

**TOWN OF BERLIN, VT**  
**TOWN PLAN**  
**June 21, 2005**

**I. INTRODUCTION**

**A. FORWARD**

A Town Plan is a policy statement for guiding future decisions of the Town. This Plan is a snapshot of the Town at present and a vision of the Town in the future. That vision is intended to reflect the best interests of the Town as a whole rather than the interests of any particular individual or special group.

The Town Plan addresses a number of issues that will impact the quality and character of life in the future. Included are discussions of population growth and characteristics, housing, natural resources, transportation, public utilities and facilities, historic resources, and land use patterns.

The Town Plan is based on an analysis of the current conditions in the Town, along with a projection of anticipated growth and development in the Town and in the surrounding region. The Plan presents a long term (10 to 20 year) vision of the future, but it is expected that this vision will be re-examined periodically. Indeed, Vermont's Planning Act (24 VSA, Chapter 117) requires that municipal plans be reviewed, updated, and re-adopted every 5 years. It is important to remember that the planning process is fluid and on-going, and that the Plan will be continually reassessed and revised as goals and objectives are re-evaluated. Only in this way can progress be made toward a constantly evolving vision of the future.

Revisions to the Plan were prepared by the Planning Commission to incorporate significant planning efforts and studies undertaken subsequent to the 1997 adoption. Perhaps the most significant of these are the 1998 "*Citizens Vision for Berlin*," the report entitled *Planning Concepts for: A New Town Center and The Barre-Montpelier Road Corridor*, dated May, 2000; the Central Vermont Regional Planning Commission's *Vermont Route 62 and Barre-Montpelier Road Corridor Study*, dated September 2001; the *Water and Wastewater Master Planning Study*, dated April 2001; the Wilbur Smith Associate's *Berlin Interchanges Analyses*, dated July 2003; and *The Berlin Mall Village Center Study*, dated November 2004. These studies are discussed in greater detail elsewhere in the plan.

**B. PURPOSE**

The preparation and adoption of municipal plans are authorized by Chapter 117 of Title 24 of the Vermont Statutes (the Vermont Municipal and Regional Planning and Development Act). Section 4302 of that Act presents the overall purposes of the Act, which are to be incorporated into municipal plans. In addition to the statutory purpose, this Plan is intended to serve a number of local purposes including:

1. Providing a comprehensive source of current data about the Town for use by Town officials, residents, businesses, and potential residents and businesses.
2. Serving as a basis for a capital budget and program to guide infrastructure developments in the Town.
3. Providing a description of the Town's development objectives for use in the Act 250 process.
4. Providing a basis for updating the Town's Zoning and Subdivision Regulations.
5. Providing a common basis for discussions about the Town's future.

### **C. ADOPTION AND AMENDMENTS**

Adoption, amendment, or re-adoption of this Plan shall be in accord with the provisions of Sections 4385 and 4387 of Vermont's Planning and Development Act. Plans shall be adopted, amended, or re-adopted by majority vote of the Town at a Regular or Special Town meeting.

Prior to final adoption, amendment, or re-adoption, public hearings shall be held on the proposed plan or amendments by both the Planning Commission and the Board of Selectmen.

Section 4387 of the Act specifies that municipal plans shall expire every 5 years unless they are re-adopted according to the specified procedures. First adopted in 1971, this Plan was substantially revised in 1997, 2002, and approved by Berlin voters on March 4, 2003.

## **II. GOALS AND OBJECTIVES OF THE PLAN**

While the Town of Berlin is now and is expected to remain a predominantly rural community, it contains a large commercial and industrial center in the area east of Interstate 89 and north of Scott Hill Road and Airport Road. The Town desires to enhance its current role as a regional economic center. From this starting point, the following goals and objectives have been developed to guide planning and development in the Town over the coming years.

**A. ECONOMIC DEVELOPMENT GOAL.** Continue to attract commercial, office, and industrial development in appropriate locations that will provide employment opportunities, enhance the Town's tax base, and not generate excessive service requirements.

1. Total employment and non-residential grand list in the Town should grow at a rate equal to or greater than that of the population.

2. Encourage efforts to strengthen the economic vitality of the Barre-Montpelier Road.
  3. Development in the vicinity of Paine Turnpike and Exit 7 should be designed to prevent commercial strip development (especially along Paine Turnpike) and protect the residential character of existing and planned neighborhoods.
  4. Encourage the expansion of the historic town area in the vicinity of Berlin Four Corners to adjacent areas to allow the development of a compact multiple use community center.
  5. Industrial and manufacturing uses should be focused within the Town's industrial districts, and those district standards should be reviewed to avoid the development of incompatible land uses in those areas.
  6. The Town's role as a regional commercial center should be maintained and enhanced.
  7. Health care and other human service providers are important parts of the Town's role as a regional center and must share in the costs of providing needed public services.
- B. LAND USE AND DEVELOPMENT PATTERNS GOAL.** Enhance the commercial/industrial complex that has evolved in the Town's northeast quadrant and recognize that development in most other areas will be predominantly rural.
1. Encourage the concentration of most non-residential land uses in designated portions of the northeast quadrant of the Town where they can mutually reinforce each other, with an emphasis on revitalization of the Barre-Montpelier Road and development of the town center area.
  2. Encourage non-residential development in designated growth areas.
  3. Protect existing residential neighborhoods and insure transitional buffers (including but not limited to the establishment of heavy landscaping and associated screening, increased setbacks and/or careful attention to site design to minimize noise, glare and related impacts) between such neighborhoods and large commercial and industrial developments.
  4. Encourage rural residential development in the remaining three quadrants of the Town, while allowing for appropriate non-residential uses including farming, forestry, resource extraction and home-based businesses.
  5. Facilitate development in the more level portions of the Town and discourage development in the steep and mountainous area.

6. Support the goals and objectives of this plan through the administration, enforcement and, where appropriate, revision of the Berlin Zoning Regulations as discussed in Section IV. B. LAND USE.
7. Coordinate the provision of municipal infrastructure (e.g., water and sewer) with the Town's land use and development policies, and restrict the extension of such infrastructure outside of designated commercial, industrial and higher density residential areas except to address threats to health and safety.
8. Town natural resources, including but not limited to those defined in *H. Significant Natural Features Goal*, must be carefully protected from incompatible uses and development.

**C. RESIDENTIAL NEIGHBORHOODS GOAL.**

1. Facilitate cluster residential development where appropriate.
2. Encourage the expansion of the town center area to adjacent areas to allow the development of a multiple use, high density neighborhood with a range of housing types.
3. Reinforce the existing neighborhood around Berlin Four Corners through use of community gathering facilities such as parks, meeting places, or recreation facilities.
4. Consider creating a Hamlet District under the Town's zoning regulations to encompass Riverton and reinforce the area's village character.
5. Encourage pedestrian connections within and between residential neighborhoods.
6. Encourage convenient non-motorized transportation links between residential neighborhoods and other facilities such as the Elementary School, the Town Offices, commercial facilities, and future recreation facilities as they may be developed, but only to the extent that such connections protect and enhance such neighborhoods.

- D. PUBLIC SERVICES AND FACILITIES GOAL.** Provide a system of public services and facilities that will support and reinforce the land use patterns described above.

1. Support an integrated infrastructure system (water, sewer, roads, etc.) to support development in the northeast quadrant of the Town, and avoid the extension of such facilities outside of these areas.
  2. Work to have a Berlin Post Office located within the Town to promote commerce, public safety and greater sense of community identity.
  3. Consider ways to meet elementary school needs without new construction. If that is not feasible, expand the Elementary School on the existing site or construct a new school at an appropriate location to accommodate anticipated future enrollment levels.
  4. Explore potential cost efficiencies to be achieved by purchasing or sharing other services and/or facilities with adjacent municipalities.
  5. Promote a capital budget and program process which will ensure that public facilities and services are matched to Town needs, and that development projects are integrated into the Town's objectives.
  6. Maintain a high level of professionalism in town government while encouraging citizen involvement.
  7. Facilitate and encourage the planning and construction of public recreational facilities and seek to provide varied recreational opportunities and programs to serve the residents of the Town.
- E. **TRANSPORTATION GOAL.** Encourage a multi-modal transportation network that provides appropriate levels of access to support the land use patterns described in this Plan.
1. Encourage a transportation network which protects neighborhoods and residential development.
  2. Improve connections between the rural areas west of the Interstate and the commercial/industrial center in the northeast quadrant. Such connections should consider any additional negative impacts on existing and proposed abutting residential uses.
  3. Coordinate local, state, and federally funded transportation improvements.
  4. Encourage transportation improvements that alleviate high accident locations and attempt to improve pedestrian safety in quality and severity.
  5. Encourage energy efficiency in the transportation system.
  6. Improve the safety and efficiency of Route 62 in a manner that supports the Town's land use goals, including the development in the area of the town

- center, and improves pedestrian connections throughout the Four Corners/mall/hospital area, to be referred to hereafter as the Plateau area.
7. Improve the safety and efficiency of the Barre-Montpelier Road in a manner that supports the revitalization of businesses served by the highway, improves pedestrian circulation, better manages access and incorporates streetscape improvements (e.g., sidewalks, landscaping) into the roadway design.
8. Protect the physical features that contribute to the scenic character of roads in the Town such as Crosstown Road and identify other scenic roads in Town that need protection. Vehicular and pedestrian safety concerns should also be taken into consideration.
9. Develop integrated infrastructure systems to support non-residential development in designated portions of the northeast quadrant of the Town.
10. Recognize the existing scenic qualities of our Town roads and encourage the maintenance of rural characteristics whenever feasible.
- F. **HOUSING GOAL.** Encourage a mixture of housing sizes, types, and costs in order to provide housing opportunities for all persons wishing to reside in Berlin.
1. Maintain the Town's current stock of affordable housing.
  2. Continue to accommodate all types of housing.
  3. Encourage the development of a variety of housing types, including multi-family, affordable, and elderly housing, in the proposed town center area.
- G. **ENERGY GOAL.** Continue to work toward the reduction of overall energy consumption in all sectors of the economy.
1. Encourage new construction of all types to include energy efficient materials, fixtures, and appliances in new construction of all types.
  2. Encourage retro-fitting of existing structures with energy-saving devices.
  3. Encourage safe non-automobile travel of all kinds, both between developed areas and within developments.
  4. Encourage the use of other conservation measures including mass transit, car-pooling, etc.
  5. Encourage use of alternative sources of energy.
- H. **SIGNIFICANT NATURAL FEATURES GOAL.** Much of the character of the Town is generated by such significant natural features as Berlin Pond, the mountain

ridges, and the river valleys. These natural features should be protected in order to preserve the rural qualities of the Town.

1. Ensure that development adjacent to Berlin Pond or within its watershed is designed to protect the Pond and the Pond's wetlands.
  2. Ensure that development does not adversely affect the rivers and streams from impacts such as erosion, contaminated runoff, or septic discharge. Minimum setbacks and vegetated buffers should be established to protect all streams from development.
  3. Ensure that development is designed and sited so as to not cause pollution, contamination, or other damage to aquifers or recharge areas.
  4. Encourage the conservation and management of productive forested lands and prime agricultural soils outside of designated growth centers and commercial and industrial districts.
- I. **HISTORIC RESOURCES GOAL.** Recognize the importance of the Town's historic cemeteries and structures, and encourage their restoration and rehabilitation.
1. Encourage and assist the Town's Historical Society in documenting Berlin's historic resources.
  2. Encourage education of the owners of historic structures regarding options for restoring, renovating, or maintaining their properties.
  3. Encourage the property owners or others to work with the Division for Historic Preservation to locate outside resources to assist in the restoration and preservation of historic properties in the Town.
  4. Encourage the adaptive re-use of historic barns by allowing uses in such structures that are not otherwise permitted in the district in which the barn is located.

### III. BRIEF TOWN HISTORY

The Town of Berlin was chartered in June of 1763 by H. Benning Wentworth, Governor of New Hampshire. There is speculation that Berlin was named after the capital of the Holy Roman Empire of Frederick the Great, since Wentworth was a great admirer of Frederick. Alternately, the Town may have been named after Berlin, Massachusetts, a Town next to Worcester, since both Berlin and Worcester, Vermont were chartered on the same day. The name has survived for over two hundred years, even though there was an attempt to change it to "Distoma" during World War II.

While the Town of Berlin has never moved, it has been included in a number of different counties over the years. In 1814 Washington County's name was adopted, and this has persevered ever since. A portion of the Town's area was separated and merged with the City of Montpelier in 1899.

Census records reveal that Berlin grew steadily until 1830 when it reached a population of 1,664. For the next sixty years the Town's population fluctuated between 1,300 and 1,500, then dropped to about 1,000 with the division in 1899. During the first 40 years of the 20<sup>th</sup> Century, the Town grew by only 100 persons. Following World War II, Berlin has experienced steady population growth, most pronounced during the decade of the 1960's when some 750 new people located here. While not as dramatic, population growth has continued to the present.

Berlin has always been a rural community, with many farms located along the river and stream valleys, on the relatively flat land between Berlin Pond and the Stevens Branch River, and in a few suitable highland locations. The original town center was located at the top of "Turner Hill" at the intersection of Crosstown Road and Hill Street Extension (which formerly continued south along the Pond to Brookfield). When the original meeting house burned in 1838, it was not rebuilt and the center of local government was shifted to the Berlin Corners area where a cluster of homes, businesses (including three mills), and another church evolved.

The original road system had a strong north-south orientation, following the valleys and respecting the rugged ridges. There were, however, more east-west connections than at present.

In 1929 a substantial portion of the relatively level land between Berlin Pond and the Stevens Branch River was acquired by a group of businessmen representing the cities of Barre and Montpelier and the Barre-Montpelier Airport was constructed. The airport was taken over by the State of Vermont in 1970 and renamed the E.F. Knapp State Airport.

The Barre-Montpelier Road followed the Stevens Branch through Berlin and became the focus of active commercial and industrial development in the post World War II years, a pattern which is still evident today.

In the 1960's, Interstate 89 was constructed along the higher land east of the Pond and west of the Airport. While Interstate 89 includes two exits entirely within the Town and a third



at its northern border, the facility also necessitated the severance of several local roads, leaving only Crosstown Road and Hill Street Extension to connect the Town across the expressway.

With proximity to the Barre-Montpelier urbanized area, its access to the Interstate, and the rural quality of its landscape, Berlin has attracted considerable development during the past 40 years. Residential development has dispersed throughout the Town, generally along existing roads. Commercial development and service activities (associated with health care) have concentrated in the northeast quadrant, generally between the Airport and the Stevens Branch.

The Town has grown to over 2,800 residents, most of who live in the rural portions of the Town surrounding the commercial/industrial/service center. At the same time, that center has grown to serve the entire Central Vermont region, and contains a hospital, administrative office facilities, a shopping center, and a variety of economic activities.

As the Town of Berlin looks to the future at the onset of the 21<sup>st</sup> Century, it does so with a strong foundation in the past.

#### **IV. BERLIN IN THE FUTURE**

##### **A. INTRODUCTION.**

No one can say with certainty what the Town of Berlin will be like in the year 2010 or after. An effective Town Plan, however, must establish a concept or image for the future which can serve as a guide or program for the many public and private decisions which will actually create the future Berlin.

Today our Town is sparsely populated and characterized by rugged ridges and valleys. There are scattered clusters of residential development where land form and soil conditions are favorable, and there are two traditional centers (Riverton and Berlin Corners). In addition, there is a strong foundation of non-residential development located in the Town's northeast quadrant.

The concept of Berlin in the year 2010 is not drastically different from what we see today. Residential development will continue, at a modest rate, with a majority of the future homes being single family dwellings erected where conditions are most receptive; along existing Class II unpaved roads, where soils and slopes make on-site sewage disposal possible, and where vehicular access is not a challenge. Where these conditions exist, it is anticipated that development densities may reach the maximum levels permitted by the current zoning. Where conditions are less favorable (the predominant area of Town), the continuation of the pattern of sparse development is probable.

As "good" land becomes more difficult to find, planned residential development is anticipated, where maximum densities will be realized and the use of community waste disposal systems becomes a reality, or the extension of existing municipal

water and sewer systems becomes financially feasible. In the near future, this land of “intense” development is expected near the limits of today’s sewer system or where large areas of favorable soils permit waste water disposal. In essence, proper sewage disposal will govern the pattern of “intense” residential development, and the concept of Berlin in the year 2010 does not include a great deal of residential development of this nature. Into the future, however, concentrated housing developments will begin to appear, primarily on high quality (paved) access roads and where connection to a municipal sewer system (extended during the 1990's) is feasible. The majority of Berlin’s land area will be sparsely settled on relatively large lots with on-site sewage disposal.

Non-residential development and, in appropriate locations, residential development at relatively high densities, is expected to continue in the northeast quadrant, essentially along Route 302, extending westerly to Interstate 89. In concept, growth served by existing highways will be encouraged, with most intense development envisioned in an area outlined roughly by Fisher Road, Airport Road (part of which is also known as Berlin State Highway), Scott Hill Road, and Paine Turnpike North.

The concept of Berlin in the year 2010 would see a large part of this area served by municipal water and sewer, development-supported improvements to road and traffic control systems (such as on Fisher Road), and execution of plans and construction such that anyone traveling this area, including Route 62, would be pleasantly impressed with the aesthetic harmony created by the non-residential development.

The general concept of Berlin in the future includes modified, expanded or, in appropriate instances, relocated municipal facilities such as the Town Garage and the School.

The Berlin Four Corners neighborhood, which is actually just west of the Four Corners, will continue to exist in the future and will still function as a pleasant concentration of dwellings. The preservation of this area will help to demarcate the transition between the well developed non-residential section to the east and the more sparsely settled areas to the west. This historic scale and pattern of development can be reinforced with the enhancement of the town center area, contiguous to the historic settlement, to serve as a location of a mix of small-scale commercial, high density residential and civic uses in a traditional village setting. The Town desires to encourage the expansion of the historic town area in the vicinity of Berlin Four Corners to adjacent areas to allow the development of a compact multiple use community center.

As indicated in Section III, Berlin’s growth rate slowed substantially during the 1980's. While it may be that the recent recession (1988-1993) suppressed the Town’s growth rate slightly during the 1980's, it is unlikely that growth will regain the momentum of the 1960's, nor will it approach the 2% per year rate suggested in the previous Town Plan. For planning purposes, a growth range between 0.5% and 1% per year seems consistent with past trends. This yields future population projections as shown in Table 1.

<b>TABLE 1 POPULATION PROJECTIONS</b>	
<b>Year</b>	<b>Forecast</b>
1990 (actual)	2,561
2000 (actual)	2,864
2005 (estimate)	3,010
2010 (estimate)	3,164
<i>Sources: 1990: U.S. Census; 1998: VT Dept. of Health; 2000-2005: Central Vermont Regional Planning Commission.</i>	

Thus, the Town can expect an increase in population of approximately 300 persons over the coming 10 years. This modest growth in population will be accompanied by corresponding construction of housing. Assuming that the Town-wide ratio of persons per year-round dwelling continues to diminish to a level of less than 2.5 by the year 2010 and then holds constant, a growth of approximately 24 new year-round dwellings per year is consistent with the previously discussed population projections. This yields a range of estimates for future year-round housing stock in the Town as shown in Table 2.

<b>TABLE 2 HOUSING PROJECTIONS</b>	
<b>Year</b>	<b>Forecast</b>
1990 (actual)	938
2000 (actual)	1,109
2005 (estimate)	1,239
2010 (estimate)	1,350
<i>Sources: 1990: U.S. Census; 1998: VT Dept. of Health; 2000-2005; Central Vermont Regional Planning Commission.</i>	

Housing units could reflect an increase of 24 per year for the next 10 years based upon current statistics. It is possible that provision of group housing facilities such as convalescent homes may generate additional population growth without adding individual dwellings.

## B. LAND USE.

Berlin's current land use and development patterns are the result of a number of factors that have combined to influence human settlement and commerce for more than 200 years. These include the physical terrain; economic trends that have affected agriculture, industry and commerce; transportation improvements; public and private investment in civic facilities and infrastructure; technological advances and land use and development regulations. These factors, and others, will continue to shape the growth and development of the Town.

In some parts of Berlin, the existing development pattern reflects many decades of human settlement that is not likely to change dramatically in the near future – even if such changes were desirable. In other areas, however, the Town has the opportunity to shift current development trends in a manner that could significantly alter the future pattern and character of development. Whether the community chooses to pursue these opportunities will play a key role in determining the character and location of development well into the new century.

In many respects, Berlin's settlement pattern is typical of much of Vermont – characterized by expanses of sparsely developed countryside interspersed with clusters of more intense development. In some cases, these clusters are small residential neighborhoods. In other cases, however, the clusters are much less compact and lack the densities and pedestrian scale of traditional village centers. As Berlin has emerged as a regional commercial center, the development pattern has become wholly oriented toward the automobile. This pattern, which first emerged along the Route 302 corridor and more recently on the Plateau area, stands in stark contrast to Vermont's traditional landscape. How the Town guides future growth is a key issue for this plan.

1. **Zoning and Development Regulations.** To achieve a desired mix of uses and pattern of development described above, the town enacted zoning regulations and subdivision regulations. These regulations, specifically the zoning regulations, have designated 10 land use districts which regulate land uses, development densities and related standards within distinct areas of town. These districts, and their respective purposes, are as follows:
  - a. **The Highland Conservation District** generally encompasses the least accessible and more sparsely developed areas of town. The purposes of the district are to protect fragile natural resources, including wetlands and surface waters, steep slopes, wildlife habitat and upland areas; encourage the productive use of forest resources; promote traditional outdoor recreation uses, and allow low density residential development in a manner that is compatible with the other purposes of the district. (Found in Section 2.04, Table 2.01)

- b. **The Residential District** encompasses a small area adjacent to Crosstown Road from its intersection with Brookfield Road to Rowell Hill Road. (Found in Section 2.04, Table 2.02)
- c. **The Rural Residential District** generally encompasses rural areas of Town characterized by few significant development constraints and reasonably good access to roads and services. The purposes of the district are to protect fragile natural resources, including wetlands, surface waters and wildlife habitat; promote continued agricultural activities; prevent strip development along major road corridors; and encourage moderate density residential development, including clustered housing, and limited commercial uses in appropriate locations. (Found in Section 2.04, Table 2.03)
- d. **The Modified Residential District** includes lands at the eastern end of the Route 302 corridor, adjacent to the City of Barre. The purposes of the district are to maintain the residential character of the area while allowing for commercial uses in a well designed manner that avoids the pattern of strip development that has occurred elsewhere along this highway corridor, and to permit development densities that are moderate relative to other commercial districts. (Found in Section 2.04, Table 2.04)
- e. **The Medium Density Residential District** includes lands in close proximity to neighboring urban centers that are served by municipal water and sewer facilities. The purpose of the district is to encourage moderate to high density residential neighborhoods in appropriate settings, and to allow for limited non-residential uses compatible with the residential setting. (Found in Section 2.04, Table 2.05)
- f. **The Commercial District** encompasses much of the Plateau area served by Route 62 and other town collector roads. The purposes of the district are to allow a variety of commercial uses consistent with the area's function as a regional commercial and service center; strengthen the integration of land uses through a system of interconnected roads, driveways and sidewalks/pathways; maintain consistently high standards of site design; and protect and strengthen adjacent residential neighborhoods from adverse impacts associated with incompatible uses. (Found in Section 2.04, Table 2.06)
- g. **The Highway Commercial District** encompasses lands parallel and adjacent to Routes 302 and 2. The historic purpose of the district was to allow for the development of an automobile-oriented highway commercial strip along the heavily traveled state highways. The district's purpose has evolved, however, to promote the continued economic viability of this important regional commercial center in a manner that improves the

function and appearance of the district, improves traffic flow, enhances pedestrian circulation, protects water quality in the Stevens Branch and provides access to open space and important natural features. (Found in Section 2.04, Table 2.07)

- h. **The Light Industrial District** encompasses much of the land adjacent to the Airport. The purposes of the district are to promote a regional industrial and employment center by allowing a variety of industrial, manufacturing, service and office uses are permitted at moderate densities; maintain consistently high standards of site design; and protect and strengthen adjacent residential neighborhoods from adverse impacts associated with incompatible uses. (Found in Section 2.04, Table 2.08)
- i. **The Industrial District**, which includes land within the Riverton hamlet, and near the confluence of the Dog and Winooski Rivers, is intended to encourage a wide range of industrial and commercial enterprises at low densities while maintaining the rural character of the surrounding area and protecting adjacent residential neighborhoods from adverse impacts associated with incompatible uses. (Found in Section 2.04, Table 2.09)
- j. **The Town Center District, which includes the land surrounding the Berlin Mall**, creates a traditional multiple use area that is scaled to the pedestrian and can serve as a gathering place and community center. Additionally, the Town Center District will result in an economically viable area with a mixture of retail, office, residential, and service uses, built on a small-scale that is conducive to pedestrian activity.
  - i. The Planning Commission should consider a Hamlet District to encompass the historic settlement of Riverton in the future.

2. **Land Use Patterns.** The zoning districts were initially designed to address the different needs and patterns of distinct neighborhoods and areas of the Town. These areas, and important land use and development issues associated with each of them, are described below.

- a. **Rural Areas.** Growth in the sparsely developed rural portions of Berlin will generally take the form of rural residential development along existing roads or in small valleys leading away from existing roads. Where soil and slope conditions are suitable, small clusters of dwellings should be encouraged. In addition, the existing hamlet of Riverton should be encouraged to expand slightly where appropriate.

Clusters of dwellings, or neighborhoods, should be encouraged through the use of planned development designs and innovative zoning provisions. Where such clusters currently exist, and where new ones are created, they should be reinforced as neighborhoods by providing such amenities as meeting spaces, paths linking dwellings, and/or play areas.

Although agriculture is no longer a dominant economic activity in Berlin, the open landscape created by agriculture is still an important feature in some parts of town. There are only a few commercial dairy farms in operation, although some smaller specialty farms also exist. While the outlook for the future of agriculture is uncertain at best, many landowners have maintained open fields for personal use which contribute to the town's rural character.

Future land use policy should reflect the expectation that development in the interior or upland portions of the Town will be rural and will occur at lower gross densities. Development in the valley areas may be at slightly higher densities, but will be limited by soil capability and slope. At the same time, flood plain conditions must be respected.

The Town should evaluate land uses as patterns and demands change. For example, the conditional use of land in residential areas of non-intrusive home offices should be evaluated. Uses determined not to have a negative impact on the residential character of a neighborhood such as: doctors' offices, non-kenned veterinarians' offices, or other office uses after evaluation, could be included. Such land use allowances could actually become the nucleus of a population center, or be part of a planned residential development. In addition, current home occupation provisions under zoning should allow for a greater degree of flexibility with regard to home businesses. In the Rural Residential District, allowing "cottage industries" may be an appropriate strategy for encouraging economic development that does not undermine the community's rural character.

To manage growth and development throughout Berlin's rural areas, the vast majority of the land area has been included in the Highland Conservation and Rural Residential Districts. Several smaller districts are located in the Town's rural areas. These districts include the Residential District adjacent to portions of Crosstown Road and an area designated as an Industrial District within and adjacent to Riverton. Additional small parcel(s) zoned industrial are also located adjacent to the Junction Road south of Montpelier.

As noted above, the historic settlement of Riverton is presently designated as Rural Residential and/or Industrial. Within the area designated as Rural Residential, the mix of uses that are permitted is limited and traditional village commercial businesses, such as a general store, may not be

established. Likewise, the extensive area designated as industrial does not permit new residential development that could expand the hamlet's traditional pattern. An alternative to the current zoning could be the creation of a multiple use village designation that would permit appropriate, small scale commercial enterprises while encouraging residential and associated uses at historic densities.

- b. **Historic Town Area:** The Berlin Four Corners area is considered the historic area of the Town, clustered just west of the intersection of Crosstown Road and the Paine Turnpike (which was severed by the Interstate). In this area, there is a Town Office, Town Garage, church, cemetery, and a number of dwellings dating from the previous century mingled with several more modern dwellings and a monument. Part of the area is described as an Historic District with boundaries generally as shown on a map prepared by the Vermont Division for Historic Preservation (dated November 1980, and February 1986).

This area should remain as a compact residential area with modest residential densities. In a sense, it is a small village, and serves as a transition between the rural areas to the west and the suburban commercial/industrial areas to the east. To facilitate this, it may be necessary that the proposed plan for integrated and unified sewer and water service discussed under the commercial/industrial center also serve the Historic District.

In an effort to build upon the historic center, promote stronger community identity, and encourage an alternative land use pattern to the large-scale, automobile oriented development that has occurred adjacent to the historic center, the Planning Commission sponsored a town center area planning effort to identify strategies for enhancing the town center area in Berlin. The results of this effort are set forth in the report entitled *Planning Concepts for: A New Town Center and The Barre-Montpelier Road Corridor*, prepared by The Office of Robert A. White and dated May, 2000.

- c. **Town Center District:** Most recently, *The Berlin Mall Village Center Study* prepared by Wilbur Smith Associates expanded on the Town Center principles developed in the Town Center Study and resulted in the creation of a new zoning district: The Town Center (TC) District. This recent study applied the Town Center principles of compact, multiple use development to the area around the existing Berlin Mall. Additionally, this plan proposed a new village center connecting the mall with the hospital and the elementary school; concentrating new growth in the area where growth is already occurring. The goals of this District are to create an economically viable core with a mixture of retail, office, residential, and



service uses, built on a small-scale that is conducive to pedestrian activity.

This will result in an aesthetically pleasing public realm of streets and sidewalks framed by building facades, enhanced by street trees, plazas, parks, natural and recreational areas, and other public amenities.

Additionally, the Town Center will become an area that is safe and appealing for pedestrians and bicyclists, where the need to move traffic through is balanced against the need to make the pedestrian experience safe and enjoyable. The study and creation of the Town Center zoning district represents a significant opportunity for the Town to guide future development in a manner that will encourage a compact, pedestrian-friendly, multiple use village center.

The Town of Berlin will need to make a concerted effort to realize the goals of expanding and enhancing the town center area, as described in the Wilbur Smith Study. It may be appropriate to appoint a committee to focus on town center area enhancement, coordinate the efforts of various boards and committees, work with affected landowners, and keep the public informed as to the effort.

- d. **Commercial/Industrial Center.** The northeast quadrant – in particular the Plateau area – enjoys significant access advantages, relatively level land, and a location central to the Barre-Montpelier urbanized area. This area has developed, and will continue to develop, as a regional commercial and service center. As such, it will continue to attract customers, clients, workers, patients, and visitors from the surrounding region.

In order for the Town to make the best use of the potential of the Northeast quadrant, it is recommended that a comprehensive, integrated plan be developed which addresses access and circulation, potential land uses, and provision of water and sewer service. At the same time, the public design objectives for this area should be specified. While actual implementation of such a plan may be done by developers in conjunction with specific projects, the existence of an overall plan will help to ensure that the Town is able to derive as much benefit from development in the area as possible.

This plan could include such objectives as mixed commercial and residential uses to minimize vehicular travel between home and shopping or service facilities, a pedestrian network to facilitate walking between retail, office, service, and residential establishments, and a unified, coherent vehicular circulation system. Densities should be reviewed relative to the land use and growth management objectives of the area, as identified in the Berlin Town Plan. Consideration should include whether a portion of the area should be incorporated into a higher density “town center area.”

- e. **Transition Areas.** Along the border between Berlin and Montpelier are several areas that serve as a transition between the rural portions of Berlin and the more urbanized Montpelier. This area is primarily residential at varying densities, and is quite steep in places. These characteristics extend across the line into the City, but much of the area in the City is designated as “conservation” with limited development densities. It is recommended that the portion of Berlin adjacent to this boundary develop as a residential area with modest densities and lot sizes of less than one acre.

The western edge of this transition area abuts commercial and industrial areas between the Winooski River and US Route 2. Some of this type of development activity has extended into Berlin along the Dog River, VT Route 12, and the railroad. This location has some access potential and commercial and industrial activities in the area should be encouraged, extending as far south along Route 12 as the first bridge over the Dog River. An important aquifer exists along the Dog River in the area where commercial and industrial development is encouraged along Route 12. Local and State regulations should be followed to protect this resource from inappropriate development activity.

- f. **The US Route 302 Corridor.** The US Route 302 corridor is a commercial strip along both sides of the busy road between the cities of Montpelier and Barre. There is a great variety of commercial activities including fast food establishments, furniture stores, auto sales facilities, and personal service establishments. This is clearly a high potential area enjoying water and sewer service and good access to the urbanized area and to the Interstate.

The basic objective is to retain and re-energize this important commercial area while minimizing the adverse impacts of traffic congestion and improving pedestrian safety and amenity. To this end, the Planning Commission included a study of this important corridor in the aforementioned White Study and the Central Vermont Regional Planning Commission’s *Vermont Route 62 and Barre-Montpelier Road Corridor Study*, dated September 2001 (a.k.a. Dubois & King Report). The final reports included several recommendations for better managing access and improving pedestrian circulation. While the reports did not offer detailed recommendations related to land use and development within the corridor, several suggestions were made during the public process that, in combination, should improve the visual appearance and function of the corridor and stimulate re-development. These include:

- Improve site design along the corridor by locating parking areas to the side and rear of buildings, where practical, and establish landscaping standards for front yards.
- Encourage better building design, including multi-story buildings, which are oriented to relate to the highway both functionally and visually.
- Establish a consistent streetscape by siting buildings close to the road.
- Promote greater pedestrian access by requiring sidewalks along all road frontage, and ensuring that sidewalks are provided within a site to connect building accesses with parking areas and public sidewalks.
- Reduce the amount of land area devoted to parking by requiring shared parking in appropriate locations, and reducing the amount of parking required for shared facilities serving multiple uses.
- Better manage highway access by requiring the consolidation and/or narrowing of curb cuts and, in appropriate locations, shared access between parcels and driveway connections to adjacent parcels in the rear of buildings.

In addition, the White study and Dubois & King Report included several recommended highway and streetscape improvements that are described in Section D below.

- g. **Exit 6 Area.** The land in the southeast quadrant of Exit 6 is designated commercial due to its access to Interstate 89 with limited use of local roads.

The land in this area north of Route 63 with the exception of the current small 500' deep commercial zone is designated Highland Conservation District due to the residential nature of the area, environmental concerns regarding runoff to Berlin Pond, and potential traffic impacts to East Road.

- h. **The Northeast Corner.** In the extreme northeast corner of the Town, falling between the main branch and the Stevens Branch of the Winooski River is a small segment of land which is somewhat separate from the rest of Berlin. The land in the river valleys is relatively level, but rises fairly steeply toward Goldsbury and Beckley hills in Barre Town. Water and sewer lines are able to follow several valleys leading away from the Stevens Branch; this has facilitated a suburban pattern of residential development.

## C. HOUSING.

Berlin will likely continue to attract residential development at a relatively modest rate, although there are growing signs that regional demand for new housing has grown significantly within the past two years. For the most part, new residential development will occur in the outlying portions of the Town. It is recommended that housing be encouraged near existing residential areas, clustered where appropriate, in order to reinforce residential neighborhoods.

While most new construction will be in the form of single family detached dwellings, it is recommended that the Town encourage construction of a variety of housing types and sizes in order to serve a broad range of income levels. Multi-family dwellings should be located in areas supported by water and sewer service, and with convenient access to commercial and employment opportunities.

Berlin currently contains housing in a broad range of types and values, almost half of which is “affordable” to households with incomes below the median income level for the County. The Town should continue to support such housing and work to ensure that this range of housing opportunities is retained.

It is important that a full spectrum of housing opportunities for elderly residents be maintained and encouraged.

To enhance the development of the town center area, the town should facilitate the development of a mix of housing types in a traditional village setting, such as upper-story rental housing, a mix of single-family home lot sizes, and the development of elderly housing and/or an assisted care facility.

## D. TRANSPORTATION.

Berlin’s transportation system is, and will continue to be, based primarily on public roads and private automobiles. The basic road system is already in place, and development patterns will continue to reflect that system. It will be necessary, however, to coordinate road improvement projects to reflect types and intensities of development, to continue providing adequate intra-Town circulation and connections to the regional network, and to supplement the highway network with support for appropriate alternatives to the private automobile. Such alternatives as pedestrian and bicycle facilities and transit can alleviate traffic congestion in certain areas or situations, can reinforce less automobile-dependent settlement patterns in the proposed town center area, and can enhance the vitality of existing commercial areas such as the Route 302 corridor. Toward that end, the following specific recommendations are made. The proposed transportation improvements are depicted on **Map 2 - Transportation System and Improvements**.

1. Encourage the reconstruction of US Route 302 with adequate lanes, signals, and sidewalks to serve the adjacent uses and activities, as well as the substantial amount of through traffic. Reconstruction of this road is currently being planned as a State project and is not expected to require local revenues. Reconstruction should include consideration of alternative transportation paths, enhancement of the Stevens Branch as a focal point, and the goal of increasing the pleasant experience for both motorists and pedestrians utilizing the Route 302 commercial area.
2. Encourage access and traffic management on both US Route 302 and US Route 2 in order to limit congestion and reduce accident risks. This may employ such techniques as limited and shared curb cuts, dedicated left-turn lanes, internal connections between contiguous parcels and activated and coordinated signals.
3. Cooperate with multi-municipal efforts to lessen unnecessary automobile traffic, and evaluate alternate modes of travel, in an effort to minimize the effects of congestion and extend the useful life of major roadways.
4. Continue to support park-and-ride facilities near interstate interchanges and near Route 302 in order to encourage ride sharing. For the most part, these facilities will be constructed by others and not require local revenues.
5. Replace or repair inadequate bridges with top priority given to those with structural inadequacies. Several Berlin bridges are included in the State's 5-year plan. It is likely that a portion of the costs will have to be covered by Town appropriations. It is imperative that the Town and State work together during the planning and design phases to ensure that the bridges adequately meet the Town's present and future needs.
6. Crosstown Road may have to be upgraded, but should be protected from improvements which threaten its scenic and residential characteristics.
7. The intersections of Route 62 with Paine Turnpike and Fisher Road have been identified as high accident locations due largely to the high travel speeds, increased traffic, and intersection design. Recommendations provided in the White Study and Dubois & King Transportation Report to create a more pedestrian friendly, human scale town center area should be encouraged. Those studies included recommendations for the creation of a landscaped "divided boulevard," new "roundabouts," or improvements to signalization at the intersections of Route 62 and Paine Turnpike and Route 62 and Fisher Road.
8. At present, the major corridor between Route 62 (at Fisher Road) and the northwestern part of Barre is along the airport, utilizing Berlin State Highway and Airport Road. As this link becomes overloaded, another path linking Route 62 (possibly utilizing the access at Paine Turnpike) should be explored. Upgrading and paving Scott Hill Road and Airport Road as part of this link may be a feasible alternative. Lessening the impact on existing residences along

Scott Hill Road from increased traffic on Scott Hill Road should receive consideration during this investigation.

9. Upgrade Comstock Road to strengthen the existing road system which connects the growing commercial/industrial area in the vicinity of the Airport to Route 62. A primary goal would be to make a better alternative route available to this vicinity to lessen the traffic load at the intersection of Route 62/Fisher Road/Berlin State Highway.
10. Support the proposed regional recreation path parallel to Route 302 along an abandoned railroad right-of-way and encourage additional path connections among major activity centers in the Town (e.g., the Elementary School, Berlin Mall, Route 302, Town Office, Riverton), and future recreation areas that might be developed. According to the Berlin Conservation Commission, bicycle and pedestrian path connections are especially important to connect the Barre-Montpelier Road with Central Vermont Hospital, and from the hospital to the elementary school and the town offices. These and other alternative forms of transportation should be linked to a regional, multi-modal fiscally self-sustained system before the Town seriously considers them as part of its transportation planning program.
11. Continue to plan and encourage development of an efficient, coherent road system to serve the commercial/industrial center based on anticipated uses and activities throughout the area. This should be done in conjunction with corresponding plans for water and sewer service in order to provide an integrated infra-structure plan for the area.
12. Conduct an inventory of the number of total miles of gravel roads in the town, and establish management guidelines to protect the distinctive features located within the right of way, such as road surface and width, canopy trees, stone walls, and scenic byways.
13. Coordinate with the Vermont Agency of Transportation to reclassify the Dog River Road from a Town highway to a State highway to be compatible with Montpelier's section for accessibility between Route 12, Memorial Drive (Route 2), and Interstate 89.

These recommendations will be adequate to provide a transportation system that will fully support the patterns and types of development that are anticipated in Berlin for the coming 10 to 15 years. **Map 2 - Transportation System and Improvements** shows the proposed transportation improvements.

## **E. TOWN FACILITIES AND SERVICES.**

The Town of Berlin provides a range of public services and facilities for its residents and residents of the surrounding region. It is important that the Town's facilities continue to provide the desired quality of services, and that they are prepared to accommodate the types of development anticipated in the future. What follows is a series of recommendations designed to ensure that the Town's public facilities and services will be adequate for the foreseeable future. **Map 3 - Public Facilities and Services** shows the location of present and anticipated public facilities.

1. Town Office Building. The Town's municipal office building is currently shared by all Town administration activities and the Police Department. The facility was renovated and expanded during 1993-94 in order to fully accommodate present activities and anticipated future needs. The expanded building provides space for both the Town administration and the Police Department as well as a meeting room suitable for Select Board, Planning Commission, Development Review Board, and other community meetings.

A special committee has been organized to make recommendations to the Select Board to meet the Town's current and future space needs. It is recommended that the Town explore a way of providing improved access to the Town Office and Town Garage - particularly to the east. Such improved access would not only more strongly link these public facilities to the rest of the Town, but would also improve the overall circulation pattern in this area and could support the enhancement plans of the greater town center area.

2. Town Garage and Equipment. The Town maintains a fleet of equipment for road maintenance and other activities which is based at the Town Garage. This facility occupies part of the site where the Municipal Office Building is located. The facility and the present stock of equipment is deemed to be adequate for current and anticipated future needs. As the Town moves forward with the enhancement of the town center area, however, alternative uses for the Town Garage site should be considered that would strengthen the area's function as a pedestrian oriented village center. Such a relocation would obviously require the relocation of the facility to a suitable site, most likely within the Industrial District. Equipment, however, has a finite useful life, and it will be necessary to replace trucks and other items on a regular basis as they wear out. As equipment is needed or replaced, on-going economic analyses should be undertaken to determine whether purchase, lease, or rental of such equipment is in the Town's best financial interest. Investigation, information development and implementation of a capital budget to address this are a priority of the Select Board and Planning Commission.
3. Fire Protection. The Berlin Volunteer Fire Department provides fire protection to the Town from two stations: one in Riverton and one in the Berlin Corners area. The Department's 5-year plan anticipated development comparable to what is proposed in this Town Plan. In general, it is not anticipated that additional stations will be required, but the 1970 Riverton station will require some upgrading to extend its service life and make its operations more energy

efficient. In addition, as current pieces of apparatus age, they will require replacement in order to maintain current service capability.

4. Police Protection. The Berlin Police Department was officially started in 1991 with two patrol positions. The police department office is located in the Town Municipal building. The department has changed significantly in size and scope of responsibilities. The present sworn staffing is seven officers, who include a chief, sergeant, corporal, and four patrol officers. Additionally, a full-time office manager is on duty during regular business hours to assist in research, office organization, and customer service. The department's complaint totals exceed 6,500 annually. The complaint totals have increased annually since the inception of the police department.
5. Public Water System. The two existing water systems serving development along Route 302 will continue to provide adequate service, although there may be some low pressure problems in certain parts of the Berlin Water Company service area.

The development in the Plateau area is currently served mainly by wells and is in need of a new source. A water main extension from the Montpelier City Treatment Plant to the Central Vermont Medical Center, constructed in 2002, provides one new source of municipal water to a portion of the Plateau. It is recommended that the Town develop a plan for a unified water system to serve not just the areas presently developed, but the entire northeast quadrant of the Town (the area east of the Interstate and north of Scott Hill Road/Airport Road in anticipation of focusing future development in that area. This should be done in conjunction with the plan for a unified road system serving the area, and be a part of an integrated infra-structure plan for the area. It may be appropriate to design this system to accommodate water from multiple sources in the event that the commitment from Montpelier is inadequate to meet demands. **Map 3 - Existing and Proposed Public Utilities and Facilities** presents the current water service areas and a general indication of the recommended study area for the integrated infra-structure plan.

Even with the agreement with the City of Montpelier, it should be recognized that the municipal supply of potable water is a limited resource in Berlin. The Town should actively encourage conservation of water.

6. Public Sewer Service. The present sewage collection system that serves the area along Route 302 and portions of the Plateau area should be extended in a manner that reinforces zoning specifications for land use patterns. This may involve renegotiating the agreement with the City of Montpelier to obtain additional treatment capacity unless excessive sewage contributions can be curtailed.

It is recommended that the Town develop a plan for a unified sewer system to serve not only the areas presently served, but also the entire northeast quadrant



of the Town in anticipation of focusing future development in the area. This should be done in conjunction with the plan for unified road and water systems described above. The result should be an integrated infra-structure plan for the area. To ensure ongoing integration of the provision of public facilities and land use objectives, a wastewater allocation policy should be developed based upon the completed facilities study.

A step toward water and wastewater planning was accomplished during a review of alternatives for master planning systems for the Town by Dufresne & Associates in 2000.

**Map 3 - Existing and Proposed Public Utilities and Facilities** shows the existing sewer lines and the general area proposed for the integrated infrastructure plan.

7. Recreation. At present there are several municipal recreation facilities in Berlin including (a) the playground and ball fields at the Berlin Elementary School, (b) the outdoor skating rink at the municipal building, and (c) public recreation areas such as the Boyer State Forest, the expanded Municipal Forest, and (d) the Dog River Natural Area. As the Town grows and demand increases, the Town should consider establishing a program for community recreation facilities. This program could include a centralized “park” or recreation area connected to the community by a trail system, or paths for alternative transportation modes as discussed in the Transportation section of this Plan. Potential locations for such a park(s) include somewhere near Berlin Pond (recognizing that swimming is not allowed in this municipal water supply), or somewhere along Crosstown Road.

Recreation opportunities for residents should be improved in Berlin. These could include hiking and bike trails. The extension of a paved bike path along the existing rail line near to the Barre-Montpelier Road is an example of such an improvement. The feasibility of a path connection linking that path with the Four Corners area and elementary school should be explored in the future.

## **F. EDUCATIONAL FACILITIES AND SERVICES.**

The Union 32 High School District recently accomplished a major expansion to enhance its total student capacity to meet anticipated needs and to meet health and safety programmatic requirements. The new wing provides a separate space for middle school students and the additional gym allows opportunity for expanded co-curricular activities. The new facility provides a community center for residents of all ages from the five sending communities.

Although now 35 years old, Berlin Elementary School continues to be well

maintained and is generally in very good repair. In 1993, the school's electric heating system was replaced with a wood chip boiler and oil back up. Energy efficient lighting was also installed at this time. The school roof was replaced in 2003. School and community use of the building for before and after school programs as well as vacation and summer activities has greatly expanded over the years.

During the spring of 2004 the School Board charged a Facilities Committee to make recommendations regarding facility needs for the present and into the future and to prepare plans, if necessary, to address health, safety, code, and program needs. The Board has contracted with the architectural firm EH Danson Associates of St. Johnsbury to develop plans through the pre-bond stage of a school renovation/expansion project.

## **G. ENERGY.**

Almost everything we do requires energy of one form or another. Human activity is generally based on food energy which is essentially renewable. The energy we use to run our homes, vehicles, and businesses, however, often comes from limited energy reserves. While the circumstances which dictate the type and amount of energy used are often beyond the control of an individual Town, there are some things that local communities can do to reduce the energy required for domestic space, water heating and for transportation. The following recommendations are intended to assist in achieving increased energy efficiency in the Town.

1. Encourage new construction to use energy efficient materials and appliances. This can substantially reduce average energy consumption for water heating, water consumption as well as reducing space heating, and air conditioning where used.
2. Encourage the retro-fitting of existing structures with energy saving devices such as insulation, storm windows, heating equipment, etc. This can achieve the same kinds of efficiencies as described above.
3. Encourage the layout of commercial areas such that walking between establishments is facilitated. This can reduce the energy used for automobile travel.
4. Work to reduce energy consumption for transportation by encouraging non-automobile travel. Possibilities include the following:
  - a. Promote connections between major activity centers by bicycle/foot paths to encourage non-automobile travel.
  - b. Promote the use of ride-sharing by providing park-and-ride facilities near major commuting routes.

- c. Cooperate with multi-municipal efforts to make automobile travel more efficient.
5. Encourage alternative energy resources such as wind and solar, however siting of these resources should take into consideration the significant natural features goal.

## **H. SIGNIFICANT NATURAL FEATURES.**

The most significant natural features of the Town of Berlin are the forested mountain ridges, the Dog River Valley, and Berlin Pond. There is strong support for the protection of these resources.

Forests and mountain tops have been identified as our most important natural resources. Much of the Town's ridges and large tracts of forest are located in the Highland Conservation District. The mountain ridges are steep and rocky and have very limited access, although these areas are coming under increasing development pressure.

Over half of the respondents to a 1998 questionnaire expressed support for protecting the Dog River. The land along the Dog River is designated for industrial, commercial, and primarily rural residential development at low to moderate densities, but some areas are limited by flood plain constraints. Maintaining adequate building setbacks and buffer areas to protect a riparian corridor along the length of the River, as well as other streams, is critical to the long term protection of water quality and wildlife habitat. Protecting stream banks and riparian corridors, through proper management of stormwater from nearby land uses, including developed sites that create large areas of impervious surface and agriculture, is critical to the maintenance of water quality in local streams.

Other important rivers and streams include the Winooski River, which should be protected through the establishment of riparian buffers, and the Stevens Branch, which could serve as a visual and recreational focal point along a revitalized Barre-Montpelier Road. With greater attention focused on the Stevens Branch due to redevelopment activities and the construction of the bicycle path along the existing rail lines, efforts should be pursued to allow riparian vegetation to restore itself. The protection of smaller upland streams, through the maintenance of forested buffers, is also critical to the protection and enhancement of water quality throughout town.

In addition to these major features, there are several wetlands which have been identified. In many cases these are incorporated into flood plain areas. The large wetland area around Berlin Pond is either in the Montpelier City Forest or in the identified flood plain areas.

The areas identified as deer wintering areas by the Vermont Department of Fish and Wildlife are, for the most part, located in rugged mountain ridge areas which are not expected to see substantial development pressures, or in areas already protected as municipal forests. The exceptions are in the northeast quadrant of the Town which has been identified as the location of most future development. The deer areas in the northeast quadrant are mostly in locations featuring steep and rugged terrain, and are unlikely to be directly threatened by substantial development. They may, however, become bordered or surrounded by residential and/or commercial development, and this may result in some infringement on the deer areas. That infringement is balanced by the substantial deer areas left in the remaining rural portions of the Town where development pressures are expected to be less intense.

There is a large watershed area surrounding Berlin Pond, most of which is either in municipal forest areas or in areas designated as Highland Conservation District where development pressure is expected to increase. The Irish Hill Conservation project, has resulted in the permanent conservation of 660 acres of forested upland adjacent to the Pond. A small rural residential area is located just north of and slightly downstream of the Pond. This area should pose no threat to the Pond's water quality. The other exception is a small area east of Interstate 89 which drains towards the Pond via culverts under the Interstate. If this area should experience development, it is appropriate that suitable controls be established to prevent contaminated runoff and septic discharges from reaching the Pond.

## **I. HISTORIC RESOURCES.**

The Town of Berlin contains over 70 structures identified as having some historic interest, most dating from the middle of the 19<sup>th</sup> Century. Virtually all of these are residential structures and currently in private ownership. Due to the amount of development anticipated in the Town during the coming decades, it is felt that many of these structures will be threatened by new development. Another threat is neglect due to lack of awareness of the importance that the structures have to the Town's knowledge of itself and its links to its past.

The Town has an active Historical Society which serves as a source of information to owners of important historic properties regarding the history of the properties as well as means of ensuring their continued existence. The Town should encourage and assist the Historical Society in its work, and help to publicize the existence and importance of the Town's historic resources.

Both the Town and the Historical Society should continue to work with the Vermont Division for Historic Preservation to locate outside resources which might be available for restoring or preserving the historic structures.

## **V. IMPLEMENTATION**

Adoption of a Town Plan will not ensure its eventual implementation. The Plan is a guide to future decisions, both public and private, that over time will result in a community anticipated by the Plan. This section outlines steps which the Town should take to move steadily in the directions recommended by the Plan. These steps are presented in four groups: by-law revisions, capital projects and financing, work with other public bodies, and citizen input.

#### **A. REGULATION REVISIONS.**

Many of the recommendations contained in this Plan relate to land use patterns and development patterns. Most significant are the proposals to develop a strong commercial/industrial center in the northeast quadrant of the Town, maintain the commercial and industrial areas near the mouth of the Dog River, recognize the Historic District near the “four corners,” enhance and expand the town center area, revitalize the Barre-Montpelier Road, consider the designation of a Riverton Hamlet District, and essentially maintain the rural qualities of the remainder of the Town as presently zoned.

Another major feature of the Plan is the continued protection of Berlin Pond, a major natural attribute that contributes much to the overall character of the Town and which is also a major public water supply. The Plan shows the Pond surrounded by a Highland Conservation zone.

The principal mechanisms for implementing these recommendations are the Town’s Zoning Regulations and Subdivision Regulations adopted under the provisions of 24 VSA, Chapter 117. Once this Plan is adopted, the next step is to carefully review the Zoning Regulations and Subdivision Regulations to identify specific items which should be revised to be consistent with the goals and purposes of the Plan. Appropriate amendments should be prepared and adopted in accordance with Section 4385 of 24 VSA, Chapter 117.

#### **B. CAPITAL PROJECTS AND FINANCING.**

A number of the recommendations in the Plan involve specific capital improvements in the Town such as, enhancing the Town’s sewer and water systems and upgrading of roads. In particular, it is recommended that the Town prepare an integrated infrastructure plan for the northeast quadrant of the Town (the area north of Scott Hill Road and east of Interstate 89) which will coordinate the provision of road, water, and sewer service to the entire area and allow it to develop most effectively as a regional center.

In addition, the Town should undertake a comparable plan for the commercial/industrial areas along the Dog River and the Junction Road in order to ensure that these areas are effectively integrated into the Town’s growth potential.

To effectively plan for these capital projects, the Town should develop a comprehensive Capital Budget and Program that addresses all capital projects identified in the Plan (and others as they might be identified by the Town). The Capital Budget and Program should be consistent with the provisions of Section 4426 of 24 VSA, Chapter 117, and should be adopted by the Select Board in accordance with Section 4404a of that Chapter. The Capital Budget should be updated annually. Once adopted, the Town should use the Capital Budget and Program as a guide in its annual budgeting decisions.

Once the Capital Budget and Program process is well along, the Town can explore various means of financing the needed capital investments. In both cases, the intent is to develop a mechanism for fairly allocating the costs of the new capital investment projects among new developments which the projects are intended to serve. Use of impact fees should be considered.

For non-taxable developments such as hospitals, non-profit facilities, government facilities, etc., the Town should actively work to establish equitable payments in lieu of taxes to offset the costs of providing such services as fire and police protection and road maintenance.

### **C. WORK WITH OTHER PUBLIC BODIES.**

Berlin is located in the middle of the developing area around the cities of Barre and Montpelier. As such, many activities in Berlin affect and are affected by activities in surrounding Towns. Other public bodies are working with many of the same issues that face Berlin. It is suggested that cooperative efforts with other public bodies will lead to more effective and less costly solutions to these common problems. In particular, the following suggestions are offered as means of achieving some of the goals and objectives of this Plan.

1. Actively work with other municipalities in searching for solutions to common problems such as public safety and emergency service, water, and sewer service, and/or traffic congestion. It may also be possible to obtain cost savings through joint purchasing and shared equipment agreements.
2. Work with school officials in both the local district and the Union School District to plan for adequate facilities for anticipated changes in student enrollment. As the Town develops a capital program, it may also be useful to consider scheduling Town and School projects so that they don't combine to create substantial fluctuations in the combined tax rates.
3. Work with State Highway officials on planning and scheduling road and bridge improvements in the Town. It is imperative that the Town participate in the planning and design of these projects to ensure that the designs adequately reflect Town needs.

4. Support mutual aid agreements and regional emergency service agreements to ensure the cost effective provision of adequate levels of service.

#### **D. CITIZEN INPUT**

Adoption of a Plan is not the end of a Town's planning process. The Plan will be continuously reviewed, evaluated, and periodically amended. This planning process is intended to ensure that the Plan reflects the needs and aspirations of the Town's residents. The Planning Commission should work to maintain a continuous discussion with Town residents about various planning issues in order to constantly be aware of problems and opportunities that may emerge.

The Commission has undertaken several planning efforts which have benefited from the active participation of local residents and landowners including the Town Center concept and improvements to the Barre-Montpelier Road.

In conclusion, the preparation and implementation of this Plan represents an ongoing process by which the Town and its residents can actively strive to be the kind of community envisioned by all.

## VI. BERLIN 2005- SUMMARY OF EXISTING CONDITIONS

### A. POPULATION TRENDS

The Town of Berlin shared in Vermont's expansion during the second half of the century, growing from a population of 1,158 in 1950 to 2864 in 2000. As indicated in Table 3, that growth was most pronounced in the 1960's, and began to moderate during the 1970's and 1980's.

TABLE 3  
BERLIN POPULATION GROWTH (1950 - 2002)  
(Source: US Census Reports and The Central Vermont Chamber of Commerce)

<u>Year</u>	<u>Population</u>
1950	1,158
1960	1,306
1970	2,050
1980	2,450
1990	2,589
2000	2,864
2002	2,898

It is apparent that the Town's population has grown at a much slower rate since the 1980's than it did during the previous two decades.

### B. POPULATION CHARACTERISTICS:

#### 1. Age Distribution.

While the Town's population has been and is expected to continue growing, it is also important to examine changes in the composition of that population. Table 4 shows how the proportion of the total population falling in specific age categories has changed over the past decade, and since 1960. Also shown are similar data for Washington County.



TABLE 4  
BERLIN POPULATION AGE GROUP DISTRIBUTION  
(Percent)  
(Source: US Census Reports)

Age Group	Berlin				Washington County			
	1960	1980	1990	2000	1960	1980	1990	2000
0 - 5 yrs	11.4	8.2	6.3	5.2	9.9	8.2	7.1	5.4
6 - 14 yrs	19.2	15.5	16.3	13.1	17.9	16.0	15.7	13.8
15 - 24 yrs	13.3	11.8	9.8	11.3	13.8	16.7	12.7	13.4
25 - 44 yrs	25.1	27.2	29.6	27.0	26.4	28.3	33.2	28.8
45 - 54 yrs	13.3	10.1	11.4	16.6	12.0	9.6	10.6	16.6
55 - 64 yrs	9.4	9.8	9.3	9.9	9.6	8.7	8.2	9.5
65 + yrs	8.4	17.4	17.3	16.9	10.4	12.5	12.5	12.8

The portion of the Town's population falling in the 65 and over age group has more than doubled, from 8.4% in 1960 to 16.9% in 2000. In real numbers this age group has increased from 109 persons in 1960 to 484 in 2000. The growth in this age group in Berlin is considerably greater than growth in the comparable age group for the entire County.

## 2. Household Characteristics

There has been little change between 1990 and 2003 in household characteristics with 1,149 total households now compared to 938 in 1990. Berlin stays within 2% of the statistics for Washington County for other household characteristics.

Median income has risen considerably: household income from \$28,789 in 1989 to \$42,014 in 1999; for family income from \$31,695 in 1989 to \$52,895 in 1999. Yet this is only slightly above the \$40,972 for household income and \$51,075 for family income for the County.

Seven percent of Berlin residents live in households having incomes at or below the poverty level. For residents over the age of 65, this figure is 7.5%.

## 3. Labor Force Participation

Of Berlin residents aged 16 and over (the basic working age), 52.3% are female and 47.7% are male. Of this group, those in the labor force constitute 67.8% (slightly below the 70.5% for the county). In Berlin, the labor force participation rate for females is 62.1% and for males is 74%. Similar County figures are 66.3% for females and 75% for males. Of families containing children less than 6 years of age, 73.8% have both parents in the labor force. A total of 124 children less than 6 years of age live in households where both parents are in the labor force. These patterns are not significantly different from those for the County (74.1%).

### C. HOUSING TRENDS

Population and housing stock has been changing over the years, reflecting Berlin's evolution from a predominantly rural community to one that contains a mixture of rural and more suburban areas. These trends are shown in Table 5. The number of persons per year-round dwelling declined from 3.19 in 1970 to 2.67 in 1980 and to 2.46 in 2000.

The Town's housing stock expanded similarly to its population, growing from 288 year-round dwellings in 1950 to 1172 in 2002.

TABLE 5  
BERLIN HOUSING STOCK (1950 - 2000)  
(Source: US Census Reports)

YEAR	HOUSING	PERSONS/DWELLING
1950	288	4.02
1960	379	3.45
1970	642	3.19
1980	918	2.67
1990	981	2.64
2000	1172	2.46

As shown in the Table above, housing stock and trends have changed considerably since 1950 growing from 288 in 1950 to 1149 in 2003 while at the same time decreasing in occupancy from 4.02 persons per dwelling to 2.52.

### D. HOUSING CHARACTERISTICS

#### 1. Age of Dwelling

Berlin enjoys a relatively young housing stock, with almost one-third of its dwellings built since 1980. Over two-thirds of the Town's dwellings were built since 1960.

#### 2. Type of Dwelling

Table 6 shows the distribution of this housing stock by type, and shows comparable percentages for Washington County.

TABLE 6  
BERLIN HOUSING UNITS BY TYPE, 2000  
Berlin and Washington County  
(Source: US Census Reports)

Berlin

County

Dwelling Type	Number	Percent	Percent
Single unit detached	726	61.9	61.5
Single unit attached	21	1.8	2.7
2-4 unit structures	69	5.7	16.1
5-9 unit structures	18	1.5	6.8
10 + unit structures	42	3.6	2.4
Mobile homes	296	25.4	6.2
<b>TOTALS</b>	<b>1,172</b>		

Single unit attached: townhouse/condo; 2-4 unit structure: duplex

When compared to the County, Berlin is home to far more mobile homes and far fewer dwellings in structures containing two or more units.

There are 1172 year-round dwellings and an additional 30 are seasonal. Of these 1172, 1109 were occupied leaving a vacancy rate of 5.4%. This is lower than the vacancy rate for the County of 14.4%. For the most part, occupied dwellings in Berlin are not overcrowded. Only 1% (11 units) is listed as containing over 1.01 persons per room.

Of the 1109 occupied dwellings in Berlin, 80.5% are listed as owner-occupied and 19.5% as renter-occupied. For the County as a whole, 68.5% of all occupied dwellings are owner occupied, 31.5% are renter-occupied.

Of the owner-occupied dwellings, 65.6% are single family detached units. On average, there are 2.61 persons in each owner-occupied dwelling, and each unit contains an average of 5.6 rooms.

## **E. LAND FORM AND SIGNIFICANT NATURAL FEATURES.**

### **1. Topography.**

The Town of Berlin is located in Central Vermont in the middle of the Green Mountains, just south of the Winooski River. The River, which drains to the west, has cut a substantial valley through the mountains and the north-south mountain ridges in the Town tend to end as they approach the valley.

The land form of the Town is dominated by three mountain ridges running north and south. The western-most ridge runs along the western edge of the Town, west of the Dog River valley, and generally east of Jones Brook. This ridge is quite steep and irregular, penetrated by many brooks. The northern end of this ridge slopes down to the Winooski River Valley.

The central ridge is steeper and higher than the western ridge, but is not marked by the sharp valleys around brooks. As a result, it tends to appear more rounded and less severe. The eastern side of the central ridge slopes down to the Berlin

Pond. Like the western ridge, the central ridge gives way to the Winooski River Valley to the north.

The third ridge is in the southeastern corner of the Town. It is not as high as the others and gives way to an upland plateau well before reaching the Stevens Branch.

These ridges are accentuated by the rivers which flow between them. Jones Brook defines the eastern edge of the western ridge.

The Dog River, which flows north between the western and central ridges, has formed a narrow valley with a relatively flat floor. The land rises significantly to both the east and west. The Dog River is classified as a Class B stream; and native populations of brown and rainbow trout are found.

The Berlin Pond and Brook lie east of the central ridge, partially between the central ridge and the eastern ridge. The Pond is Montpelier's municipal water supply, and the Pond and its tributaries are classified as Class A.

The Stevens Branch of the Winooski River cuts across the northeast corner of the Town through a relatively narrow valley. This stream is classified as a Class B stream and contains native and stocked populations of brown and rainbow trout. Between the Pond and the Stevens Branch, north of the end of the eastern ridge, the land forms a broad plateau which contains most of the flatter land in the Town.

The central mountain ridge essentially divides the Town into two halves. With the exception of roads along the Winooski River Valley, there is only one road which connects the east and west portions of the Town. This division is reinforced by Interstate 89 which cuts across the northern end of the central ridge and passes east of the Berlin Pond. Only three roads cross the Interstate and these are all north of the Pond.

For the most part, the land in Berlin is forest covered. There are open lands along the valleys and on the flatter plateau, either currently or formerly used for farming. A review of aerial photographs reveals signs of hill farm fields no longer used for active agriculture, particularly along the western ridge.

## 2. Slope.

Analysis of the soils' slope classification from the Soils Survey maps reveals that much of the Town is characterized by quite steep slopes (i.e., in excess of 15%). These are soils classified as having slopes 'A' through 'C.' While an exact quantification is not possible, it appears that approximately one-third of the land in the Town has a slope of less than 15%.

The largest concentration of relatively level land is the plateau around the airport. Other than that plateau, relatively level lands tend to be located either along the ridges or in the bottoms of river valleys.

This severe topography poses difficulties not only for agriculture but also for construction of roads, buildings, and on-site sewage treatment systems.

### 3. Soils Characteristics

As might be expected, given the topography, the soils in the Town tend to be steep and rocky and generally support forest growth. Analysis of the United States Department of Agriculture's Soils Survey maps (which are incomplete and do not show soils groupings in much of the western and central mountain ridge areas) reveals that there are some areas where the soils are supportive of agriculture (i.e., soils classified as having high or good potential for crop production).

- a. Along the Dog River are small pockets of alluvial soils, mostly loamy sands or sandy loams that are well suited for agriculture. There are 3 of these small pockets: one just south of the I-89 Exit 8; one along the east side of the River near Rowell Hill Road, and one along both sides of the River just south of where West Hill Road intersects with Chandler Road.
- b. Along the central mountain ridge are several pockets of glacial till in the form of silt loam which are capable of agricultural production.
- c. Along the edges of Berlin Pond are several pockets of silty loam which have high or good agricultural potential.
- d. There is a large area on the central plateau around the Airport containing glacial till in the form of sandy loams which have high or good potential for agriculture.
- e. There is a small area of agricultural soils on top of the eastern mountain ridge containing glacial tills in the form of silty loams.
- f. Northeast of the Stevens Branch, productive alluvial soils are found along the River and productive glacial tills are found in the higher areas.

With the exception of the area around the Airport, the productive agriculture soils are in relatively small pockets. In total, such soils constitute a very small portion of the land area in the Town.

Further analysis of the soil survey maps reveals that an even smaller portion of soils in the Town are classified as having either slight or moderate limitations on the use of on-site septic systems. It must be remembered, however, that the soil survey maps present data in relatively large map units, and that within any given unit there will be variations in the soil. Thus, even though most of the Town's soil types are classified as having severe restrictions on the use of septic systems, it is likely that within the map units, detailed on-site analysis will reveal small areas of suitable soil.

#### 4. Flood Plain and Wetlands

The Flood Plain, that land flooded by a 100-year flood, has been identified on the Flood Insurance Rate maps prepared by the Federal Emergency Management Administration. In Berlin, there are four such flood plains: along the Winooski River, along the Dog River, along the Stevens Branch, and some areas around the Berlin Pond and Brook. The designated flood plain areas are shown on **Map 5, Flood Plain.**

The National Wetland Inventory has identified a number of potential wetland areas in Berlin. The largest of these is around the Berlin Pond. Some small areas have been identified along the Dog River and along Jones Brook. In addition, some clusters of potential wetlands have been identified away from major water courses, including some in the central ridge highlands, some in the southeastern ridge (near the Interstate interchange) and a cluster north of Vermont Route 62. These features are shown on **Map 4 - Natural Resources.**

#### 5. Drinking Water Supply Areas.

The most notable source of public drinking water is the Berlin Pond, the source for the Montpelier water treatment and supply system (from which Fire District #1 in Berlin purchases water). **Map 4 - Natural Resources** shows the watershed surrounding this important water source.

In addition, there are a number of community systems which draw from wells. **Map 4 - Natural Resources** also shows the designated wellhead protection areas for these systems. There is one cluster near the north end of Route 12, and a larger, area in the Route 62/US 302 area which surrounds the three wells supplying the hospital system.

#### 6. Significant Natural Features.

A review of significant natural feature source material has indicated that Berlin does not contain any areas designated as habitat for endangered species, or any unusual varieties of wildlife. There are, however, a number of areas identified as deer wintering areas, and these are shown on **Map 4 - Natural Resources**. For the most part, these areas are in the rural portions of the Town, tend to be wooded, and have relatively steep and irregular slopes. Even those identified deer wintering areas in the northeast quadrant of Town are constrained to locations where development would be very difficult.

#### 7. General Conclusions and Recommendations.

Land, form, soil characteristics, and natural features have always influenced the pattern of development and land use in Berlin. High density land uses have located where access to employment and commerce is readily available and where the land is inherently able to accommodate the demands of development - whether in terms of soil stability, flooding, or the ability to accommodate wastes.

Much of Berlin is of a character that is inherently rural - steep slopes, irregular terrain, rocky soils and with limited access both within the Town and to areas outside of the Town. The exception is the northeast quadrant where soils and terrain are more suited to intensive, non-rural activities. In addition, the northeast portion of the Town is provided with considerably greater accessibility to the surrounding urbanized area and, via the Interstate, railroad, and Airport, to the much larger region beyond. By encouraging intensive land uses to locate in the northeast quadrant, the rural character and natural qualities of the other portions of the Town will be respected.

It is recommended that future land use patterns continue to follow the historic trends and encourage the northeast quadrant of the Town as the center of commercial and other intensive activities, leaving the remainder of the Town for more rural development patterns. At the same time, it is recommended that drinking water supply areas be recognized and protected from contamination via runoff or percolation.

### F. LOCAL GOVERNMENT.

#### 1. Facilities and Services.

There are a great many public facilities and services located in the Town of Berlin. **Map 3 - Existing and Proposed Public Utilities and Facilities** indicates the location of specific buildings, roads, and bridges, Town-owned cemeteries, and other cultural features. **Map 3** also delineates service areas for existing water and waste water systems. The facilities described below in this section can be found on this **Map**.

a. Town Office Building:

The Town Hall is located at 108 Shed Road. Originally built in 1968, renovated and expanded during the 1993-94 period, it is shared by the Town Administration, the Police Department, Sewer Commission, and Berlin Historical Society.

b. Roads and Highways:

The Highway Department is based in the Town Garage located adjacent to the Town Office Building.

The Town contains a total of 76.4 miles of highways, including over 9 miles of Interstate and 16.6 miles of State and US highways. At the present time, the facilities and equipment owned by the Town are seen as adequate for maintaining the current road network.

c. Town-Owned Cemeteries:

The Town of Berlin currently owns 9 cemeteries maintained by the Cemetery Commission:

Black Cemetery on Black Road,  
Dewey-Wright Cemetery on Rowell Hill Road,  
East Road Cemetery on Industrial Lane,  
Colby Cemetery on Junction Road,  
Johnson-Sawyer Cemetery on Vermont Route 12,  
Cox Brook Cemetery on Glinnis Road,  
West Berlin Cemetery on Vermont Route 12,  
Boles Cemetery on Vine Street, and  
Howard Cemetery on Crosstown Road.

d. Police Protection:

The Police Department occupies offices in the Town Office Building. The Department provides coverage 24 hours per day, 7 days per week.

e. Fire Protection:

The Berlin Volunteer Fire Department maintains a fire station in Riverton, and one at the corner of Route 62 and Paine Turnpike North. The



Department is a member of the Capital Fire Mutual Aid System and is radio-equipped. Dispatching is through Capital West Dispatch. All members are equipped with monitors.

f. Ambulance Service.

Ambulance service in Berlin is provided through separate agreements with the Towns of Barre and Northfield and the Town of Berlin pays a portion of the cost for these services. Barre’s full-time coverage equipment for Berlin is housed at the Fire Department at Route 62 and Paine Turnpike North; Northfield’s coverage is volunteer and covers the southwest quadrant of Berlin out of Northfield.

g. Public Education.

Public education is provided by the Berlin School District which operates a Pre-Kindergarten through 6<sup>th</sup> grade facility. The Town is a member of Union School District Number 32 (U-32) for middle and high school students.

The Berlin Elementary School is located on a 26 acre site at the corner of Route 62 and Paine Turnpike North shared with the Berlin Volunteer Fire Department. The School contains 16 classrooms and is serving 255 students Pre-Kindergarten through 6<sup>th</sup> grade. All students are transported to and from the School.

Berlin’s secondary education (grades 7 through 12) is provided on a regional basis through U-32. The high school has classroom capacity for over 850 students.

The present enrollment (Fall of 2004) of U-32 is 877. Of the 877 current students, 257 are from Berlin.

U-32 completed a major expansion of facilities in 2002.

TABLE 7  
BERLIN PUBLIC SCHOOL ENROLLMENT TRENDS

YEAR	K-6 GRADES	7-12 GRADES	All GRADES
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1981-82	270	199	469
1982-83	257	211	468
1983-84	248	202	450
1984-85	244	210	454
1985-86	252	198	450
1986-87	254	195	449
1987-88	263	209	472
1988-89	272	194	466
1989-90	256	208	464
1990-91	250	225	475
1991-92	274	217	491
1992-93	283	227	510
1993-94	270	232	502
1994-95	285	220	505
1995-96	267	233	500
1996-97	268	250	518
1997-98	267	249	516
1998-99	259	242	501
1999-00	258	245	503
2000-01	270	235	505
2001-02	272	229	501
2002-03	239	236	484
2003-04	230	240	472
2004-05	236	257	493

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h. Waste Water Treatment:

A portion of the northeast quadrant of the Town is served by a municipal waste water collection system connected to the Montpelier Sewage Treatment Plant at the corner of Junction Road and Dog River Road on the Montpelier/Berlin town line. The Town has an agreement with Montpelier for allocation with availability for additional capacity in the future.

The principal collection main runs along Route 302 to Montpelier and serves the dense development in that area plus several areas extending to the northeast up into the Plateau. There is also a secondary line extending up to the Berlin Hill area and tied to numerous local lines, some of which are force mains. The geographic area served by the system and the agreement with Montpelier both have capacity for future development.

The remainder of the Town relies on individual subsurface treatment and disposal systems.

i. Potable Water Systems.

Berlin residents are served by a variety of potable water systems:

(1) The area along Route 302 from Montpelier to Evergreen Drive is served by Fire District #1 (FD#1) which currently serves approximately 75 customers and distributes roughly 100,000 gallons of water per day. The FD#1 system is based on a 12" main which runs along US Route 302 and serves several branch lines.

(2) The area along Route 302 from Evergreen Drive to the Barre City line is served by the Berlin Water Company, a private system which serves approximately 55 customers. This system draws water from a spring and maintains a large reservoir. It is capable of expansion but is limited by the lack of developable land.

(3) As noted previously, the Hospital has recently constructed a waterline from the Montpelier Water Treatment Facility along Paine Turnpike North and Fisher Road to serve its facilities.

There are also a number of smaller private systems, most notably those serving mobile home parks, which draw from wells or springs and serve from 20 to 85 customers.

**G. TRANSPORTATION**

1. Roads and Highways.

As in most of Vermont, private automobiles on public roads is the predominant means of transportation in Berlin.

The Town contains some 76.4 miles of public roadway, including the Interstate. Approximately 1/3rd of the road miles in Berlin are paved surface roads. Interstate 89 traverses the Town from north to south and there are two complete interchanges within the Town's boundaries, plus part of a third. US Route 302, a collector/major arterial connecting Barre and Montpelier, passes through the northeast corner of the Town. Minor arterials in Berlin include Vermont Route 12 running north and south along the Dog River, the Berlin State Highway, and Vermont Route 62 from I-89 to Barre and/or US Route 302. The remainder of roads in the Town are either collectors or local roads.

Table 8 presents recent traffic volume data obtained from the Vermont Agency of Transportation for major roads in Berlin.

TABLE 8  
TRAFFIC VOLUME ON MAJOR ROADS IN BERLIN

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MAJOR ARTERIALS	<u>1990</u>	<u>2000</u>
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I-89 Exit 6 to Exit 7	12,450	15,100
I-89 Exit 7 to Exit 8	17,180	20,700
US 2 in the Northeast Corner of Town	7,510	8,200
<b>MINOR ARTERIALS</b>		
Airport Road (Berlin State Highway)	5,590	7,100
VT 62 from I-89 to Barre	15,720	18,700
VT 63 from I-89 to VT 14	3,910	4,500
<b>MAJOR COLLECTORS</b>		
US 302 from Montpelier to Barre	14,280	15,100
VT 12 from Montpelier to Northfield	2,840	4,300

US Route 302 is clearly the most highly traveled road in Town with an annual average daily traffic of over 17,500 vehicles per day. This reflects the road's dual function as a collector serving many adjacent commercial establishments, and as an arterial connecting Montpelier and Barre. This road is also the most congested, in part due to conflicts between through traffic and traffic attempting to turn onto or off the roadway. The Vermont Agency of Transportation is currently working on plans to rebuild this roadway.

Interstate 89 is the next most highly traveled road in Town and is clearly designed for high volumes and high speeds. It is noteworthy that traffic volumes on I-89 drop significantly south of Exit 9 and again south of Exit 7, demonstrating that a substantial portion of the traffic is associated with the Montpelier area or the Berlin/Barre area, respectively. This latter observation is supported by the high volumes reported on Vermont Route 62 between I-89 and Barre. Since this roadway is designed with very few curb cuts, there are few serious congestion points.

US Route 2, which passes through the northeast corner of Town, is a major east-west arterial carrying modest traffic volumes. There is relatively little development along this road and consequently few conflicts between through traffic and turning traffic. There are no serious points of congestion.

The local road system in Berlin is significantly divided by Interstate 89. With the exception of Junction Road along the Winooski River and Hill Street Extension which runs north and south, the only road which crosses the Interstate is Crosstown Road.

Access to the Interstate is focused almost entirely on the area east of the Interstate. While Vermont Route 12 traverses the entire west side of Town, getting from Route 12 to I-89 requires going into Montpelier and taking the Montpelier State Highway or Junction Road, rather circuitous and/or congested routes. Both Exit 7 and Exit 8 provide direct access to the Town via controlled access roadway. In both cases, these access roads lead only to the area east of the highway.

There are 23 bridges of more than 20 feet in length within the Town of Berlin, 14 owned by the State and 9 owned by the Town (some are jointly owned by Berlin and adjacent Towns). Of the 14 State-owned bridges, 8 are associated with the Interstate.

In the rural portion of the Town, the road system is generally adequate for the present and anticipated intensity of development. In the more developed northeast quadrant, the newer main roads have been designed as controlled access arterials with suitable capacity.

## 2. Rail Transportation.

The main line of the Central Vermont Railway runs north-south through Berlin along the Dog River. The passenger station serving the Central Vermont Region is located in the Town at Montpelier Junction. Passenger service is provided on Amtrak's "Vermont" which includes one north-bound and one south-bound train daily. The scheduled stops for this service are not conducive to commuter travel.

The Central Vermont Railway also provides freight service on its main line along the Dog River. At Montpelier Junction it links to the Washington County Line which provides freight service to industrial and commercial customers in the Montpelier-Barre area. This service is provided under an agreement with the State of Vermont which owns the tracks. A portion of the Washington County Line runs through Berlin along the Stevens Branch and US Route 302.

## 3. Air Transportation

Berlin is the home of the Edward F. Knapp Airport which is a general aviation facility serving the Central Vermont Region. At present no scheduled airlines use the Knapp Airport, but roughly 50 private aircraft are based at the facility. Annual operations (i.e.; aircraft landings and takeoffs) have ranged between 35,000 and 40,000 since 1980.

Several recent improvements to runways, taxiways, and fueling facilities have been accomplished.

An updated master plan for the E.F. Knapp Airport was developed in the spring of 2000 by the Vermont Agency of Transportation. This master plan proposes enhanced taxiway facilities and expanded private hangar space in the near future.

The Town of Berlin will take appropriate action, to the extent it is reasonable, justifiable, and considerate of individual property owners' rights, including the

adoption of zoning regulations, to restrict the use of land adjacent to or in the immediate vicinity of the airport, to activities and purposes compatible with normal airport operations, including landing and take off of aircraft.

4. Pedestrian Facilities.

At the present time, there are virtually no pedestrian facilities in the Town. In the large rural portion of the Town, the low density of development does not justify the expense of formalized sidewalks or walkways. In the more densely developed northeast quadrant, however, noontime and afternoon walkers and joggers are becoming more and more frequent on the public roadways. The combination of high vehicular traffic volumes and pedestrians along US Route 302 where few sidewalks are available is beginning to create a dangerous situation. It should be noted, however, that the Berlin Mall is accommodating walkers and has posted a notice indicating the number of lengths of the Mall per mile. This provides a sheltered place for those who wish to walk for health and/or exercise reasons.

There is a proposed pedestrian/bicycle path connecting Montpelier and Barre City using an abandoned railroad right-of-way along the Stevens Branch.

5. Transportation Services.

Although the use of private automobiles is clearly the dominant mode of travel in Berlin, that does not mean that there are no other options. Indeed, there are a number of transportation services offered to the general public or to specific groups, including clients in Berlin.

- a. There is a bus service between Montpelier, the Berlin Hill area, and Barre City.
- b. Several taxi services operate in the Central Vermont Region providing on-demand service.
- c. A number of human services organizations in the region provide, or arrange to have provided, transportation for their clients. These include the Central Vermont Council on Aging, McFarland House in Barre, the Central Vermont Community Action Council, and Washington County Mental Health.
- d. The Town has a major park-and-ride facility at the intersection of Route 62 and Paine Turnpike which serves regional commuters using the Interstate.

## **H. EXISTING LAND USE PATTERNS**

With the exception of the recent development in the northeast quadrant of the Town around the Airport and in the Plateau area, most of the Town of Berlin is rural. A few farms operate on the more level lands where soils are productive. Most of the land is steep, rocky, and wooded. The major roads tend to follow the valleys, both the north-south valleys through the Town and the smaller east-west valleys leading up into the ridges. Development has tended to follow a similar pattern. With the exception of the farm operations, most development in the rural area is residential and tends to be quite scattered. There are, however, small clusters that tend to form rural neighborhoods. Examples include the Riverton area centered around the River crossing, the area between Vermont Route 12 and the Dog River just south of Lord Road, the area along the Crosstown Road around the intersection with Rowell Hill Road, the area along Brookfield Road paralleling the Pond, the area around Berlin Corners, and similar clusters northeast of US Route 302. These clusters not only reflect the irregular landscape but also tend to form the social fabric of the Town.

Small scale commercial activities are co-located with residential development throughout the rural portion of the Town. This includes, among others, various home occupations, logging and firewood operations, gravel extraction, and small retail facilities.

Municipal forests occupy considerable land near Berlin Pond and along the southern Town boundary contributing to the rural sparsely developed character of this area.

The exceptions to this rural pattern are two. There is a small concentration of industrial, warehouse, and commercial facilities of a larger scale concentrated around the intersection of Vermont Route 12 and Junction Road and including Dog River Road. This area makes use of the railroad and its proximity to Montpelier.

The major concentration of development is in the northeast quadrant of the Town in the area bounded by Interstate 89, Scott Hill Road, and Airport Road. Development in this area takes advantage of access to Interstate 89 and US Route 302 and 2, along with the relatively level land.

1. Around the Airport, primarily west of the Airport, is a cluster of warehouse and industrial establishments including a United Parcel Service facility. Recently this area has seen some office facilities such as the Blue Cross/Blue Shield offices, and the USDA Service Center.
2. North and west of Vermont Route 62 is a cluster of retail, office, and community service (i.e., hospital, State library, school, etc.) facilities which is collectively known as the Plateau area. This includes the intersection of Vermont Route 62 and the Paine Turnpike.

3. Along US Route 302 is a strip of commercial and retail establishments and small shopping centers.

North and east of the Stevens Branch are some small pockets of new suburban residential developments extending up the valleys from the river. These are in areas served by the municipal sewer service. There is also some residential development east of the Paine Turnpike near the Montpelier City line.

Around the Berlin Corners, the historic center of the Town, is a cluster of residential development, a monument, and a church. The Town Office Building and Garage are also in this general area.

## **I. CONSISTENCY WITH DEVELOPMENT PATTERNS IN ADJACENT MUNICIPALITIES.**

Berlin shares boundaries with a total of 8 other municipalities: the cities of Montpelier and Barre, and the Towns of Middlesex, Moretown, Northfield, Williamstown, Barre, and East Montpelier. Development patterns and plans in the adjacent portion of each of these municipalities will be discussed below.

To ensure that Berlin's new Town Plan is consistent with development patterns in adjoining communities, each community was provided with a copy of the proposed Berlin Town Plan for its review. Discussion of each adjoining Town's land uses including a summary of the existing and planned land uses follows.

### **1. Montpelier City:**

Montpelier is situated just north of Berlin between the Towns of East Montpelier and Middlesex, and comprises the majority of Berlin's northern boundary. The Town is linked to Montpelier by a number of corridors including Routes 302 and 12, Hill Street Extension, and I-89. Natural features shared by the two communities include the Dog River, Stevens Branch, and the Winooski River.

The City of Montpelier is clustered around the Winooski River with steep slopes ascending into Berlin. Montpelier is clearly an urban community. Current land uses outlined in the 2000 Montpelier Master Plan illustrates a variety of uses on the Berlin border which are described in the following two general areas:

#### **a. Route 302 and Hill Street Extension**

On both sides of Route 302, land is zoned general business which is consistent with Berlin's existing zoning districts. As you move northwest away from Route 302 in Montpelier, the current zoning becomes medium density single



family residential (1/3 and 1 acre with and without public services respectively) and then lower density (1 and 2 acre lots with and without public services, respectively). This is generally consistent with Berlin's R-20 and R-40 Districts.

b. Route 12 and I-89

Lands bordering Berlin in the vicinity of Route 12 and I-89 are zoned for medium and low density residential, industrial, and recreational uses. These land uses are, in general, consistent with the land uses across the Berlin Town line.

The Berlin Plan proposes a transition area between the more urbanized pattern of development in the City of Montpelier and the more rural patterns in the Town. Land uses along the borders of each municipality are fairly consistent and present no land use conflicts.

2. Middlesex.

Middlesex Town adjoins Berlin's northwest corner along the Winooski River. There is considerable non-residential development in the area between the River and the Interstate, and this blends into the commercial/industrial area in Berlin along Vermont Route 12 and the northern portion of the Dog River. The small bridges across the Winooski River somewhat limit the direct expansion of the Middlesex commercial/industrial activity into Berlin. There is no potential conflict between land uses in the two municipalities in this area.

3. Moretown.

Moretown borders Berlin along its western boundary. Moretown is very rural and shares the rugged forested western mountain ridge with Berlin. The proposed rural residential development patterns in this area will be consistent with anticipated development in Moretown.

4. Northfield.

The Town of Northfield occupies most of Berlin's southern boundary from just west of the Interstate westward. For the most part the land along this common boundary is hilly and forested with very few structures or roads. The exception is along Vermont Route 12 and the Dog River. The small cluster of development known as Northfield Falls is located just south of the Town boundary. This is a

relatively small settlement but the extremes of its residential development reaches virtually to the Town line. While Northfield Falls is not expected to grow rapidly in the future, it is possible that some residential development associated with this village will spill over into Berlin. Such development would generally be consistent with the rural residential pattern proposed for this river valley area in the Berlin Plan.

5. Williamstown.

The Town of Williamstown shares a small portion of boundary with Berlin along both sides of Berlin's southeast corner. This part of Williamstown is hilly, mostly forested, and very sparsely developed. Williamstown's new Town Plan considers this area as predominantly resource industrial.

There are no direct road connections into Berlin from this area (except via unimproved dirt roads). The Berlin Plan proposes some commercial and some highland conservation development in this area.

6. Barre Town.

Barre Town spans the entire eastern boundary of Berlin with the exception of a small portion occupied by the City of Barre. A major portion of the adjoining lands in Barre Town (particularly south of Barre City) is currently in active farming. Other portions (including areas within the active farm lands) are lands in forest cover. This productive forest area transcends both Towns (southeastern corner of Berlin and southwestern corner of Barre Town). Existing and planned land uses adjoining Berlin are low density residential 1.8 acres minimum lot size). The Richardson Road area located slightly east of the Berlin Town line and north of Barre City is zoned for a higher density (1/3 acre) residential development.

Barre Town has upgraded the "Booth Morrison Road" which connects to Airport Road in Berlin. This establishes a strong link between South Barre and the Berlin Hill commercial area, and has increased traffic levels on Airport Road.

Barre Town has zoned the lands immediately adjacent to Berlin low density residential (Residential C). The minimum lot size in this District is 1.8 acres and is typically not served by municipal water and sewer. Residential C is semi-developed, semi-rural, and has significant natural resources.

Abutting the northern and southern portions of this common border, the Berlin Plan proposes "Highland Conservation Area" with very limited development. Along the central portion of the shared border the Plan proposes industrial development separated from Barre Town by a narrow buffer of rural residential area.

## 7. Barre City.

The City of Barre is situated just east of the Town of Berlin. Vermont Routes 302 and 62 connect the two municipalities. Natural features include the Stevens Branch and its tributaries and forest cover in the southwestern corner adjoining the Town of Berlin. Along Route 302, the land uses in Barre City adjoining the Town of Berlin are mixed including residential, commercial, and industrial. The City has recently rezoned a large industrial parcel to include commercial uses in addition to industrial. The development potential of lands in Barre City is limited due to natural features including steep slopes, water courses, and flood plains.

The portion of the land area in the City south of Route 302 (outside the industrial and commercially zoned lands) is zoned Conservation (5 acre). The city permits agricultural and forestry uses, non-commercial outdoor recreation, and planned residential developments. The Conservation area is not currently served by municipal sewer or water but can be.

Land uses in the two municipalities along Route 302 are quite consistent. South of the Barre Beltline the Berlin Plan proposes industrial development separated from the Barre City border by a narrow buffer of rural residential area.

The area in Berlin that adjoins this Conservation District is proposed for rural residential development with a minimum lot size of 40,000 sq. ft. There are no apparent use conflicts between Barre City and Berlin.

## 8. East Montpelier.

The Town of East Montpelier is situated on the northeast corner of the Town of Berlin. The two Towns are connected by Vermont Route 2. Natural features shared by the two communities include the Winooski River and steep slopes on both sides of Route 2.

Both Towns share a common land use district - commercial. Along Route 2 in East Montpelier, lands are also zoned industrial. There are no apparent land use conflicts between East Montpelier and Berlin.

### Regional General Land Use:

Review of the General Land Use Plan with the Central Vermont Regional Plan and the Berlin Future Land Use Plan reveals that the two are generally consistent. The

General Land Use Plan illustrates several land use districts in Berlin including (1) **conservation** located in the Berlin Pond and south/southeast area to the Northfield, Williamstown, and Barre Town lines, and accounts for approximately 1/3 of the Town’s total land area; (2) **rural residential/agricultural** which flanks the conservation district and extends west to the Moretown and Middlesex town lines, and which accounts for about 1/3 of the total Town land area; (3) **industrial** in approximately the same location as Berlin’s current industrial area; (4) **commercial** in the same locations as shown in the Future Land Use Plan; (5) **commercial/industrial** on the Junction Road/Dog River Road area (south of the Winooski River); and (6) **high density residential** located south of Route 302 outside the commercial land use district.

The proposed Berlin Town Plan is generally consistent with the regional land use patterns presented in the proposed Central Vermont Regional Plan.

**J. CURRENT HISTORIC RESOURCES.**

With over 200 years of recorded history since the first permanent settlements, it is not surprising that Berlin contains a number of visible resources depicting its history. A review of the *Historic Sites and Structures Survey* maintained by the Vermont Division for Historic Preservation revealed a total of 59 entries, at least one of which had been destroyed since the *Survey* was completed in the 1980's. Another of the entries was the Berlin Corners Historic District which contains 14 separate buildings. Altogether, a total of 71 structures are noted in the *Survey*. In addition, the Town recognizes a total of 10 historic cemeteries. Appendix A presents a tabular summation of these entries.

Dwellings.....	60
Bridges.....	4
Schools .....	2
Churches.....	2
Power Station .....	1
Train Depot.....	1
Parish House.....	1
Cemeteries .....	<u>10</u>
	81

The 60 dwellings included in the *Survey* represent, with few exceptions, development in the Town during the 19<sup>th</sup> century with most dating between 1830 and 1870. This is a period that corresponds to the transition from sheep farming to dairy farming in Vermont.

The existing historic structures tend to be located along the river valleys that define the rugged mountain ridges in the Town. There are historic structures at Riverton and Berlin Corners.

As would be expected of development during that portion of the 19<sup>th</sup> century, the dominant architectural style of the historic dwellings in Berlin is Greek Revival. In fact, however, almost half of the surveyed dwellings were classified as “vernacular” with some stylistic decoration rather than pure examples of any specific style. This is typical of rural architecture where the dominant concern is function rather than rigid attention to stylistic detail. There are also a few examples of other specific styles such as French Second Empire, Italianate, and Queen Anne.

**Map 6 - Historic Resources** shows the locations of the historic features identified in the *Survey*, keyed to the numbers in Appendix A. A copy of the *Historic Sites and Structures Survey for Berlin* is available at the Town Offices.

It is important that the recognition and preservation of Berlin’s historic resources be an ongoing part of the Town’s planning process. While most of the identified historic resources are privately owned, they make up an important asset for the community as a whole, and do much to define the overall character of the Town.

## VII. MAPS

The maps included here are photo-reduced versions of full-size originals which are on file at the Town Offices.

- A. Berlin, VT Zoning Map
- B. Future Land Use
- C. Transportation System and Improvements (Map 2)
- D. Public Facilities and Services (Map 3)
- E. Natural Resources (Map 4)
- F. Flood Plain (Map 5)
- G. Historic Resources (Map 6)

**Approved by the Town of Berlin Residents at a Special Town Meeting, June 21, 2005**