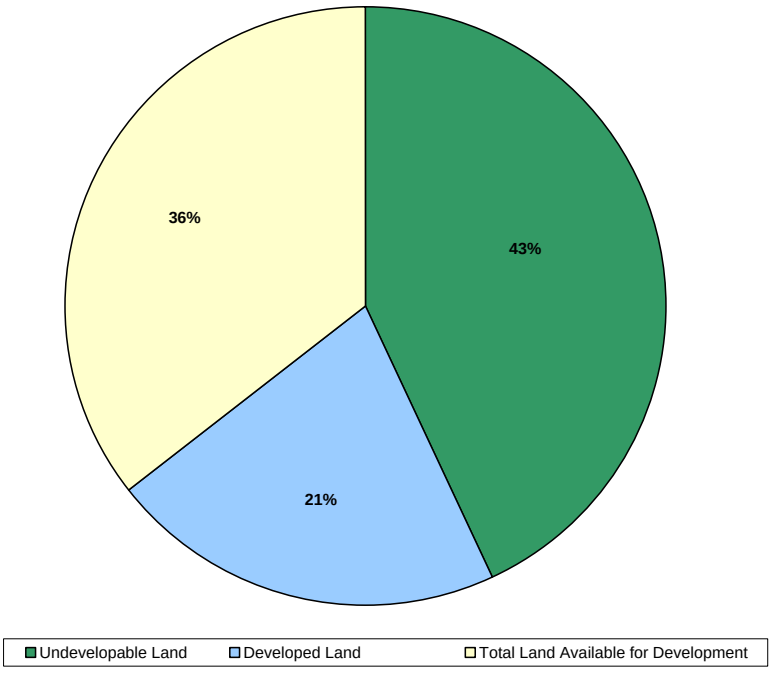


In this analysis of development potential, there is one further consideration, and that is land that is already developed and land that is protected from development (see Table #3). When these two variables are added, there remain about 8,400 acres in Town that have no development on them, or are not constrained by zoning or protective easements. Thus, while it appears that 36% of the town still has potential to be developed, it is important to note that nearly half of the land (43%) in Peterborough is either constrained from development through zoning or is permanently protected from development. These percentages are illustrated in Figure #4 below.

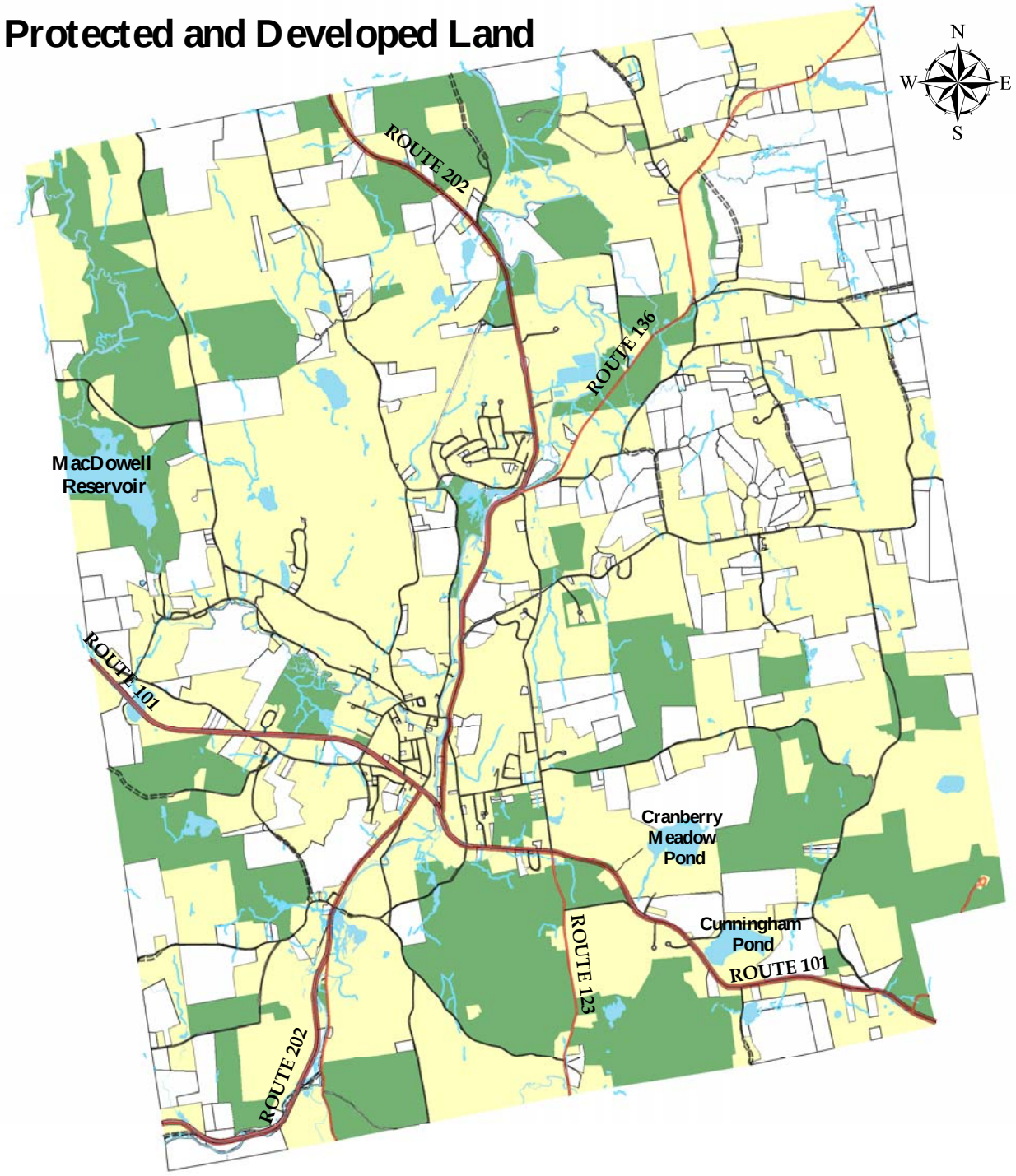
TABLE #3:
LAND AVAILABLE FOR DEVELOPMENT

	ACRES	% OF TOTAL LAND AREA
Land Constrained by Zoning	6,121 acres	26%
Land Protected from Development	4,095 acres	17%
Total Undevelopable Land	**10, 216 acres**	**43%**
Total Land Area	23,732 acres	
Minus Undevelopable Land	-10,216 acres	43%
Minus Developed Land	-5,066 acres	21%
Equals Total Land Available for Development	**8,450 acres**	**36%**

FIGURE #4:
DEVELOPMENT AVAILABILITY OF LAND



Protected and Developed Land



Legend

- Protected Lands
- Developed Land
- Undeveloped
- Surface Water
- Stream

1:55,000

0 2,300 4,600 9,200 Feet

0 550 1,100 2,200 3,300 Meters

Created by Office of Community Development, October 2003.
Data Sources: Town Assessing Database and Peterborough GIS.

Potential for Development

One technique used to estimate what level of growth could occur in the future is known as a Build-out Analysis. "Build-out" is a theoretical condition, and it exists when all available land has been developed. The analysis estimates the maximum number of housing units that would exist with full build-out, the population of the Town at that time, and the year when build-out would be complete. There are a number of variables that make up a thorough analysis, most of which are beyond the scope of this document.

However, a simple calculation can be done for illustrative purposes **ONLY**: In the Rural District a lot must have at least 200 feet of frontage and three acres. If we consider only those lots in the Rural District that have twice the required frontage and lot size (and are not protected by conservation easements) we find:

- There are 247 lots in the Rural District that meet the frontage and lot size criteria.
- Of the 247 lots, 174 already have a house on them, leaving 73 lots that are vacant.
- The 247 lots comprise 9,362 acres; the 73 lots comprise 2,600 acres.

Thus, at this time, there are about 70 lots in the Rural District that could be subdivided under the current zoning rules into at least two lots, without factoring in the possibilities of constructing roads or which housing types might be developed. There are a number of constraints to fulfilling such a hypothetical condition, including employment opportunities, willingness to subdivide and develop, market influences, services available, and other factors relating to regional demographics. It is important to bear in mind that any analysis of this type is highly speculative, and external factors primarily related to the national and regional economies and populations will have a significant influence on development.

IV. ANALYSIS OF THE CURRENT ZONING DISTRICTS

Peterborough has nine zoning districts; four are primarily for residential use, with some limited opportunity for commerce; four are designated for various commercial and industrial uses; and the downtown area is a "mixed-use" district with residential, commercial, public, and institutional uses combined. Table #4 below illustrates the number of acres that are accounted for by each of these zoning districts.

The Rural District is by far the largest of all nine districts, accounting for nearly 90% of the total land area in Town. This is especially significant when one considers the moratorium on all subdivisions in the Rural District that was in place from September of 2002 to September of 2003. Any issues that are considered to be pertinent with respect to the Rural District must be addressed in a manner that is balanced with respect to the other districts. Further, every attempt should be made to quantify issues and solutions in so far as they might not apply to all 21,600 acres. Commercial/industrial land accounts for less than 800 acres, which is about 3% of the total land area. Whether or not this amount is adequate for today's need, or those of the future, is addressed in the Economic Vitality discussion.

Peterborough Zoning Districts

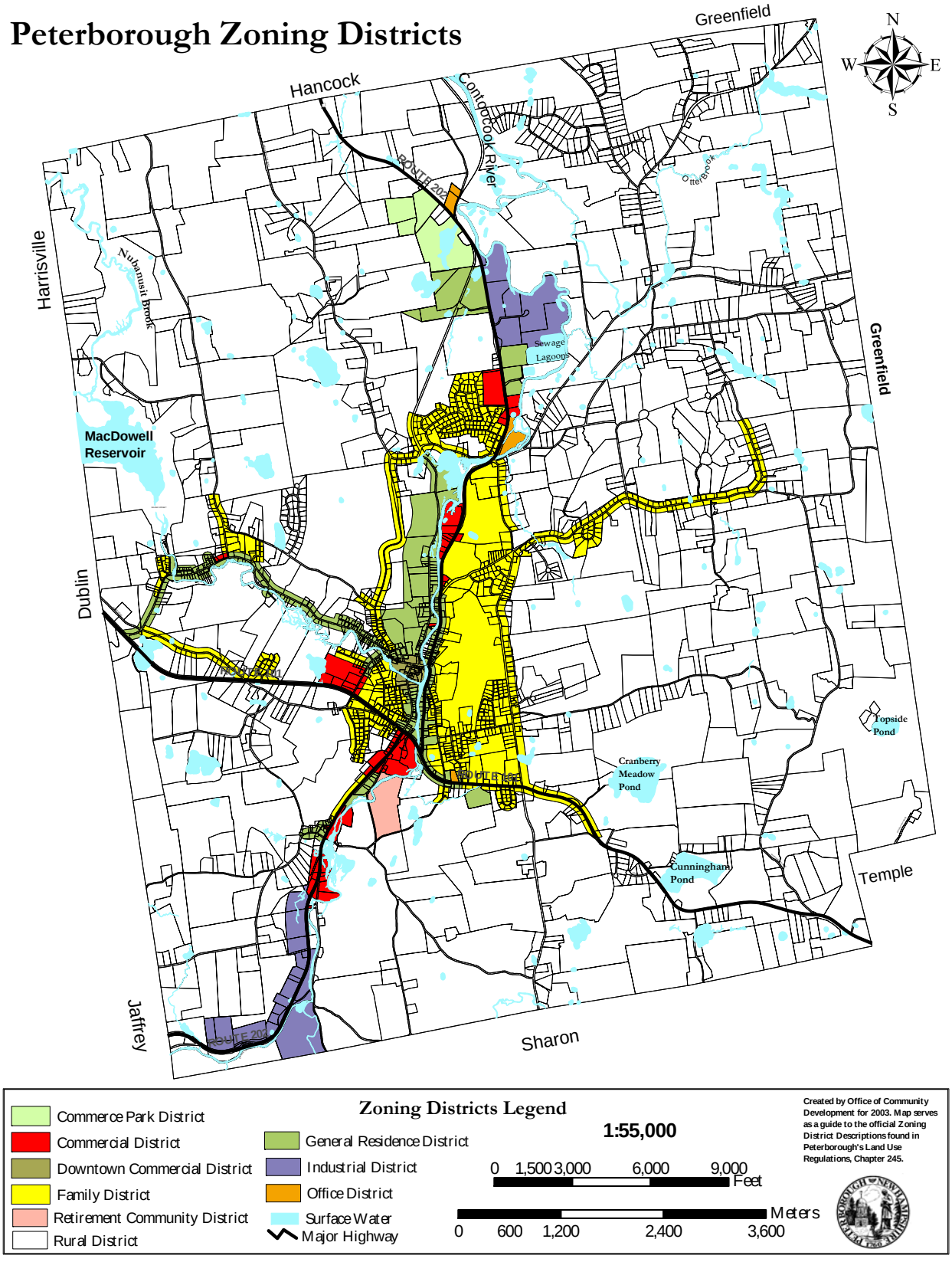


TABLE #4:
PETERBOROUGH ZONING DISTRICTS

Zoning District	Total Acres*	% of Total Land Area
Family	1,468	6.0%
General Residence	625	2.5%
Rural	21,600	88.0%
Commercial*	196	0.8%
Downtown Commercial	28	0.1%
Industrial	426	1.7%
Commerce Park	128	0.5%
Retirement	54	0.2%
Office	29	0.1%
Total	**24,554**	

* This number deducts the 25 acres of South Meadow School, which is zoned Commercial.

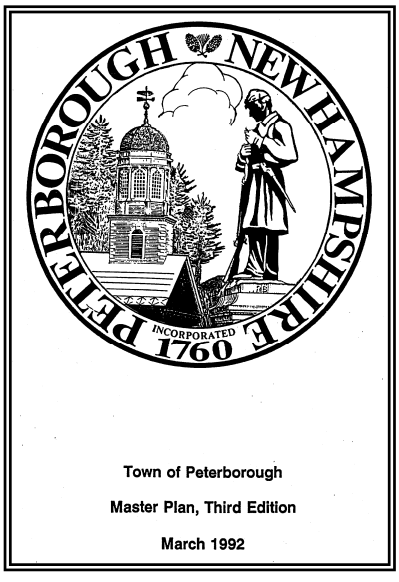
** The acreages are calculated by the computer mapping system and include roads and water bodies; therefore, this number is not consistent with the acreage calculated for the land use discussion.

SOURCE: TOWN OF PETERBOROUGH

V. REVIEW OF EARLIER PLANS AND RECOMMENDATIONS

Earlier plans provided an excellent inventory of community resources, but many of the detailed recommendations were not implemented. A summary of the three past Master Plans and the so-called "Phil Herr Study" follow.

A. The 1992 Master Plan



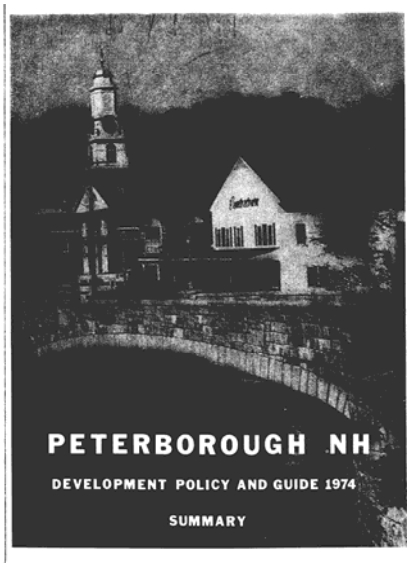
Many of the recommendations from the 1992 Master Plan that were not implemented had to do with the Town's water resources. It was recommended, for example, that "the Town should locate, purchase, and protect additional well sites for the future municipal water supply." This recommendation has become even more important as the population of Peterborough continues to grow and the capacity of the current municipal water supply is stretched further. Two recommendations were made in regard to the sewer system, which were also not addressed. The 1992 Plan recommended extending the municipal sewer system throughout the Pineridge development in order to protect the water quality of the underlying Town aquifer and nearby Town wells. Additionally, it was proposed that the Town should adopt

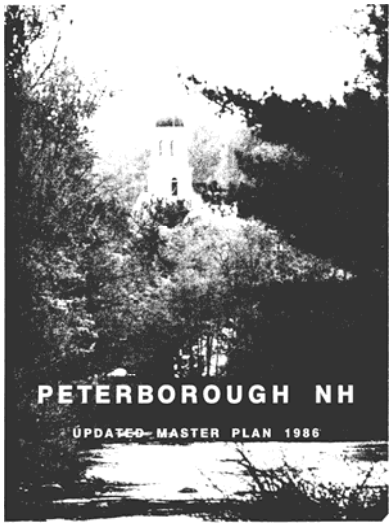
policies regarding sewage requirements for large developments; specifically, that medium to high density residential developments should be required to connect to the municipal system. In regard to wetlands, it was recommended that the Wetlands Protection District regulations be amended "to include a 'significance' rating to determine the degree of disturbance or encroachment allowed in a wetland." It was also suggested that the area of protection in the Flood Protection District be expanded from the floodway to the 100-year flood plain.

The 1992 Master Plan also presented some specific recommendations on land use that have yet to be addressed. The overarching recommendation was that "growth should be encouraged in locations closer to existing villages and neighborhoods rather than out at the edges of Town." This proposal was a major theme in the Visioning sessions for the 2003 Master Plan Update. Clearly, this recommendation is equally valid today. It was also recommended that several large parcels near West Peterborough could be developed as residential subdivisions of medium to high densities. This recommendation also resurfaced in the 2003 Visioning sessions, when the idea of naming West Peterborough as a mixed-use village node was suggested.

B. The 1974 and 1986 Master Plans

There were many similarities in the recommendations made in the 1986 Master Plan to those in the 1974 Plan. Some of the recommendations proposed in 1992 had, in fact, already been proposed in both the two earlier plans. These included: adopting regulations for steep slopes; extending sewer lines to the Pineridge development; protecting the 100-year flood plain from development; requiring new developments to be connected to public water and sewer systems; preserving open space; and encouraging new development closer to existing development and public services rather than in the rural outlying areas of Town.



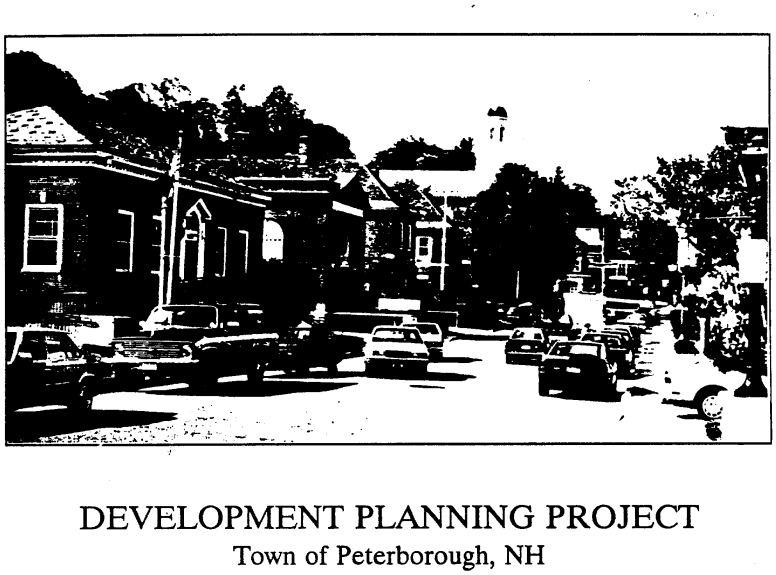


Protecting the environmentally sensitive areas of Town, preserving open space, and regulating new development so as to maintain a reasonably slight rate of growth were the predominant themes in both the 1986 and 1974 Master Plans. "Provide for economic growth in a slow, controlled manner. The business development in Town should grow along with the population, but too much too quickly can lead to a deterioration of the local economy, especially in regards to retail businesses." (1986 Master Plan, p.124) Much attention was devoted in both plans to water resources; namely, to protect Peterborough's aquifers and numerous wetlands and to protect and enhance the public water system.

Encouraging the development of affordable housing for low to moderate income families was also a concern in both plans. The 1986 Plan states "Encourage the construction of low to moderate income housing. Although a national problem of enormous proportions, the maintenance of a mixture of housing types in a variety of price ranges will provide Peterborough with the variety of people needed to sustain an economically healthy population."

C. Development Planning Project, 1995 (aka The Phil Herr Study)

At Town Meeting in 1994, the voters appropriated money to employ a professional planner, Phil Herr & Associates, to assist the community in developing a long-range vision for the Town. The results of this process were described in a policy statement known as "Getting the Town We Want." This document listed five initiatives that would help the Town achieve its goals: organizing for business; "growing the Town" outward; a business center; gateways and corridors; and friendlier zoning. Many specific recommendations were made in this report, some of which were revitalized in the 2003 Visioning Process. For example, the document recommends "creating a 'business advocacy' capacity in town government, to act as liaison and supporter for both new and existing businesses" and undertaking "efforts to market the Town and its potential for business." The study also suggests developing proposals for revising Downtown zoning to better accommodate and encourage the kind of development which is desired. Although many of the specific recommendations made in this plan were immediately addressed and led to the adoption of a new zoning map and changes to the zoning ordinances, there are components of this study which are still in need of attention. Some of these items are incorporated into this Master Plan Update, and are addressed in the Implementation section.



V. THE FUTURE LAND USE PLAN

The Future Land Use Plan is based on the Visioning Sessions and the results of the Master Plan Steering Committee questionnaire, the data collection and analysis of the Subcommittees, public input on all of this information, review and evaluation by the Steering Committee, and finally, the Planning Board's position on all of the above.

This section presents the graphic and written summary of the Vision as articulated through the workshops, hearings, etc. The goal of this Plan is to provide stronger policies and implementation strategies that address the major issues in a manner more likely to yield positive and measurable results.

The overall vision for the Town can be articulated in two components: (1) Enhancing and Connecting the Villages; (2) Protecting the Natural Environment. The vision for the Villages incorporates analysis and recommendations from all five Master Plan Subcommittees; likewise, many of the recommendations regarding the natural environment came from Subcommittees more focused on the built environment (Traffic and Transportation, Population & Housing, Economic Vitality). These two components are represented visually on the accompanying map, and discussed below.

A. Enhance/Connect the Villages

Villages are an historic part of Peterborough, and they are more than just an assemblage of buildings. They represent a way of life that our society is once again beginning to value – as opposed to the isolation of multi-acre zoning. During the Visioning Sessions and subsequent Master Plan meetings, four predominate areas were identified as either existing villages to be preserved or "emerging" villages that should be encouraged and facilitated through the planning and zoning process. It is understood that any further defining of these districts will include input from the residents of these areas. These are illustrated on the accompanying map and described below.

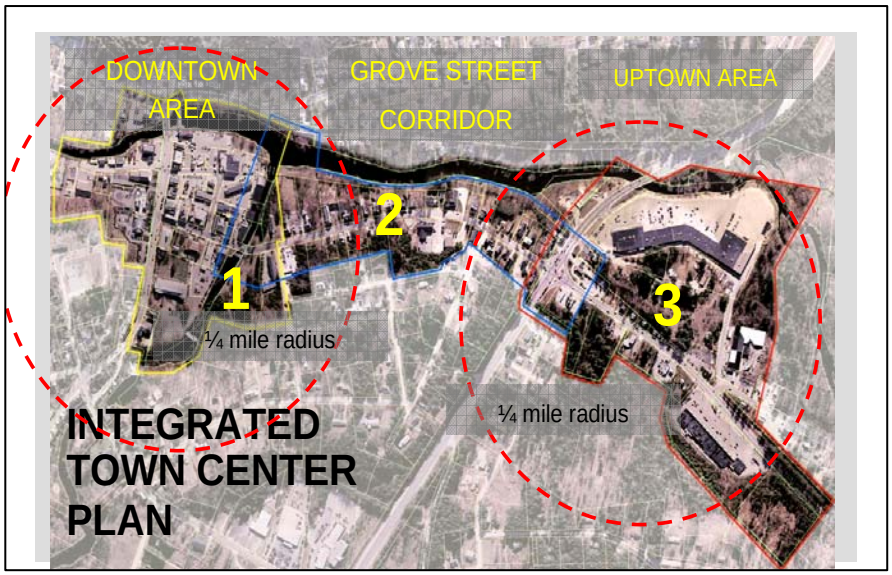
- The Integrated Town Center
  - Downtown Peterborough
  - Grove Street Corridor
  - Village Commercial District
- West Peterborough
- Historic South Peterborough
- Hospital District

Characteristics of Livable Neighborhoods:

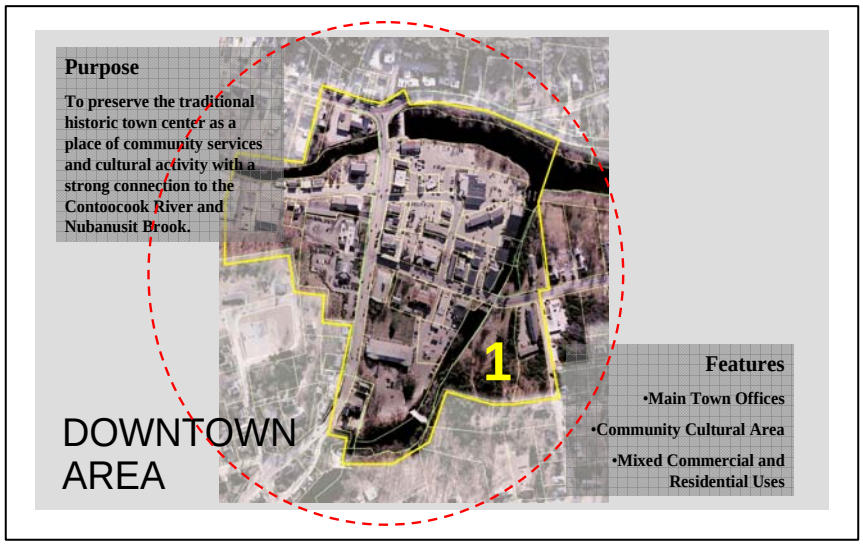
- **Walkability from one end to the other.** In general, a walkable neighborhood is defined by the distance a person can walk in 10 minutes or less.
- **A civic core and a mix of neighborhood uses.** This can be a simple green area, or a crossroads with civic buildings. The core needs to be in a central location and proportional to the size of the neighborhood.
- **An interconnected street network.** The challenge is to avoid cul-de-sacs, but avoid high volumes of through-traffic that can divided the neighborhood and diminish livability.
- **A sensitivity to human scale.** Neighborhoods with a human scale are enjoyable places to linger, walk in, or interact with other residents. Streets tend to be narrow with sidewalks and shade trees. Buildings are generally close to the street.
- **Neighborhoods also tend to have distinct boundaries** and a good overall balance between privacy and opportunities for public interaction.

THE INTEGRATED TOWN CENTER

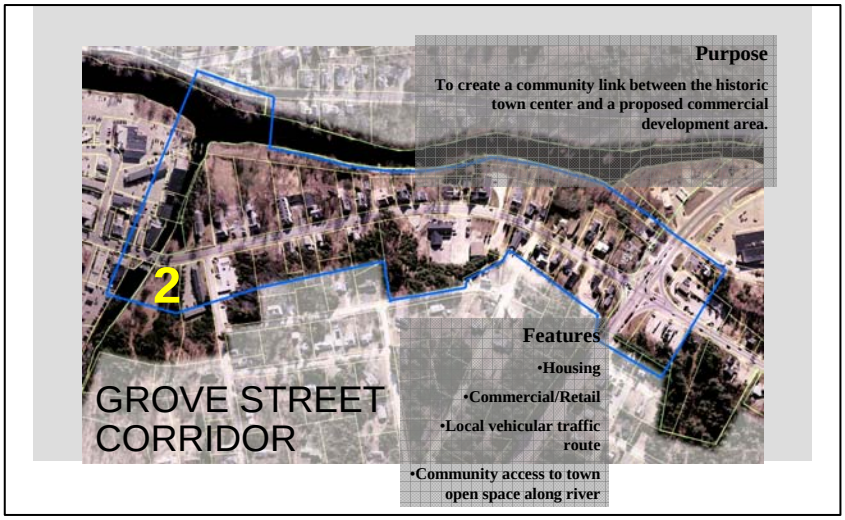
The Integrated Town Center is comprised of three distinct areas: the Historic Downtown, Grove Street, and the area around Routes 101 and 202 South that was referred to as "Uptown" in the Visioning Sessions, but is here known as the Village Commercial District.



THE HISTORIC DOWNTOWN is the heart and soul of Peterborough and needs to be preserved – but also kept vital. This is where cultural and municipal activities should thrive along with some new residential and retail uses deemed appropriate to the area. Infill should be encouraged for both of those uses, and no building should be over three stories. The streets should not be widened just to accommodate increased traffic demand; other methods of traffic reduction are important to the viability of the Downtown. Structured parking should be considered, as land is far too valuable to be used for vehicles, and the River's view should not be framed by a foreground of asphalt and vehicles. Open spaces are important to the Downtown fabric, as are strengthened connections to the river through pedestrian and bicycle paths.

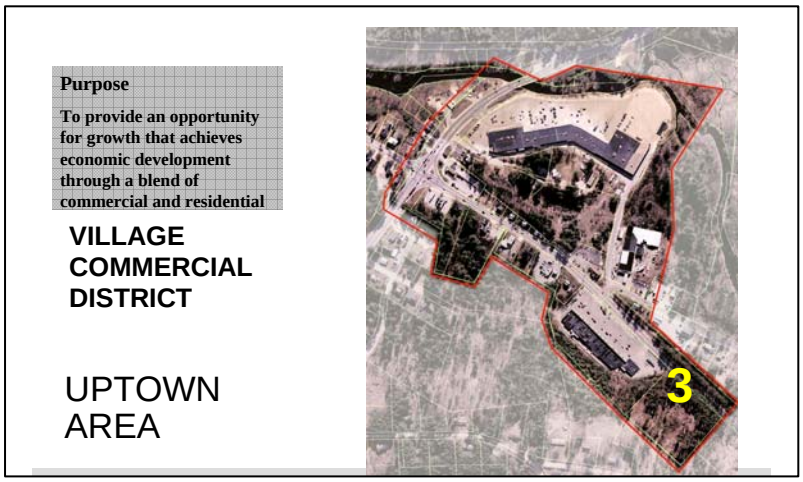


The character of **GROVE STREET** changes substantially at the Nubanusit Brook Bridge. The terrain rises on the west side of the street and drops to the River on the east side of the street. The density goes from 2-3 story brick buildings close to the road Downtown to residential scale wood-frame buildings set back from the road with space between them, and the street winds more in response to the terrain. It is crucial that this change of character be



retained and enhanced; otherwise the Historic Downtown will sprawl into the Village Commercial area, diminishing the character and variety of all three areas. "Mixed uses[1]" are traditional and appropriate for this area, but intense commercial use should be discouraged. Grove Street serves as the connector between the Downtown and the Village Commercial areas; therefore, continued support for the establishment of the Common Pathway between these two areas is important.

THE VILLAGE COMMERCIAL DISTRICT presents the biggest and most immediate challenge to the Town. It is dated and underutilized area that cries for redevelopment that would accommodate a mix of commercial and residential uses. This area has been the subject of intense scrutiny and study by the Village Commercial Committee (VCC) for more than a year. The VCC was established in February of 2002 by the Selectmen and charged with facilitating the creation of a development plan for the Route 202 South area.



In the summer of 2003, a consultant was employed to provide an economic feasibility study of this area. In particular, the consultant was asked to explore the issues around a large grocery store or other large retail use in the district, including appropriate site locations. A factor in the consultant's analysis was the Tax Increment Finance District (TIF) that is currently in place for this area. This district was established by Town Vote in 1997; the existence of a TIF allows new tax revenue to be spent on public infrastructure improvements in the district. In this case, a large retail use would be of enormous benefit.[2]

[1] "Mixed Use" means simply that, instead of segregating types of land uses in an area or on a parcel, combinations of residential, commercial, public, etc., may all be considered appropriate for co-location.

[2] For example, a $4 million development would generate approximately $133, 000 in tax revenue, which would go into the TIF fund. This money would then be spent on public infrastructure projects, all of which would have been previously identified in the TIF Plan.

There are a number of costly infrastructure improvements needed in this district, and the tax revenue from a large retail store would add a significant income source. In addition, contrary to initial thought on this topic, it was pointed out that the so-called A&P Plaza is perhaps not the ideal site for a large retail use, for the following reasons:

- difficult lot configuration;
- good environmental reasons to reduce the amount of pavement next to the River;
- there is other vacant land in the district that could more easily be developed.

The results of both the committee work and the consultant have been submitted to the Planning Board to facilitate the drafting of zoning amendments needed to implement the vision for this area.

WEST PETERBOROUGH.
As noted above, the recognition of the importance of villages was strongly voiced during the Visioning Sessions. West Peterborough was the most obvious candidate for the resurgence of the true "Village," where houses and businesses thrive as neighbors.

The VCC Project and How It Embraces Smart Growth Principles

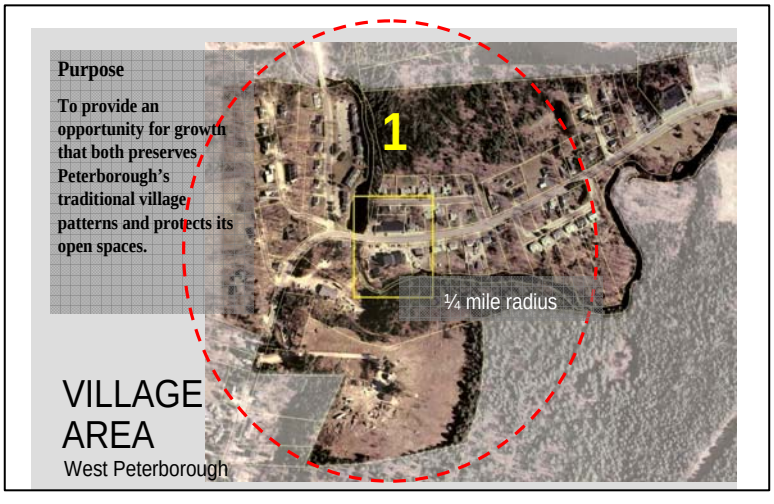
Uses Land Efficiently
- Uses existing "greyfield"
- Extends village pattern
- Encourages multi-story/dense development
- Encourages infill development

"Mixed use"
- Housing
- Retail/commercial
- New community uses

Addresses People's Needs
- Walkable/pedestrian-friendly
- Ties in with existing recreation/pedestrian path
- Enhances river vistas and enjoyment
- Provides needed services

Good Design
- Links to downtown
- Restoration of Grove Street
- Improves aesthetics of existing commercial site
- Enhances gateway to Town
- New opportunities for greenspace/outdoor public meeting places
- New residential connected to existing neighborhoods

Environmental Benefits
- Improved through-traffic patterns
- Better storm water management
- Protection of valuable open space which otherwise would be developed
- Fewer car trips
- Opportunity for public transportation
- Improved air quality
- Traffic calming
- Better buffering of the Contoocook River



The natural and built environments seem to provide an ideal location for the Village from where the Nubanusit Brook carves out a piece of land by the Gates Mill to the area just above the Post Office. On that land is a row of historic mill workers' houses with brick ends that make a strong architectural statement. Known as Overseers Row, with its duplex houses and a semblance of a town green, it has its own character. Denser housing was also present, as was other commercial land across the Brook behind Gates Mill.

THE HOSPITAL DISTRICT: The Monadnock Community Hospital is well respected in Peterborough and is seen as essential to the Town's viability; it is, in fact, one of the core economic anchors of the Town. The livelihood of the hospital, however, is compromised by two factors:
(1) The hospital is located in the Family District, which makes it a non-conforming use. This means that any change or expansion in hospital services or activities must be approved by the Zoning Board of Adjustment. Having the hospital located in an appropriate zoning district would allow the Town and the hospital to plan for change in a managed way.
(2) Access to and from the hospital is very problematic. Sand Hill Road and Old Street Road, which are purely residential areas, carry large amounts of traffic connected to the hospital. In addition, the intersection at Route 202, Route 136 and Old Street Road is one of the most hazardous in Town.

A traffic study of this area[3] recommended that a connector road over the hospital property be constructed between Route 202 and Old Street Road that would provide an alternative access to the hospital. According to the traffic consultants, this road would reduce or eliminate cut-through traffic along Old Street Road and Sand Hill Road and improve the safety and operation of the surrounding roadway intersections. Additionally, this connector would open up more of the hospital's 65 acres of land for future development of hospital-related uses.

HISTORIC SOUTH PETERBOROUGH will define a portion of that area of the Town which lies south of (and includes) the Route 101 corridor. It will focus on the South Village, which is clustered around the Noone's Mill building (1872) on Route 202 one mile south of Route 101, and on the historic farms which fan out on either side of the Village.

Of all the designated villages in Town, the South Village has the least identity in terms of a village form, having been somewhat lost within the strung-out development along Route 202 and also divided by the increasing speed and volume of traffic on that highway.

A coalition of neighborhood groups and property owners has hired a professional consultant, Lynne Monroe, of Kensington, NH, to complete an historic inventory and prepare a nomination to the National Register of Historic Places. This project will seek to

[3] See Edwards & Kelsey Intersection Analysis, 2001

re-define and re-connect the South Village both with itself and with the adjoining historic farms. The Office of Community Development of the Town of Peterborough is providing assistance with mapping and planning and the Peterborough Historical Society is making available the use of its library and photographs.

This project is aligned with the goals of the Master Plan, which envision Peterborough evolving as a set of distinct but interconnected villages. Consistent with the Plan and to enhance the integrity of the South Village, traffic calming measures will be sought for Route 202, and permanent pedestrian status will be sought for the bridge over the Contoocook River next to the Mill.

B. Protect the Natural Environment

Peterborough has a long tradition of concern about the natural environment. In fact, the first planning document to be produced (in 1972) was a Natural Resources Plan. This plan documented a wide range of natural features, inventoried recreation and natural areas, examined aesthetic concerns, and recommended implementation techniques. Much of this work is still valid and relevant today, and this Plan references the 1972 document.

This Master Plan effort has confirmed the importance to residents of the natural environment. Of the five topic areas addressed in this update, even the three that are not specific to environmental issues (Population & Housing, Economic Vitality, and Traffic &Transportation) recognize the value of a healthy environment. Following is a discussion of the natural features that have been identified during this process as being significant and important enough to warrant special protection; they include but are not limited to:

- Aquifers
- Wetlands/Shorelands
- Waterbodies/Shorelands
- Floodplains
- Steep slopes/Hillsides
- Open Space

1. Aquifers

The description of the Protection Zone should be much more inclusive and easy to establish. Truthfully, the entire Town should have rules prohibiting the deposition of harmful chemicals, rubbish, underground tanks, used oil, animal waste, and so forth. We must all concern ourselves with keeping the Town as clean and healthful as possible. In any event, a particular Aquifer Protection District should be specific and inclusive of a wide swath on both sides of the Contoocook River. A two-mile wide band centered on the river would cover most of the critical area. Underground water inflow was found during a test of the Four Seasons Wells in the Cunningham Pond watershed near the corner of Old Street Road and Cheney Avenue. Two bedrock wells, 400 and 565 feet, were drilled; the latter producing 175 gallons per minute (250,000 gallons per day). Both wells are tributary to the Grove Street Aquifer. An earlier study (Whitman & Howard, 1985) determined that pumping these wells would affect the flow to the aquifer and the River. What that means is that contaminants would reach the Town's water supply. Those wells would lie just barely within a two-mile wide Restricted Zone.

The Aquifer Protection District presumes that all privately-owned septic systems are built to State Regulations and do not threaten the groundwater. However, there is no requirement for inspections of private systems as time goes on. We are well aware of septic system pump-out services. It may make sense to require that such services be registered with the Town so that an excessive frequency of pumping would call for an inspection. An inspection should be required every five years, in any event.

The primary aquifers are defined as 25 to 70 feet deep and suitable for municipal pumping. They are bracketed by secondary aquifers, which are defined as 5 to 25 feet deep and considered too shallow for municipal pumping. However, their water flows to the deeper primary aquifers and their protection is as essential as protection of the primary beds. Our Aquifer Protection District (Zoning Section §245-14) specifies that Districts P and S are incorporated by reference in the zoning. The districts are shown by numerous wavy lines. In case of dispute, the zoning specifies procedures in Par. C. (3), page 41. Since specified activities are prohibited in Districts P and S, this delineation seems too inexact. Several other Zoning Regulations affect the handling of water; they have overlapping rules, some of which affect aquifers:

§245-12; Shoreland Conservation Zone

§245-13; Floodplain District

§245-15; Wetlands Protection District

2. Wetlands

The 1972 Natural Resources Plan mapped the wetlands in Peterborough and recommended that they be placed in a conservation zone and prohibited from development. This recommendation was adopted, and the addition of a 50-foot buffer area around wetlands forms the current Wetlands Protection District. In the 30+ years since that plan was

developed, Peterborough has grown, and pressure on the wetlands has increased. Science has also progressed in that time, and there is a growing body of knowledge regarding the importance and functions of wetlands.

Examples of Wetland Functions:
- filtering runoff and pollutants
- trapping sediment
- trapping floodwaters
- providing wildlife corridors
- wildlife and aquatic breeding habitat
- recreation
- aesthetics

The Wetlands Protection District forbids running storm runoff into wetlands unless it has had "preliminary treatment, especially to capture sediment and 'first flush' flows," Par. F (b) [1] sec. §245-15. Snow may not be dumped within 15 feet into wetlands. These provisions stand in the way of a program of recovering rain and snow in the aquifer system. Right now, we return effluent from our sewage system and any rain that gets into it, as well as most stormwater, to the Contoocook.

The Conservation Commission has observed a tendency toward encroachment of wetlands. One such concern has to do with lawns expanding into the buffer area; this can occur when there are new homeowners who are not aware of the prohibition. Lawns and ornamental landscaping can introduce contaminants into the Town's water resources through leaching of pesticide residue, chemical fertilizers, and weed control agents.

Studies conducted in New Hampshire[4] suggest that a wetland should have a minimum of 100 feet as a buffer; at the same time it is recognized that not all wetlands are created equal, and some have more value than others and may need a greater buffer.

3. Water Bodies/Shorelands

Examples of Streambank/Shoreland Functions:
- Vegetation along banks holds the banks together, preventing erosion and siltation.
- Streambanks are natural conductors of runoff, therefore replenish the groundwater.

Surface water bodies share similar threats as do wetlands, therefore streambanks and shorelands need protection in order to maintain water quality. The 1972 Plan recommended a 100-foot buffer on either side of all streams, rivers, ponds, and lakes. This recommendation was adopted in the form of the Conservation Shoreland District.

Review of the updated literature (see Footnote 2) suggests that an ideal buffer could range from 100 to 600 feet, depending on the nature of the water body and development patterns. In general, the recommendation is that the larger the water body and the more human activity nearby, the greater the area recommended as a buffer. Criteria have been developed to help in determining where a 100-foot buffer might be too great, for example, if the wetland or surface water body:

- is isolated and is less than 3,000 square feet in area;
- is either a vegetated swale or roadside ditch, a sedimentation/detention basin, an agricultural/irrigation pond, a septage lagoon, or a wetland on prior converted cropland.

[4] Buffers for Wetlands and Surface Waters: A Guidebook for New Hampshire Municipalities; May 1997.

4. Floodplains/Floodway

Peterborough has over 900 acres of floodplain, most of it located adjacent to the Contoocook River and Nubanusit Brook, with some isolated areas in the northeast corner of Town. There is also a smaller amount of floodway area along a section of the Contoocook. According to federal rules, construction is allowed within the floodplain provided all buildings are elevated to the base flood elevation or higher. But, no construction at all is allowed in the floodway, since this is the channel that carries the water in the event of flooding.

Even though federal rules allow construction in the floodplain, these areas serve an important function of storing water during floods. For that reason alone, it makes sense to not build in the floodplain. Uses such as agriculture or recreation can locate in a floodplain without compromising the functional use of these areas.

Peterborough follows the federal guidelines for regulating development; and the floodplains are delineated by federal mapping, which are at this time in the process of being updated. When the new maps are completed and approved, it would make sense to review this information and consider whether or not to strengthen the regulations regarding construction and uses in the floodplain.

5. Steep Slopes/Hillsides

The recognition of the sensitivity and need for protection of steep slopes was also noted in the 1972 Natural Resources Plan and in subsequent planning documents (in this case, "steep" means over 15%). Steep slopes are susceptible to soil erosion if the vegetative cover is removed. There are, of course, construction techniques that can mitigate impacts, but in cases where the soil is also shallow, severe limitations on construction would result. The 1972 Plan recommended all lands of 25% slope be prohibited from development, and lands of 15% slope should allow only low density development.

As a response to concern about steep slopes, a Hillside Committee was established by the Selectmen in September of 2000. The Committee dealt with many issues related to hillsides which, aside from the erosion questions, included the visual impacts of buildings and landscaping that can be seen from lower elevations. It was noted that much of Peterborough (and New Hampshire) is, in fact, "hillside;" therefore, the challenge for the Town is to regulate the public benefit issues while still protecting the rights of individual landowners.

As a result of this Committee's efforts, there are provisions in the Zoning Ordinance that address slope considerations for driveways. As part of this Master Plan effort, two subcommittees (Open Space and Population & Housing) have suggested that concern over hillsides and the sensitivity of steep slopes are still valid planning and environmental issues that need to be addressed.

6. Open Space

The importance of open space to Peterborough residents is well documented and referred to in the Open Space chapter, with citations from all previous Master Plans, the 1972 Natural Resources Plan, a town-wide survey in 2000, and the questionnaire survey administered by the Open Space Subcommittee as part of this Master Plan effort.

Peterborough has been fortunate, in that, with little or no action on its part, the Town has been the beneficiary of landowners donating property outright to the state or the Town, or donating the rights to development (the land remains in private ownership, but permanent restrictions on development apply). In the face of rapid land turnover, many New Hampshire towns are taking an active role in land conservation; for example, in 2002, towns in New Hampshire approved over $20 million for conservation, and in 2001 over $15 million were allocated for this purpose.

The Town of Peterborough could also take such an active role in land conservation. Toward this goal, the Open Space Subcommittee and the Conservation Commission are requesting, through the Town budgeting process, authority to bond for the purpose of purchasing open space parcels from willing landowners, as they become identified through the criteria developed by the Subcommittee (see checklist in Chapter 4). The goal is to add an additional 1,500 acres of conservation land by the year 2008.

VI. Smart Growth Audit

A Smart Growth Audit is a fairly new technique by which a community (or region) can, in a structured way, evaluate how well its existing policies meet a series of defined "smart growth principles" (see the textbox). As part of this Master Plan update, a Smart Growth Audit was conducted (the Audit checklist in included in the Appendix).

The audit consisted of an analysis of the Zoning Code, the draft Master Plan, and various Town land use regulations as they related to the principles of smart growth, defined by the American Planning Association. Specific questions were posed regarding Town regulations and policies in the following areas:

- Density
- Urban Form
- Land Use
- Jobs/Housing Balance
- Open Space/Green Space
- Energy Conservation
- Water Quality
- Air Quality
- Housing
- Transportation
- Parking
- Water, Sewer, and Other Infrastructure
- Permitting Process
- Efficient Land Consumption
- Direction of Growth (Inward, Not Outward)
- Regionalism and Inter-governmental Relations

There were several topic areas in which the Town scored well. One of these favorable areas was "Land Use." The mixing of uses is a major tenet of smart growth; provisions in the zoning code that allow for mixed-use areas, especially the Downtown, were seen as very favorable. Peterborough also scored favorably in the "Housing" section of the audit. Provisions that allow for a mix of housing types and sizes, and that encourage mixed-income housing developments were deemed as "smart growth" compliant. There was one area of the housing section, however, that was problematic. The zoning ordinance does not easily allow for "accessory apartments" within single-family homes. Allowing such units to be built will help provide more affordable housing, which is in short supply in Town. Finally, Peterborough did well in the areas of "Efficient Land Consumption" and "Direction of Growth (Inward, Not Outward)."

Encouraging infill development and favoring an inward direction of growth, rather than expanding new development on the fringe of Town, were both policies that met with smart growth principles.

The audit was very useful in identifying potential areas of improvement. One such topic area was "Density." Peterborough did not show well in this area of the audit due to (1) a lack of established minimum densities, and (2) the lack of so-called "urban-sized" lots of 10,000-15,000 square feet. Smaller lot sizes in developed areas, such as the Downtown, will further encourage infill development and discourage sprawl into the rural district.

Principles of Smart Growth for New Hampshire

- **Maintain** traditional compact settlement patterns to efficiently use land, resources, and investments in infrastructure;
- **Foster** the traditional character of New Hampshire downtowns, villages, and neighborhoods by encouraging a human scale of development that is comfortable for pedestrians and conducive to community life;
- **Incorporate** a mix of uses to provide a variety of housing, employment, shopping, services, and social opportunities for all members of the community;
- **Provide** choices and safety in transportation to create livable, walkable communities that increase accessibility for people of all ages, whether on foot, bicycle, or in motor vehicles;
- **Preserve** New Hampshire's working landscape by sustaining farm and forest land and other rural resource lands to maintain contiguous tracts of open land and to minimize land use conflicts;
- **Protect** environmental quality by minimizing impacts from human activities and planning for and maintaining natural areas that contribute to the health and quality of life of communities and people in New Hampshire;
- **Involve** the community in planning and implementation to ensure that development retains and enhances the sense of place, traditions, goals, and values of the local community; and
- **Manage** growth locally in the New Hampshire tradition, but work with neighboring towns to achieve common goals and address common problems more effectively.

"ACHIEVING SMART GROWTH IN NEW HAMPSHIRE", NH OFFICE OF STATE PLANNING, 2003

A second area where improvement is needed is in regard to energy conservation. There are multiple ways in which a local plan can promote energy conservation, but Peterborough has not yet taken steps to do so. The Master Plan does not identify energy conservation as a goal, land use regulations do not require the planting of shade trees around new subdivision

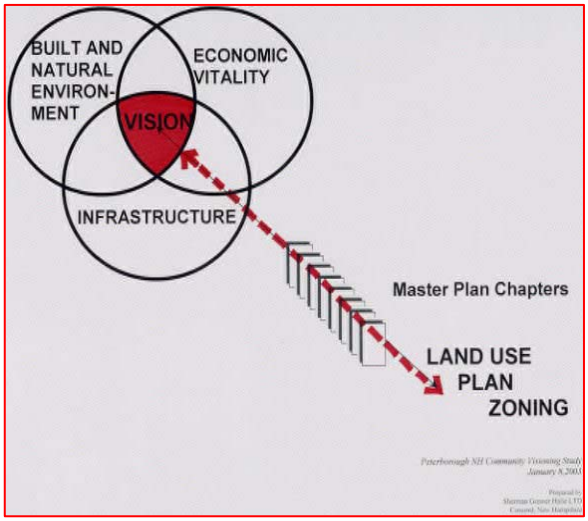
roads, and the zoning code does not provide any options for encouraging the use of solar power, or other alternative sources of energy.

The "Transportation" section of the audit also identified areas for improvement. There are currently no requirements for sidewalks within new residential subdivisions or the installation of sidewalks along existing public streets abutting new developments. The land use regulations do not encourage or mandate inter-parcel connections between individual developments. Further, development regulations do not have any requirement to consider or provide for new local streets at designated intervals.

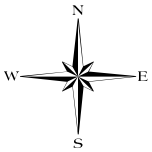
The final section of the audit in which Peterborough did not score highly was in regard to water quality. In order to make improvements in this area, the Town should adopt water-quality ordinances; amend development regulations to require best management practices for water quality; and consider prohibiting development within, and the filling of floodways and floodplains.

VII. Conclusions

The Vision Process led by the consultant began with an overview of the three "lenses" of Smart Growth: Infrastructure, Natural and Built Environment, and Economic Vitality. These categories offer a way to organize and prioritize information, and do it in a way that allows the Town to look at itself as a series of interlocking systems. They are the filters through which each recommendation should be sifted. This Master Plan has been built around these lenses, and they have been taken into consideration when proposing the recommendations that are found in the Implementation chapter.



Future Land Use Plan
Peterborough, 2003



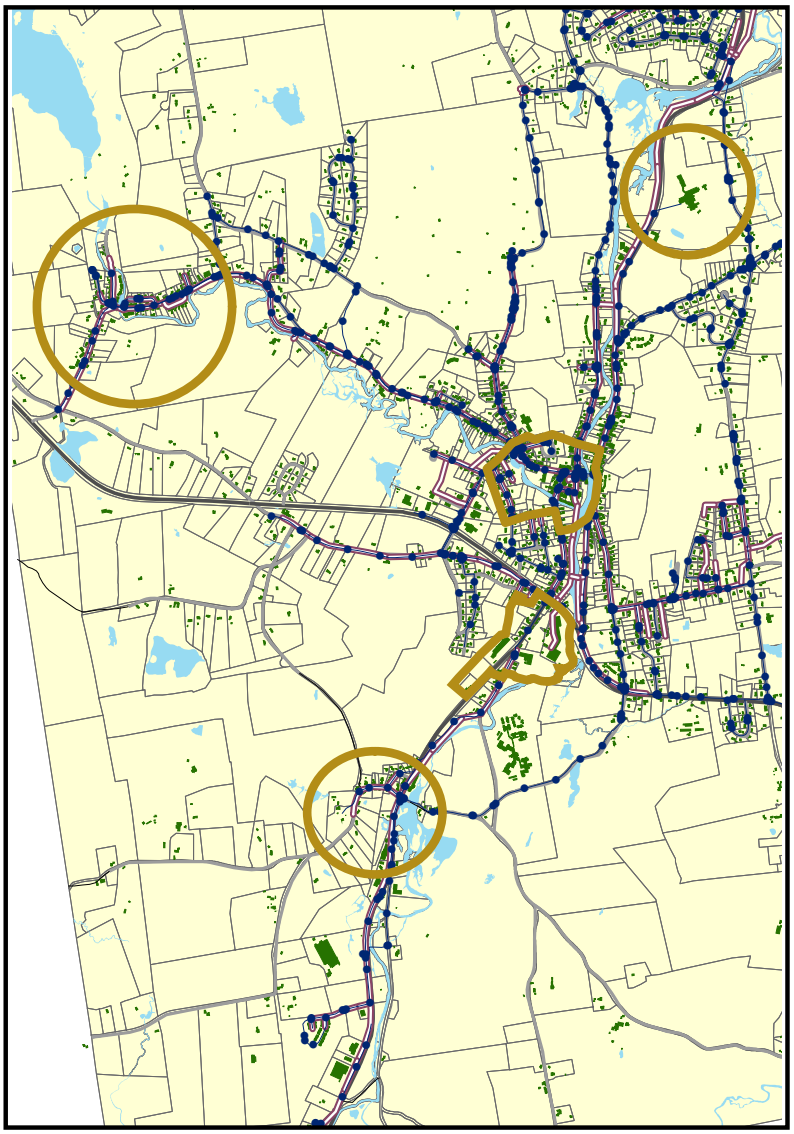
Encourage "smart growth" through infill and mixed development.

Encourage a new model of traditional neighborhoods.

Encourage new small businesses in defined "village" districts and in the downtown.

Reduce through-traffic in the Downtown and increase pedestrian safety.

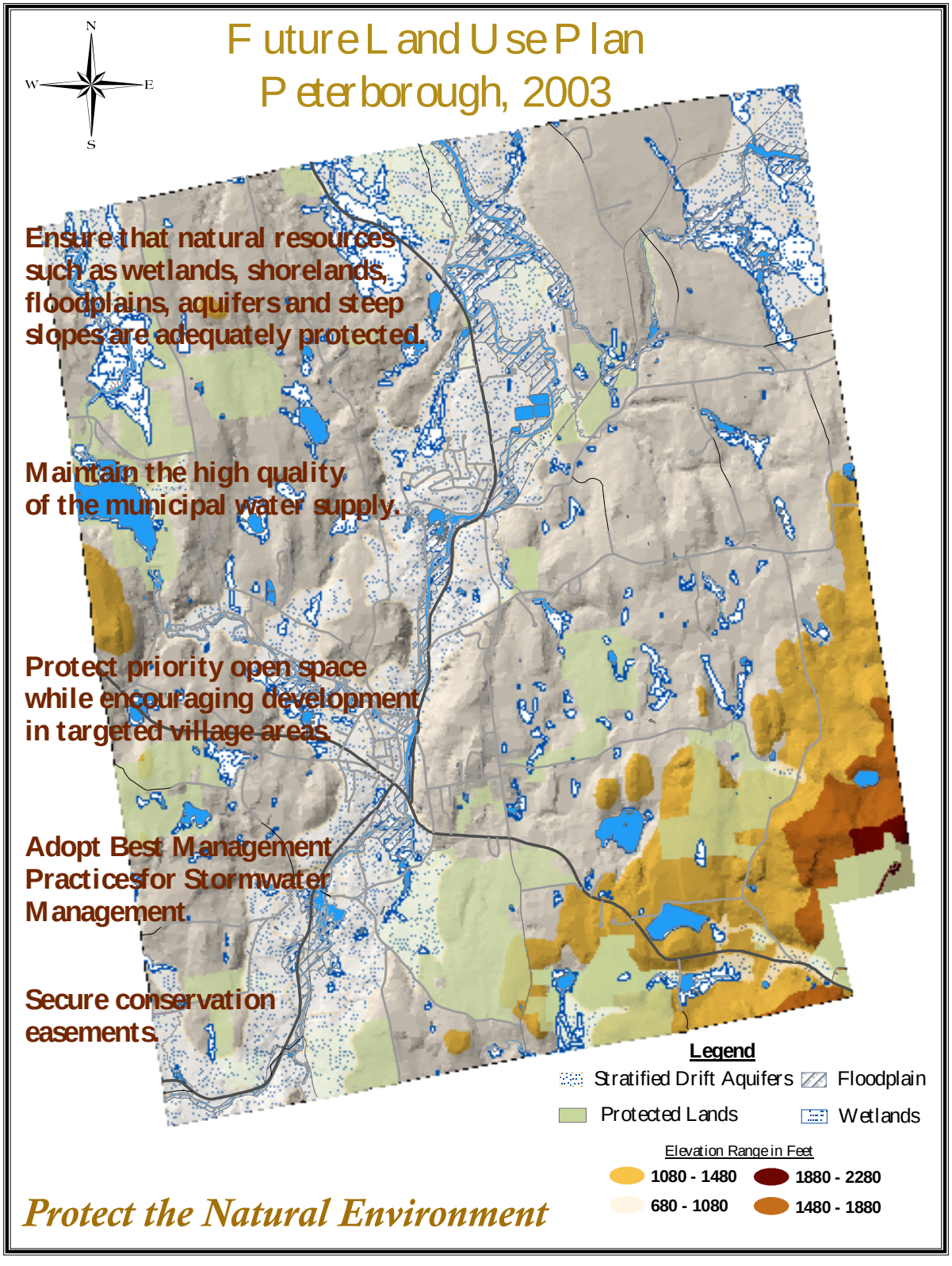
Encourage alternative forms of transportation.



Legend

- Villages/ Neighborhoods
- Building Footprints
- Surface Water
- Parcel Lines
- Sewer Lines
- Water Lines

Connect / Enhance the Villages


Future Land Use Plan
Peterborough, 2003
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Ensure that natural resources such as wetlands, shorelands, floodplains, aquifers and steep slopes are adequately protected.
Maintain the high quality of the municipal water supply.
Protect priority open space while encouraging development in targeted village areas.
Adopt Best Management Practices for Stormwater Management.
Secure conservation easements.
Legend
Stratified Drift Aquifers
Floodplain
Protected Lands
Wetlands
Elevation Range in Feet
1080 - 1480
1880 - 2280
680 - 1080
1480 - 1880
Protect the Natural Environment